Work Package 2 Report

The Netherlands

Work Package 2: Thick descriptions of

- Proactive Primary Care Approach for Frail Elderly (U-PROFIT)
- Care Chain Frail Elderly (CCFE)
- Better Together in Amsterdam North (BSiN)

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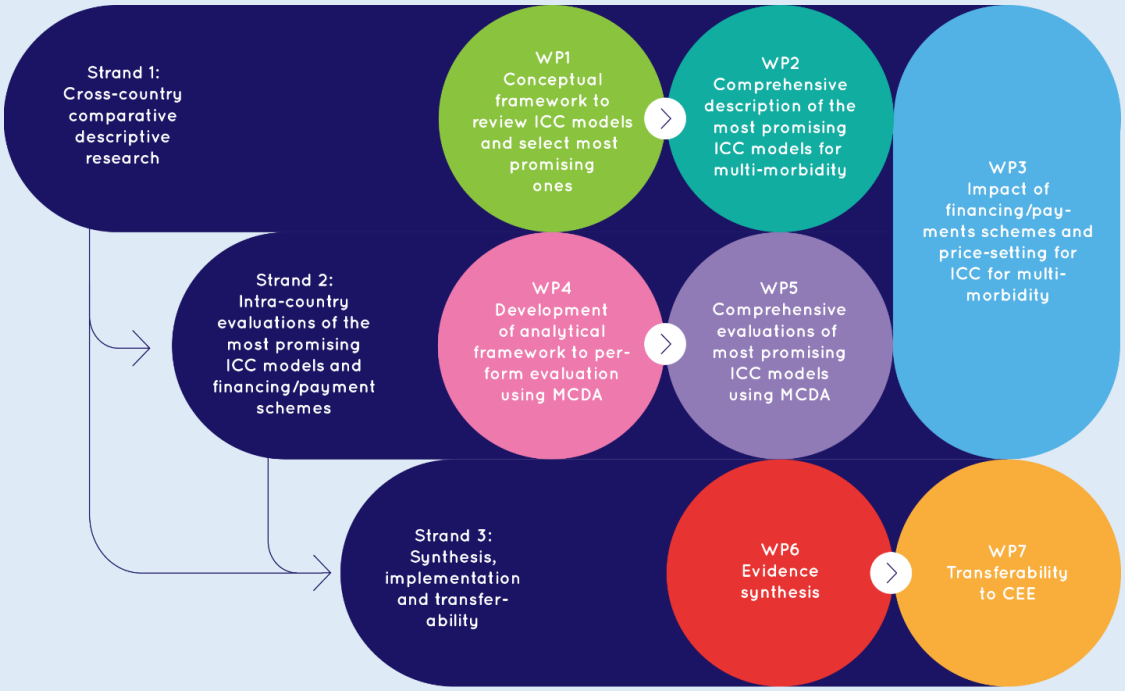
Table of contents

The SELFIE project

SELFIE (Sustainable intEgrated chronic care modeLs for multi-morbidity: delivery, FInancing, and performancE) is a Horizon2020 funded EU project that aims to contribute to the improvement of person-centred care for persons with multi-morbidity by proposing evidence-based, economically sustainable, integrated care programmes that stimulate cooperation across health and social care and are supported by appropriate financing and payment schemes. More specifically, SELFIE aims to:

- Develop a taxonomy of promising integrated care programmes for persons with multi-morbidity;
- Provide evidence-based advice on matching financing/payment schemes with adequate incentives to implement integrated care;
- Provide empirical evidence of the impact of promising integrated care on a wide range of outcomes using Multi-Criteria Decision Analysis;
- Develop implementation and change strategies tailored to different care settings and contexts in Europe, especially Central and Eastern Europe.

SELFIE strands of research and work package (WP) overview



The SELFIE consortium includes eight countries: the Netherlands (coordinator), Austria, Croatia, Germany, Hungary, Norway, Spain, and the UK.

Samenvatting (Nederlands)

In Nederland zijn drie veelbelovende integrale zorgprogramma's voor multimorbiditeit uitgekozen om in het SELFIE-project uitgebreid te omschrijven en, in een volgende fase van het onderzoek, empirisch te evalueren. Deze drie programma's zijn: 1) Proactieve ouderenzorg in de eerste lijn voor kwetsbare ouderen (*Engelse afkorting: U-PROFIT*), 2) Ketenzorg Kwetsbare Ouderen (*Engelse afkorting: CCFE*) en 3) Beter Samen in Noord (BSiN). De programma's zijn in het huidige rapport uitvoerig omschreven aan de hand van documentanalyses en interviews met verscheidene betrokkenen van de programma's. Hieronder volgt een samenvatting van de drie Nederlandse zorgprogramma's.

Programma 1: Proactieve ouderenzorg in de eerste lijn voor kwetsbare ouderen

Het Utrechtse 'Proactieve ouderenzorg in de eerste lijn voor kwetsbare ouderen' (*Engelse afkorting: U-PROFIT*) is een programma voor kwetsbare thuiswonende ouderen (>60) en wordt voornamelijk door verpleegkundige geleid. De overkoepelende doelen van het programma zijn om een transitie te maken van reactieve naar proactieve ouderenzorg, om dagelijks functioneren van ouderen te behouden, om de kwaliteit van zorg en leven te verbeteren en om kosten te reduceren.

Service delivery

Het zorgproces in U-PROFIT bestaat uit twee stappen: 1) een screening waarbij data uit de Huisartsen Informatie Systemen (HIS) gebruikt wordt (U-PRIM) en 2) een verpleegkundig zorgprogramma (U-CARE). De U-PRIM screening maakt het mogelijk voor eerstelijnscentra (oftewel gezondheidscentra) om met HIS-data potentieel kwetsbare ouderen op te sporen op basis van polyfarmacie, multimorbiditeit en ontbrekend contact met de huisartspraktijk. Een verpleegkundige die gespecialiseerd is in ouderenzorg, is verantwoordelijk voor het gebruik van de U-PRIM screeningsoftware. De verpleegkundige neemt contact op met potentieel kwetsbare ouderen om de gehele situatie goed in kaart te brengen middels een holistisch assessment. In het zorgprogramma (U-CARE) verleent de verpleegkundige ouderenzorg integrale en gepersonaliseerde zorg. Dit doet hij/zij door een individueel zorgplan op te stellen op basis van de gegevens uit het holistische assessment en door rekening te houden met de voorkeuren van de kwetsbare oudere [en zijn of haar mantelzorger]. De benodigde zorg wordt geleverd in samenwerking met de huisarts en andere professionals zoals de specialist ouderengeneeskunde, apotheker of GGZ-zorgverleners. Die samenwerking kan gestimuleerd worden door bijvoorbeeld een multidisciplinair overleg te organiseren.

Leadership & governance

De grootste rol in het programma is voor eerstelijnscentra, die samenwerken met thuiszorg organisaties, verpleeghuizen en de gemeente. In de huidige implementatie van de U-PROFIT aanpak, hebben acht eerstelijnscentra samenwerkingsverbanden opgezet met zorg- en welzijnsorganisaties en professionals om de U-PROFIT-aanpak te implementeren. Er bestaat variatie in hoe de eerstelijnscentra deze samenwerkingen hebben opgezet: sommige hebben de samenwerking geformaliseerd met contracten, sommige zitten samen in één gebouw en andere vergaderen structureel met elkaar. Daarnaast hebben sommige centra praktijkverpleegkundigen en andere centra wijkverpleegkundigen die de rol van verpleegkundige ouderenzorg op zich nemen voor de implementatie van de U-PROFIT-aanpak. De preferente zorgverzekeraar in de regio Utrecht is Zilveren Kruis Achmea (ongeveer 50% van de populatie), die sinds het begin van de U-PROFIT implementatie betrokken is geweest.

Workforce
De ‘verpleegkundige gespecialiseerd in ouderenzorg’ is een nieuwe professionele rol die vervuld kan worden door een praktijkverpleegkundige van de huisarts of een wijkverpleegkundige. Beide typen professionals dienen daarvoor eerst een speciale training in ouderenzorg te hebben gevolgd. De verpleegkundige ouderenzorg functioneert als case manager en zorgcoördinator voor kwetsbare ouderen. De verpleegkundige is getraind om gebruik te maken van 13 wetenschappelijk onderbouwde zorgpaden die hij/zij kan toepassen wanneer nodig: vallen en mobiliteit, functioneren, voeding en ondervoeding, stemming en depressie, eenzaamheid, cognitie, urine-incontinentie, polyfarmacie, visus, gehoor, mantelzorgondersteuning, pijn en slaap.

Technologies & medical products
Voor het U-PROFIT programma wordt HIS data gebruikt om kwetsbaarheid op te sporten. Binnen het programma is toegang tot het HIS door betrokken professionals die niet in dienst zijn bij de eerstelijnscentra een struikelblok vanwege privacy en organisatorische verschillen.

Information & research
Het U-PROFIT programma werd aanvankelijk geïmplementeerd middels een cluster-randomised controlled trial (cluster-RCT); de resultaten hiervan zijn uitgebreid omschreven in 2 PhD theses. In de cluster-RCT is het U-PRIM screening in combinatie met verpleegkundige U-CARE zorg (1) vergeleken met alleen U-PRIM screening (2) en met ‘usual care’ (3). De bevindingen van de effect evaluatie waren gemengd: er werden maar kleine verschillen gevonden tussen groep (1) en (2), maar de primaire uitkomsten (bijv. Activiteiten van het Dagelijkse Leven) waren beter in deze groepen dan in groep (3). De kosten-effectiviteitstudie liet positieve resultaten zien.

Financing
De huidige implementatie wordt middels drie bronnen gefinancierd: een implementatiesubsidie van ZonMw, modules van zorgverzekeraar Zilveren Kruis Achmea voor case management van kwetsbare ouderen en voor samenwerking in eerstelijnsouderenzorg en eigen investeringen van de eerstelijnscentra.

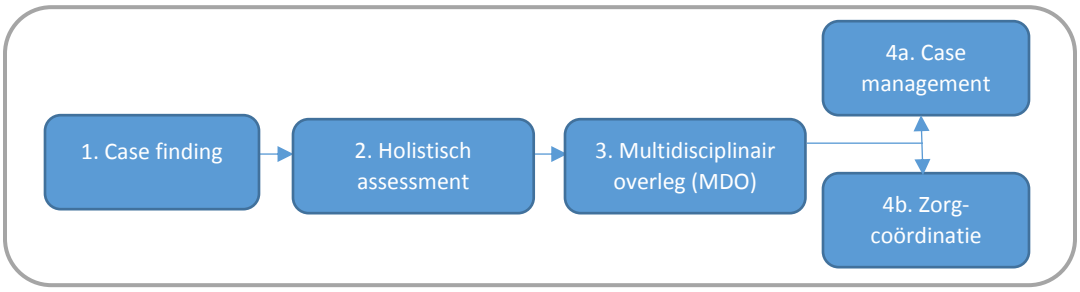
Programma 2: Ketenzorg Kwetsbare Ouderen

Het zorgprogramma Ketenzorg Kwetsbare Ouderen richt zich op thuiswonende, kwetsbare ouderen met een complexe zorgvraag die zijn ingeschreven bij een huisarts verbonden aan een van de drie grote zorggroepen in Zuid-Oost Brabant (PoZoB, DOH en SGE). Integrale zorg wordt voornamelijk geleverd door de huisarts, de praktijkondersteuner van de huisarts (POH), een specialist ouderengeneeskunde en de wijkverpleegkundige. Het doel van het programma is tweeledig; enerzijds is het doel om de gezondheid, het welzijn en de functionaliteit van de kwetsbare ouderen te verbeteren. Anderzijds beoogt het programma om een verpleeghuisopname te voorkomen of uit te stellen.

De drie zorggroepen hanteren een proactieve aanpak om kwetsbare ouderen in de wijk te identificeren: *case finding*. Hiervoor werken ze samen in een zogenaamd Eerstelijns Kernteam (EKT) bestaande uit een huisarts, POH en wijkverpleegkundige. In sommige gevallen nemen ook de specialist ouderengeneeskunde en de zorgtrajectbegeleider dementie deel aan het EKT. Vervolgens gaat de POH op huisbezoek bij de geïdentificeerde kwetsbare ouderen om een holistisch assessment af te nemen waarbij alle fysieke, psychologische, cognitieve, communicatieve en sociale problemen in kaart worden gebracht. Afhankelijk van de behoeften die hieruit voortkomen, zal de POH andere zorgverleners benaderen, zoals een (geriatrische) fysiotherapeut, ergotherapeut, maatschappelijk werker, specialist ouderengeneeskunde, geriater, zorgtrajectbegeleider dementie, welzijnsmedewerker of mantelzorgers. Na afloop van het huisbezoek wordt een individueel zorgplan opgesteld door de POH. Dit plan wordt gemaakt in samenwerking met de kwetsbare oudere en zijn mantelzorger en is gebaseerd op hun doelen. Daarnaast kan de POH ook de huisarts of de specialist ouderengeneeskunde inschakelen bij vragen.

Vervolgens vinden er structurele multidisciplinaire overleggen (MDO) plaats, met als vaste samenstelling: de huisarts, POH, wijkverpleegkundige en specialist ouderengeneeskunde. Dit kan worden aangevuld met andere zorgverleners die relevant zijn voor de desbetreffende oudere, zoals een fysiotherapeut. De kwetsbare oudere en de mantelzorger nemen ook deel aan het MDO. Tijdens het MDO wordt bepaald wie de case manager, en daarmee het centrale aanspreekpunt voor de kwetsbare oudere en zijn mantelzorger, is. In de meeste gevallen is dit de POH, maar soms wordt deze rol vervuld door de wijkverpleegkundige of de zorgtrajectbegeleider dementie. Daarnaast zal de POH (ook) optreden als zorgcoördinator voor de organisatorische werkzaamheden, zoals het organiseren van het MDO.

Figuur 1: Schematisch overzicht van het zorgproces



Er is een elektronisch patiëntendossier beschikbaar in het keteninformatie systeem Care2U, waarin het individuele zorgplan staat opgeslagen. Alle betrokken zorgverleners van de kwetsbare oudere hebben toegang tot het zorgplan in Care2U. De zes pijlers van het zorgprogramma zijn: (1)

vroegdiagnostiek door case finding, (2) zorgcoördinatie, (3) multidisciplinair overleg en een individueel zorgplan, (4) polyfarmacie, (5) transferzorg en (6) wijknetwerk.

In 2011 is zorggroep PoZoB gestart met de ontwikkeling en implementatie van het zorgprogramma in de projectfase KOMPLEET (2011-2014). Daartoe ontvingen ze een subsidie van ZonMw. Vanaf 2013 sloten de andere zorggroepen aan en hebben ze het zorgprogramma gezamenlijk verder ontwikkeld.

Een belangrijk aspect behorend bij het ontwikkelen van een ketenzorgprogramma is het organiseren van passende (innovatieve) financiering. Er zijn twee grote verzekeraars actief in de regio: VGZ en CZ. CZ biedt een Module Ouderenzorg aan. Daarnaast hebben de zorggroepen in samenwerking met VGZ een pilot-keten diagnose-behandelcombinatie (DBC) ontwikkeld voor kwetsbare ouderenzorg. Deze pilot-ketenDBC is de voornaamste methode van financieren van het zorgprogramma. Aan deelname aan het zorgprogramma zitten geen extra kosten verbonden voor de kwetsbare oudere. VGZ evalueert, in samenwerking met de zorggroepen, het zorgprogramma en de pilot-ketenDBC en gebruikt deze informatie om de mogelijkheden van het verlengen van de DBC vanaf 2018 te exploreren. In 2017 blijft het zorgprogramma bestaan met de huidige financiering (pilot-ketenDBC), wel is de DBC enigszins inhoudelijk aangepast voor 2017, zo is bijvoorbeeld de financiering voor andere zorgverleners toegevoegd.

Programma 3: Beter Samen in Amsterdam Noord (BSiN)

Er zijn drie kenmerken van Amsterdam Noord die tezamen de aanleiding van het Beter Samen in Amsterdam-Noord (BSiN) programma vormen:

i) Een hoge concentratie van inwoners met een lage sociaal-economische status (SES). Dit wordt uitgedrukt in een laag inkomen, hoge werkloosheid en meervoudige sociale en gezondheidsproblemen. Hierdoor hebben meerdere wijken in Amsterdam Noord de status van achterstandswijk of 'krachtwijk';
ii) Het ontbreken van passende en effectieve interventies. Mensen in lage SES-groepen hebben vaak te maken met meerdere zorgprofessionals, maatschappelijk werkers en welzijnsmedewerkers tegelijkertijd. Vaak ontvangen de inwoners van Amsterdam Noord onnodige zorg en sociale ondersteuning met onvoldoende of soms zelfs averechtse resultaten;
iii) De relatief hoge kosten van de gezondheidszorg. Door de fragmentatie van de eerstelijnszorg in de regio, verwijzen huisartsen vaker naar hulpverleners in de duurdere tweedelijnszorg in vergelijking met andere wijken in Amsterdam.

In lijn met de Triple Aim, is er behoefte om de gezondheid van de populatie te verbeteren, de ervaring van zorg te verbeteren en de kosten te reduceren. Dit was de aanleiding voor de ontwikkeling en implementatie van het BSiN-programma.

BSiN richt zich op personen met complexe problemen in meerdere leefgebieden. Het programma wordt aangeboden door een alliantie van 12 organisaties in de eerstelijnszorg, tweedelijnszorg, geestelijke gezondheidszorg, welzijn (schuldhulpverlening, maatschappelijk werk), sociale zekerheid (re-integratie, thuiszorg) en jeugdzorg. Naast de zorgverleners zijn er nog drie actoren intensief betrokken bij het BSiN-programma: zorgverzekeraar Zilveren Kruis Achmea, de gemeente Amsterdam en onderzoeksorganisatie TNO. Zij geven advies en financiële ondersteuning.

Het doel van BSiN is om de zelfredzaamheid en het welzijn en kwaliteit van zorg te verbeteren en om de kosten in de regio te verlagen. Hulpverleners van de organisaties aangesloten bij de alliantie kunnen personen aanmelden voor 'triage' om te bepalen of deze persoon geïncludeerd wordt in het BSiN-programma en welk niveau van ondersteuning hij of zij vervolgens nodig heeft. Triage bestaat uit een holistische evaluatie van het individu en het bediscussiëren van zijn/haar zorgbehoefte. De Zelfredzaamheidsmatrix (ZRM) wordt gebruikt voor deze evaluatie en bestaat uit het identificeren van problematiek en ondersteuningsbehoeften op de volgende leefgebieden: financiën, dagbesteding, huisvesting, gezinsrelaties, geestelijke gezondheid, fysieke gezondheid, activiteiten van het dagelijks leven, sociaal netwerk, maatschappelijke participatie, verslaving en justitie. Vier kwadranten van benodigde zorg worden onderscheiden na triage: 1) zelfredzaam (eigen kracht, geen extra ondersteuning nodig), 2) cliëntondersteuning, 3) zorgcoördinatie en 4) case management. Elke organisatie van de alliantie kan zorgverleners toewijzen om getraind te worden als case manager en parttime (naast hun dagelijkse werk) als case manager te worden ingezet. In het case management kwadrant is de zorg geïntegreerd en gecoördineerd, een individueel behandelplan wordt opgesteld samen met de persoon en progressie wordt regelmatig gemonitord door de case manager. De aangemelde persoon is zelf actief betrokken en er wordt gefocust op zijn of haar capaciteiten om problemen op te lossen. Een typisch case managementtraject duurt 6 maanden tot 1 jaar. Het hele proces van aanmelding, triage, case management tot aan de afsluiting wordt ondersteund door een ICT-portaal. In dit rapport wordt de algemene BSiN aanpak beschreven, met een focus op het case management kwadrant.

Na een pilot in twee wijken in Amsterdam-Noord, wordt de aanpak nu geïmplementeerd in de hele regio. Structurele financiering is afgesproken voor 2016 via de preferente zorgverzekeraar in de regio (Zilveren Kruis Achmea) en de gemeente Amsterdam. Meerjarencontracten worden onderhandeld voor de periode 2017-2020. De eerste korte termijn resultaten (6 maanden) van de BSiN-aanpak laten een verbeterde zelfredzaamheid zien in de case management groep in vergelijking met een controlegroep.

Executive summary (English)

Three Dutch promising integrated care programmes for multi-morbidity were selected and are described in this report: 1) the Proactive Primary Care Approach for Frail Elderly (U-PROFIT), 2) the Care Chain Frail Elderly (CCFE), and 3) Better Together in Amsterdam North (BSiN).

Programme 1: Proactive Primary Care Approach for Frail Elderly (U-PROFIT)

The Utrecht Proactive Primary Care Approach for Frail Elderly (U-PROFIT) is a nurse-led intervention for frail elderly (>60) living at home. The overarching aim is to transition from reactive to proactive elderly care, to preserve daily functioning, improve quality of care and health, and to reduce costs.

Service delivery
The care process in the U-PROFIT approach consists of two steps: 1) a screening that makes use of routinely collected data in Electronic Medical Records (EMRs) (U-PRIM), and 2) an elderly care nurse-led programme (U-CARE). The U-PRIM screening allows primary care centres to identify potentially frail elderly on the basis of polypharmacy, multi-morbidity, and/or a lack of contact with the GP practice (consultation gap) based on the routine healthcare records. An elderly care nurse is in charge of using U-PRIM and contacting potentially frail elderly for further holistic assessment. In U-CARE the elderly care nurse goes on to provide integrated and tailored care, by taking the findings from the holistic assessment and the preferences of the frail elderly [and his/her informal caregiver] to create an individualised care plan. The needed care is provided in collaboration (e.g., multidisciplinary team meetings are held) with the GP and other relevant disciplines (e.g., elderly care physicians, pharmacists, and mental health services).

Leadership & governance
The main role in the programme is assumed by primary care centres, which collaborate with home-care organisations, nursing homes and the municipality. In the current implementation of the U-PROFIT approach, eight primary care centres have set up collaborations within and beyond health care. Variation exists between the types and formalisations of these collaborations and some centres have practice nurses and others have district nurses working as the elderly care nurse. The predominant health insurer in the Utrecht region is Zilveren Kruis Achmea (circa 50% of the population), who has been involved in the U-PROFIT approach since the early stages.

Workforce
Elderly care nurses are a new professional role filled by GP practice nurses and district nurses that have received special training and act as case managers and care coordinators. The nurse has been trained to use thirteen evidence-based care pathways upon indication: falls and mobility, physical functioning, nutrition and malnutrition, mood and depression, loneliness, cognition, incontinence, polypharmacy, vision impairment, hearing loss, caregiver burden, pain, and sleep.

Technologies & medical products
Within the programme, EMR data are used to screen frailty. However, the programme faces issues surrounding access to the EMR by non-primary care centre professionals due to organisational gaps and privacy issues.

Information & research

The U-PROFIT approach was initially implemented in the form of a cluster-randomised controlled trial (cluster-RCT); the results of which were extensively described in two PhD theses. In the cluster-RCT U-PRIM screening in combination with nurse-led U-CARE (1) was compared to only U-PRIM screening (2), and to usual care (3). The effect evaluation was mixed: almost no differences were found between groups (1) and (2), but primary outcomes (e.g. Activities of Daily Living) were better than in group (3). The evaluation with respect to cost-effectiveness had positive results.

Financing

The current implementation is being financed via three sources: an implementation grant from the Netherlands Organisation for Health Research Development (Dutch: ZonMw), two modules provided for by the health insurer Zilveren Kruis Achmea for case management of frail elderly and collaboration in primary frail elderly care, and by internal investments made by the primary care centres themselves.

Programme 2: Care Chain Frail Elderly (CCFE)

The care programme Care Chain Frail Elderly (CCFE) targets vulnerable older persons living at home with complex care needs. These older persons are registered in one of three large care groups in the south of the Netherlands that include many GP-practices. Person-centred integrated care in the CCFE is mainly provided for by a GP, a nurse practitioner specialised in elderly care, an elderly care physician, and a district nurse. The programme aims to improve functional ability, health status and wellbeing, and prevent or postpone nursing home admission.

Service delivery
The three care groups (i.e., PoZoB, DOH and SGE) have adopted a pro-active approach to case finding of frail elderly in the community. They do so with a primary care core team consisting of the GP, nurse practitioner, and district nurse. In some cases the elderly care physician and case worker dementia also participate in the core team. A holistic assessment of the frail elderly is conducted by the nurse practitioner during a home visit,. Depending on the needs identified during the home visit, the nurse practitioner involves and consults other disciplines in the neighbourhood, such as (geriatric) physical therapists, occupational therapists, social workers, elderly care physicians (primary care), geriatricians (secondary care), dementia case workers, welfare consultants, and informal care support. An individual care plan is made by the nurse practitioner, together with the frail elderly and the informal caregiver(s), based on their goals. There are structural multidisciplinary team meetings in which the GP, nurse practitioner, district nurse, and elderly care physician always take part. This is supplemented with other relevant professionals. The frail elderly and informal caregiver are also participants of this team meeting. During the multidisciplinary team meeting a case manager is assigned who is the contact point for the frail elderly and the informal caregiver. There is an electronic medical record that includes the individualised care plan and that is accessible by all professionals involved with the frail elderly.

Six key elements of the care programme, specified by the care groups are: (1) early diagnostics by case finding, (2) care coordination, (3) multi-disciplinary team meetings with an individualised care plan, (4) polypharmacy, (5) transfer care, and (6) community network.

Leadership & governance
Currently, three different care groups are collaborating to develop the CCFE and are working to arrange bundled payment. The care groups work on behalf of the GPs that implement the approach in daily practice. Furthermore, the health insurer is an important stakeholder in the development and continuation of the care programme. The community network is also central in the care process, in particular in the collaboration of health and social care.

Workforce
The CCFE is characterised by a separation of care coordination and case management – the respective tasks are assigned to either the nurse practitioner or the district nurse. The programme involves an elderly care physician, who acts in primary care to support and “educate” the GP. Furthermore, the focus of the programme is on unburdening the informal caregiver rather than transferring care to the informal caregiver.

Technologies & medical products
A specific ICT structure (Care2U) connects all chain partners at various access levels. In the context of information, the CCFE focuses on structuring care and communicating with one-another, rather than merely sharing information.

Information & research
Currently, the CCFE uses mainly process indicators to measure the progress of implementation. In addition, there is an ongoing evaluation by the insurer.

Financing
An important role in the CCFE, as is inherent to care chains, is the development of sustainable financial support. Two major health insurance companies are involved in the financing schemes for the CCFE. The predominant payment system that has been used is a newly developed bundled payment system for elderly care. Through this bundled payment system, included frail elderly are not confronted with any additional or different out-of-pocket costs than if these same services had been provided for in usual care. One of the health insurers is conducting an evaluation of the bundled payment system in collaboration with the care groups and is looking into possibilities for continuation of the CCFE from 2017 onwards. The care programme will be continued in 2017, for which a similar bundled payment applies as in 2016. However, the ongoing evaluation by the insurer will provide input for the method of financing from 2018 onwards.

Programme 3: Better Together in Amsterdam North (BSiN)

The Amsterdam North area is characterised by a large proportion of individuals with a low socio-economic status, a lack of appropriate interventions and relatively high healthcare costs. Thus, in line with triple aim goals, there was a need in Amsterdam North to improve the population's health, to improve the experience of care and to reduce costs. This resulted in the development and implementation of the 'Better Together in Amsterdam North' approach (Dutch acronym: BSiN). The BSiN programme targets persons with complex needs in multiple life domains.

Service delivery

Providers from each of the organisations involved in the BSiN alliance can request that an individual be 'triaged' to determine whether they can be included in the BSiN programme and what type of care they need. Triage entails holistically assessing the individual and discussing him/her in a multidisciplinary team meeting to determine the level of care that is needed and which organisation can best provide it. The Self-Sufficiency Matrix (SSM) is used for assessment. This helps determine problem areas and needs in the following life domains: finances, daily activities, housing, relationships at home, mental health, physical health, addiction, activities of daily living, social network, social participation and justice. Four quadrants are distinguished after triage: 1) self-sufficient (no care needed), 2) care coordination needed, 3) client support needed, and 4) case management needed. Each of the organisations in the alliance can provide staff who will be trained to work as case managers and work thereafter as such on a part-time basis alongside their regular work. In the case management quadrant, care is integrated and coordinated, an individualised care plan is drawn up together with the person, and progress is routinely monitored by the case manager. The person of interest is actively involved, and a focus is placed on his/her own abilities in solving problems. A typical case management trajectory takes six months to one year.

Leadership & governance

The programme is provided for by an alliance of 12 providers in the primary healthcare (GPs), secondary healthcare (hospitals), mental health services, welfare (debt services case managers, social workers) and social security (municipality return-to-work coordinators, home-care services and youth care) sectors. Besides the care providers, three other actors are involved in the BSiN approach and provide advice (and financial support) for the programme: the health insurer Zilveren Kruis Achmea, the municipality of Amsterdam and the research organisation TNO.

Workforce

Within the BSiN programme, professionals from different organisations and different sectors serve as case managers alongside their day-to-day work. A case manager has an integrated and holistic view of the problems of the respective person and coordinates and supports the care provided from multiple sectors, organisations and providers. The required case management training is provided by the programme.

Technologies & medical products

The whole process – from enrolment, triage and case management through to the closing of the trajectory – is supported by an ICT portal. This portal includes documents and tools to support enrolment, triage and case management. Examples include an enrolment form, including holistic

assessment by the SSM, online multi-disciplinary team discussion by the triage team, registration of the individual care plan and registration of appointments.

Information & research
The preliminary short-term (six months) results of the BSiN approach demonstrated improved self-sufficiency in the case management group in comparison with the control group.

Financing
Structural financing has been arranged for 2016 via the predominant health insurer in the region (Zilveren Kruis Achmea) and the municipality of Amsterdam. Long-term contracts are being prepared for the period 2017-2020.

1. Methodological approach

This report is part of WP2 of the project SELFIE. The WP leader is the *Institute for Advanced Studies* (IHS) in Vienna, the WP co-leader is the *August Pi i Sunyer Biomedical Research Institute* (IDIBAPS) in Barcelona. The stated objective of WP2 is to comprehensively describe the 17 integrated chronic care (ICC) programmes selected in the course of WP1, covering the following features:

- **Barriers to and facilitators of implementation**: how were the most promising ICC models implemented and what were the barriers and facilitators during the implementation phase?
- **Patient centeredness**: how is the delivery of care designed around the patient?
- **Use of modern ICT**: which ICT (information and communications technology) applications are used in the most promising ICC models to support the care process and what are the requirements for implementing them successfully in the treatment of patients with multi-morbidity?
- **Use of self-management interventions**: which self-management interventions are used in the ICC models and how are they adapted to patients from different cultural and socio-demographic groups as well as to distinguish the conditions for their successful implementation?
- **Involvement of new professional roles**: are there new professional roles (e.g. physician assistants, nurse practitioners) involved in the ICC models and what are the barriers and facilitators in their successful introduction?
- **Existing evidence**: what is the existing evidence of the impact of the most promising ICC models?

The methodological approach chosen to achieve this objective is that of a "thick description". For each of the eight countries participating in SELFIE, this report contains at least two[i] thick descriptions of the programmes selected in the respective country, resulting in a total of 17 thick descriptions.

The method of thick description is a well-established qualitative empirical approach. The basic idea was first introduced by the philosopher Gilbert Ryle[1]. In the 1970s, it was established as a qualitative method to investigate implicit social practices in their specific contexts by the anthropologist Clifford Geertz.[2] Geertz himself does not provide an explicit definition of this scientific approach. Studying thick descriptions by Geertz himself as well as other scholars, however, makes it possible to deduce the main aspects of the method. In the following quote, Geertz outlines the aims of the method:

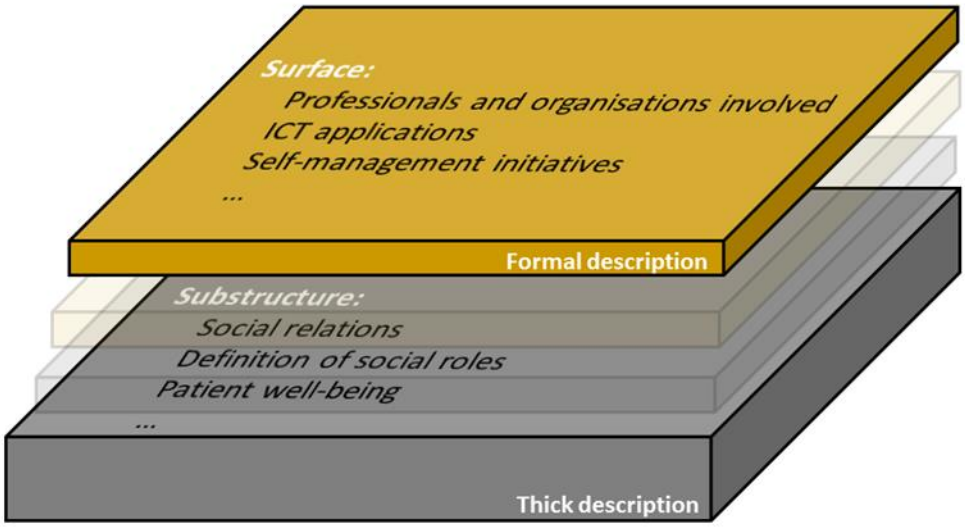
> *"Setting down the meaning particular social actions have for the actors whose actions they are, and stating, as explicitly as we can manage, what the knowledge thus attained demonstrates about the society in which it is found and, beyond that, about social life as such. Our double task is to uncover the conceptual structures that inform our subjects' acts, the 'said' of social discourse, and to construct a system of analysis in whose terms what is generic to those structures, what belongs to them because they are what they are, will stand out against the other determinants of human behavior. […] provide a vocabulary in which what symbolic action has to say about […] the role of culture in human life can be expressed."*[2]

In recent decades, Geertz' methodological and conceptual work has influenced empirical research in several disciplines.[3] In sociology, it is widely used in a variety of research fields, including research of care practices.[4]

[i] Three in the case of the Netherlands.

As shown in **Figure 1.1**, a thick description covers several levels of depth of analysis. The starting point is a formal description, which provides information on the surface of the studied phenomenon.

Figure 1.1: Levels of the programme description



Source: IHS (2015)

In the specific context of the SELFIE project, this formal description pertains to the general organisational structure of the programme and formal relations of the involved stakeholders. The formal description is valuable in itself, because it gives an overview of the domains and levels of integration, the individuals and organisations involved, the tools used and the processes employed. In particular, the formal description includes the following information:

- Name of the programme
- Contact details of the programme management
- Starting date of the programme
- Geographical scope of the programme
- Target group of the programme (type of individuals/scope/included combinations of morbidities)
- Number of persons treated in the programme (total and development over time)
- Aim of the programme
- Definition/understanding of “integrated care” (as far as described in documents)
- Definition/understanding of “multi-morbidity” (as far as described in documents)
- Definition/understanding of “person centredness” (as far as described in documents)
- Definition/understanding of “self-management” (as far as described in documents)
- Organisational form and ownership of the programme (including legal form)
- Involved partner organisations (payer(s), medical and social service providers), including subdivisions (e.g. departments of a hospital)
- Involved disciplines and professions

The formal description is mainly based on available literature, a variety of documents (e.g. official documents of the programme, grey literature) and expert information. A document analysis was performed on these materials, which comprise the first source of information and the basis for obtaining "hard facts" on the respective programme.

However, written documents are in general not suitable to give a deeper understanding of what actually constitutes the programme below its surface when put into practice. These substructures are, however, essential for the functioning of the programme. In addition to the formal description, the method of thick description therefore aims to gain insights on what lies beneath the surface of the studied phenomenon (see **Figure 1.1**).

For the purpose of gathering the necessary information, interviews were conducted with different stakeholders involved in the programme. These served as the second source of information. While the interviews were also used to complement the "hard facts" gathered in the course of the document analysis, their main aim was to obtain "soft facts" about the substructure of the programmes. Therefore, questions of "how" and "why" were at the centre of the interviews and the subsequent analysis of their contents. This comprehensive approach allows for a deeper understanding of what daily practice in the programme looks like and in which way multi-morbidity is addressed in the specific context of the programme.

A set of stakeholder types to be interviewed was defined in advance. This set consisted of the following stakeholder types:

A. **Manager(s) of the programme**
B. **Initiator(s) of the programme**: individuals or representatives of institutions that participated in initiating, conceptualising and planning the programme (e.g. representatives of sickness funds, physicians, etc…)
C. **Representative(s) of sponsor/payer organisations:** individuals or representatives of institutions that fund the programme on a project basis or on a regular basis (e.g. representatives of sickness funds, representatives of municipalities, representatives of associations, etc…)
D. **Medical and social staff**

   D1: physician(s)

   D2: non-physician medical staff (e.g. nurses), social staff, new professional groups (if applicable)
E. **Informal caregivers** (e.g. relatives, neighbours, volunteers)
F. **Clients or their representatives** (e.g. clients or persons in their close environment, representatives of self-help groups)
G. **Other stakeholder(s)**: individuals or representatives of institutions, who turn out to be of specific relevance for the respective programme and do not fit in the categories A.-F.

For each stakeholder type, the WP leader set a minimum number of persons to be interviewed. However, considering that the 17 selected programmes involve very different kinds of stakeholders, a specific sample of interviewees was developed for each individual programme. The partners discussed these samples with the WP leader, in order to ensure a balanced sample structure in each programme.

For each of these stakeholder types, thematic focus areas were defined. Based on these focus areas, a set of interview protocols was prepared by the WP leader. The protocols accounted for the different backgrounds and relevant themes of the individual stakeholder types. This served the purpose of gaining insights into the programme from various perspectives. The included questions concerned, for example,

the stakeholders' perceptions of delivery of care for persons with multiple chronic conditions, their roles and relationships in the programme, their specific problems and their personal views.

In general, all interview protocols were structured according to the following outline:

- A Brief introduction about SELFIE and the interviewer as well as clear information about the goal of the interview
- Signing and exchanging the anonymity agreement and the declaration of consent for recording
- First question: Regarding the person's qualification and position in the programme
- Next question: Regarding the main work of the interviewee and his/her specific role in the programme
- 1-2 main questions: Regarding the work in the programme (covering selected focus area of respective stakeholder type)
- (Direct and indirect follow-up questions)
- Last question: valuation of an important aspect of the programme

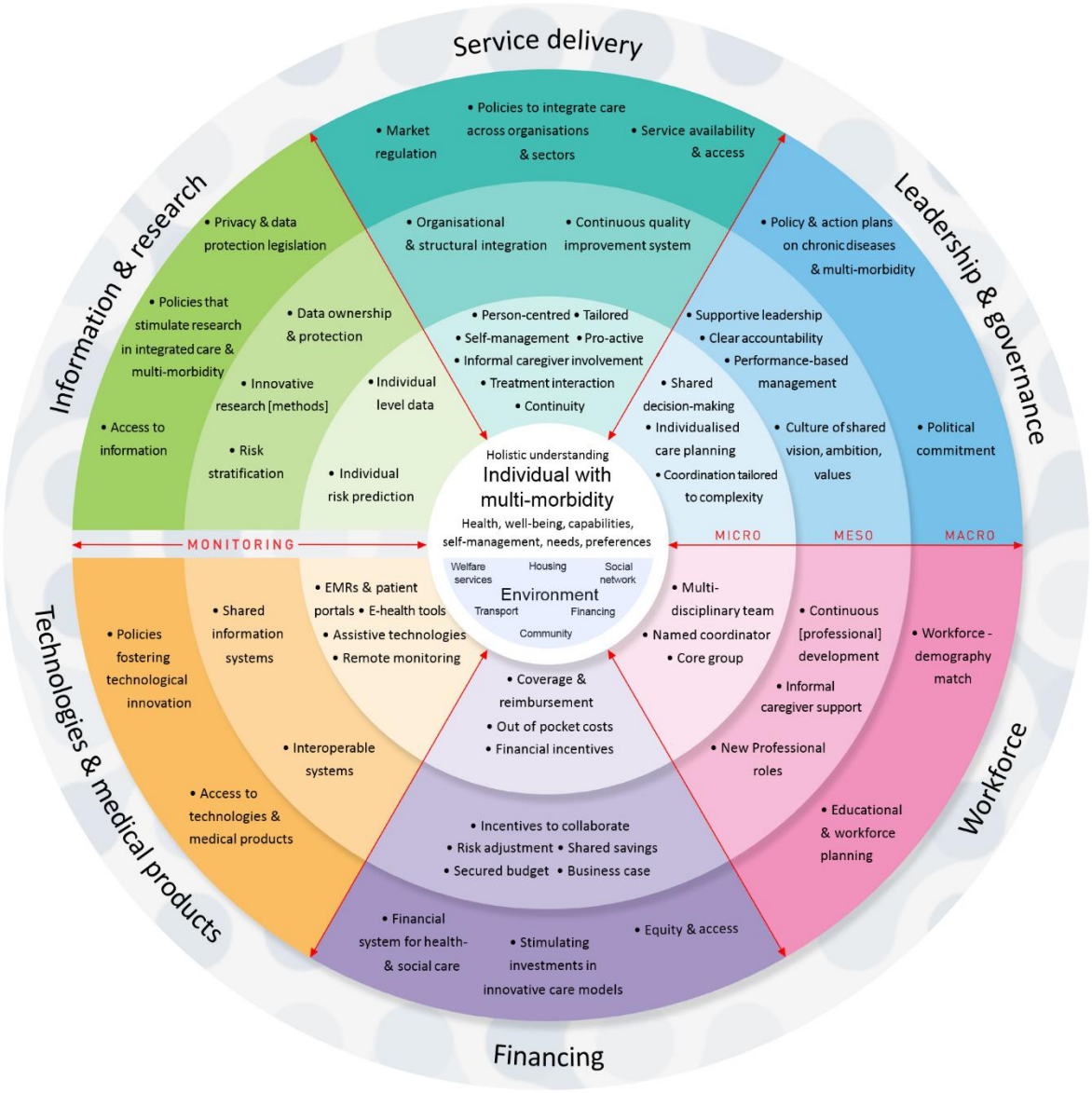
The interview protocols were adapted by the partners according to the specific context of each programme and interviewee, using prior knowledge obtained from the document analysis and from previous interviews. The interviews were carried out face-to-face and the interview duration was between 30 and 90 minutes. The interviews were recorded and transcribed. The resulting transcripts were analysed using the method of content analysis developed by Mayring[5]. This method involves the following steps of abductive interpretation[ii]:

- Selecting units of analysis
- Paraphrasing these units of analysis
- Transforming the paraphrases to short forms
- Constructing categories, where possible

The thick descriptions are structured according to the elements of the conceptual framework developed in the course of WP1. The model is depicted in **Figure 1.2**.

[ii] Timmermans and Tavory6 define abduction as a "creative inferential process aimed at producing new hypotheses and theories based on surprising research evidence."

Figure 2.2: Conceptual framework for the delivery of care for persons with multiple chronic conditions



Source: Leijten et al.[7]

Simultaneously, each thick description covers the eight tasks of WP2 set out in the SELFIE proposal, as well as one supplementary task (denoted by TS), which was agreed on by the project consortium at the kick-off meeting and actually belonging to WP3:

- **Task 1:** To develop the approach for the qualitative analysis of ICC programmes
- **Task 2:** To investigate how the most promising ICC programmes were implemented as well as to identify barriers and facilitators during the implementation phase
- **Task 3:** To analyse how the delivery of care is designed around the patient in the most promising ICC programmes

- **Task 4:** To analyse the relationship with long-term care, social care and other partners beyond the health care system
- **Task 5:** To investigate which ICT applications are used in the most promising ICC programmes to support the care process as well as to explore the requirements for implementing them successfully in the treatment of patients with multi-morbidity
- **Task 6:** To analyse which self-management interventions are used in the most promising ICC programmes and how they were adapted to patients with multi-morbidity from different cultural and socio-demographic groups as well as to distinguish the conditions for their successful implementation
- **Task 7:** To explore new professional roles (e.g. physician assistants, nurse practitioners) involved in the ICC programmes as well as to identify barriers and facilitators in their successful introduction
- **Task 8:** To review existing evidence on the impact of the most promising ICC programmes
- **Task TS:** To explore the experiences of the stakeholders regarding financing and payment schemes

The WP leader provided the partners with continuous guidance in order to ensure that all partners are able to follow the methodological approach described above. This guidance mainly consisted in three parts. First, in the preparatory phase of WP2, methodological guidance materials were developed by the WP leader for all partners. These materials were presented to the partners in the course of the 2nd steering committee meeting in Vienna on January 25th and 26th 2016. Second, a special training course was held at IHS Vienna for researchers directly involved in the thick description on April 14th 2016. Third, all 17 thick descriptions were reviewed in order to ensure that they are harmonised to a certain degree. In this third part, the WP leader received support from the WP co-leader. The review process was divided as follows:

- **WP leader:** Germany, Netherlands, Norway and Spain
- **WP co-leader:** Austria, Croatia, Hungary and United Kingdom

However, it is part of the method that thick descriptions are not standardized but instead should be guided by what the prominent features of the individual studied phenomenon are. Therefore, the diversity in the thick descriptions reflects different topicalities, approaches, challenges and solutions.

As mentioned above, the method of thick description allows for a deep understanding of the implicit structures of the investigated programmes. This is of utmost importance also as a basis for further work packages of the SELFIE project. In the context of WP3, this deep knowledge can help to understand incentives of payment methods better and thus help to develop a comprehensive guide to financial and payment schemes that facilitate the provision of ICC to multi-morbid patients, as well as a guide to pricing of ICC programmes. In the context of WP4, this knowledge it can help to identify the relevant indicators to measure outcomes of ICC programmes. In the context of WP5, it can help to gain ideas regarding how to set up a suitable empirical evaluation of these programmes. Furthermore, it may help to better understand and explain the outcomes of the empirical evaluation.

Each report is structured in the following way: After the methods chapter, chapter 2 provides general information on the national health and social care system with a special focus on integrated chronic care for persons with multi-morbidity. This chapter covers the macro level of the conceptual framework and has the purpose of giving insight into the specific context the two selected programmes are embedded in. The programmes are subsequently described in detail in chapters 3 and 4, respectively. The descriptions present important findings obtained from the document analyses as well as the interview analyses. After a short overview of basic information about the programme, the findings are structured according to the six segments of the conceptual framework: service delivery, leadership and governance, workforce,

technologies and medical products, information and research/monitoring and financing. Furthermore, the implementation process is described in an additional section. The descriptions conclude with a discussion of the respective programme. The discussion summarises the distinctive features of the programme and puts the empirical findings in context of the conceptual framework.

The report includes several quotations from the interviews. These are intended to present the stakeholders' perspectives in their own words. They were selected in the process of "abduction" and are used as a source of, e.g., typical forms of care practices, cooperation forms and motivations for participating in the programme. All quotations are anonymised and translated into English. In the appendix, however, they can be found in the respective original language.

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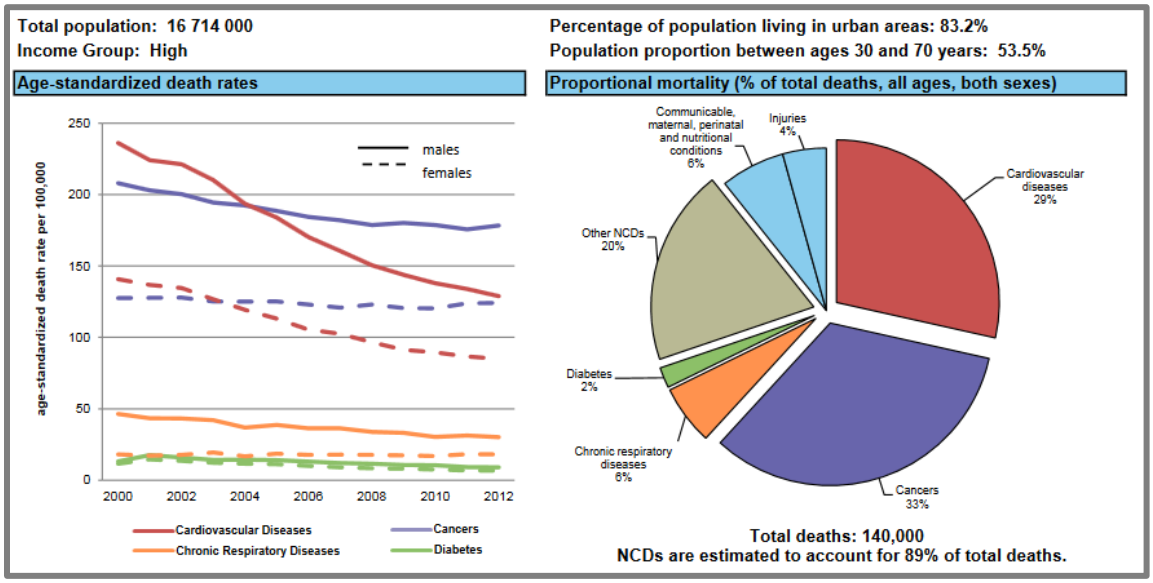
2. Macro level

Figure 2.1: Mortality in the Netherlands[1]



From: *World Health Organization - Noncommunicable Diseases (NCD) Country Profiles, 2014*

Table 2.1: Adult risk factors[1]

Adult risk factors	Males	Females	Total
Current tobacco smoking (2011)	29%	23%	26%
Total alcohol per capita consumption, in litres of pure alcohol (2010)	14.0	6.0	9.9
Raised blood pressure (2008)	32.5%	22.7%	27.5%
Obesity (2008)	18.1%	19.5%	18.8%

From: *World Health Organization - Noncommunicable Diseases (NCD) Country Profiles, 2014*

Table 2.2: National system response to NCDs[1]

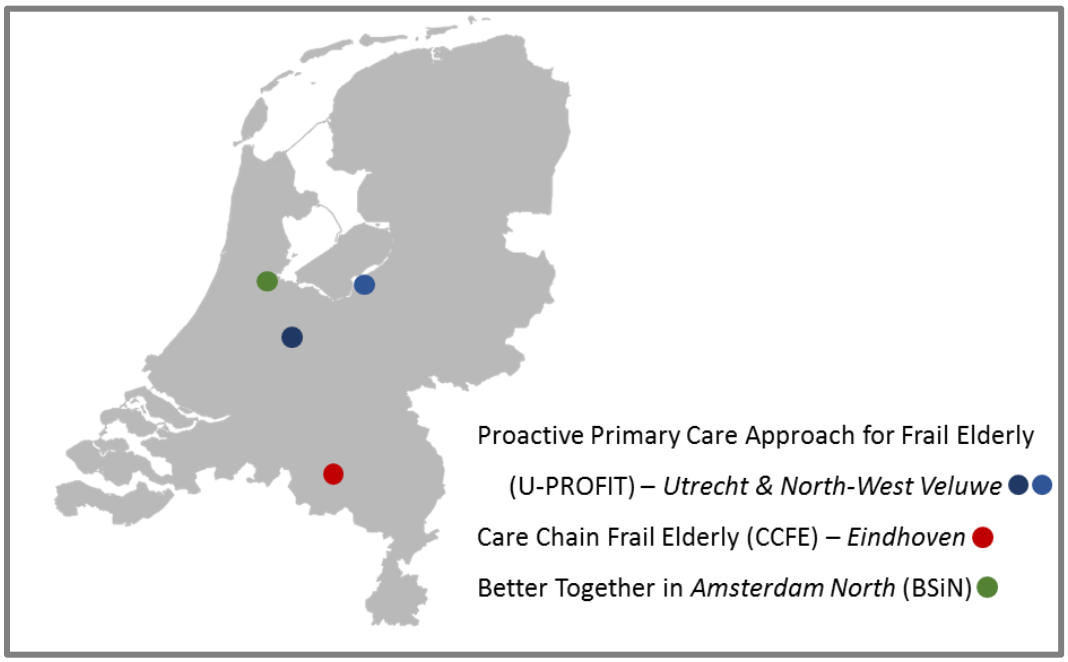
National system response to NCDs	
Has an operational NCD unit/branch or department within the Ministry of Health, or equivalent	Yes
Has an operational multisectoral national policy, strategy or action plan that integrates several NCDs and shared risk factors	No
Has an operational policy, strategy or action plan to reduce the harmful use of alcohol	No
Has an operational policy, strategy or action plan to reduce physical inactivity and/or promote physical activity	No
Has an operational policy, strategy or action plan to reduce the burden of tobacco use	No
Has an operational policy, strategy or action plan to reduce unhealthy diet and/or promote healthy diets	No
Has an evidence-based national guidelines/protocols/standards for the management of major NCDs through a primary care approach	Yes
Has an NCD surveillance and monitoring system in place to enable reporting against the nine global NCD targets	Yes
Has a national, population-based cancer registry	Yes

From: *World Health Organization - Noncommunicable Diseases (NCD) Country Profiles, 2014*

Table 2.3: Key facts and figures about The Netherlands[2-5]

	The Netherlands
Population	16.9 million (2014)
Population ≥ 65 yrs (%)	17.7 (2014)
Model of care	Mixed model (historically Bismarckian; currently managed competition, government regulated)
Life expectancy (yrs)	79.5 M & 83.2 W (2014)
Birth rate	1.68 births per woman (2014)
Gross mortality rate	8.3 per 1,000 (2014)
Infant mortality	3.2/1000 live births (2014)
Healthcare expenditure % GDP	10.8% (2015), international definition of System of Health Accounts that includes curative and long-term care but excludes welfare 14.9% (2015), Dutch definition that also includes welfare
Healthcare expenditure per capita €/year	Circa 4312€ (2015) when applying international definition
Coverage (% population)	98% (2014) *(all residents or non-residents who pay income tax, circa 2% defaulters and the armed forces are covered via different insurance)*
Public payer	Multiple private health insurers who offer statutory basic health insurance and supplementary insurance
Supplementary private insurance (% population)	84% (2015)
Number of physicians per 10,000 inhabitants	32.9 (2013)
Number of hospital beds per 10,000 inhabitants	47 (2014)

Figure 2.2: Geographical scope of the three selected programmes in the Netherlands



2.1. Service delivery

Description of the main policies and regulations shaping the health and social care system[5]

A key perspective of the Dutch health- and social care system, that has shaped recent reforms, is that we need to transition from 'sickness and care to behaviour and health' (*Dutch: 'van ziekte en zorg naar gedrag en gezondheid'*) – signalling a strong focus on self-sufficiency in our society.

The health- and social care system is decentralised. There are two main gatekeepers in the system: primary care and the municipality. Primary care is the gateway to specialised [hospital] care, and the municipality is the gateway to domestic help, assistance, personal [long term] care, public health, and informal care support.[6]

The health care system is private and market-driven, but government regulated. All citizens are required to have health care insurance for basic curative care, and many (circa 85%) also are insured for supplementary care (i.e., Voluntary Health Insurance (VHI)). Citizens can choose where they obtain this health insurance, and are most often free to choose their provider. There are four dominant health insurers in the Netherlands that cover 90% of the population.[5] Long-term care is provided for by home-care organisations and residential care organisations (i.e., nursing homes). Home-care organisations also provide domestic help, assistance, personal care, and nursing care and treatment. Within these services, municipalities are responsible for domestic help, assistance, and personal care, and health insurers for nursing care and treatment.[6]

Social security in the Netherlands covers: sickness and maternity, occupational disability insurance, old-age pensions, survivors' benefits, unemployment benefits, and child benefits.[5]

Currently there are three acts that shape the health- and social care system in the Netherlands that are particularly relevant for integrated care:[5]

1. **Health Insurance Act** (HIA/*Zvw*):
    - Meant to regulate the statutory basic health insurance for every citizen of 18 years or older, including the services listed below. There is nation-wide set deductible of 385 euros (2016) for every citizen. However, the services below which are marked with * are completely free and do not use this deductible.
    - The basic health insurance covers the following types of care
        - *Curative care*: Roughly includes general practitioner (GP) care* (and care chains*), hospital care, maternal care*, pharmaceutical care, mental health care;
        - *Home-care by district nurses** who are in charge of assessing and coordinating home nursing care and personal care;
        - *Mental health care*: the first 3 years of inpatient care in a mental health institution are covered by the HIA, hereafter by the LTCA;
        - *Rehabilitation care*: both in- and outpatient.

2. **Long-term Care Act** (LTCA/*Wlz*):
    - Meant for persons that need 24 hour per day supervision
    - Indication of needs is assessed by the Centre of Needs Assessment (*CIZ*)
    - The LTCA covers the long-term residential care and community care (home-care). The latter is different than the home nursing care (HIA), as this is for persons that need 24 hour per day supervision.

3. **Social Support Act** (SSA/*WMO*):
    - Meant to manage the integration of persons with limitations in society.
    - The act makes municipalities responsible for domestic care, supporting and activating care, as well as the regulations for transport, client support and various subsidies.
    - Persons can apply for provisions under this act via the municipality's SSA-'window' (*Dutch: WMO-loket*). These are assessed by municipal employees or social district teams (*Dutch: Buurtteams*). The focus is on first looking at what can be arranged via the person's own social network.
    - Social district teams play an important role in this act, their role is to be present in the neighbourhood and signal and solve social problems.

All type of care that is provided for within the SSA/WMO will be called 'social care' throughout the Dutch thick descriptions, care that falls under the Health Insurance or Long-term Care Acts will be referred to as 'health care'. Within the social care sector in the Netherlands we often speak of 'clients' or citizens, whereas in health care we traditionally speak of patients.

Two important *transitions* in the formation of the current health- and social care system have caused some turbulence in the past years and affect the way in which care is currently being delivered:

1. **2006 – Regulated competition** and **compulsory insurance:** The goal of this transition was to reform the **curative** sector, **decentralise**, promote efficiency, and improve access. Prior to 2006, curative health care for persons below a threshold income level was covered by social health insurance, and those above this threshold held private insurance. The HIA introduction in 2006 transformed this into an overall universal obligatory curative health insurance via private health insurers. Persons who do not have sufficient financial means are provided an 'allowance' in this

new system.[6] The government stepped back from directly controlling volumes and prices to a more distant role of supervising 1) the market on which insurers purchase health services from providers, 2) the market on which providers offer health services to citizens, and 3) the market on which insurers offer health insurance to patients (see **Figure 2.3**). On the first market, insurers negotiate with providers about volume, price and quality of care.

2. **2015 – Long-term care transformation:**[7,8] Prior to 2015, all forms of long-term care, residential, and non-residential, were covered by the Exceptional Medical Expenses Act (EMEA/*AWBZ*). This act no longer exists. Extramural activities, participation support, and domestic care have been moved to the Social Support Act, and thus the role of the municipality in for example elderly care became much greater than it was before. Residential nursing and long term mental health provisions moved to the Health Insurance Act. Lastly, key facets of the EMEA moved to the Long-term Care Act. This transformation put immense pressure on the need for health insurers, social care providers, and municipalities to collaborate. This reform largely affected the mental health services, which used to fall almost predominantly under the EMEA act, and are now dispersed across the three main acts: prevention (SSA/*WMO*), primary/curative (HIA/*Zvw*), and long term (LTCA/*Wlz*).

Description of clear and well-designed national/regional policies/plans and programmes supporting integrated care for chronic patients with multi-morbid condition/complex care needs

As of 2010, the Dutch Minister of Health incentivised a programmatic approach towards chronic care by introducing a bundled payment system for integrated care programmes for diabetes, cardiovascular risk management, COPD, heart failure, asthma, mental health, and elderly care. The care offered in these programmes is based on clinical guidelines and protocols, and was developed and authorised by professional organisations, patient associations, and public health authorities (*Dutch: Zorgstandaarden*). The integrated care programmes are also referred to as 'care chains'. However, as the bundled payment includes various forms of primary care, it mainly stimulates collaboration between disciplines in primary care. As the absence of especially secondary care in the care chains was recognised to be an important limitation, the Dutch Minister of Health is currently supporting experiments with so called 'population-based health management' and 'population-based payment' systems.

As a result of these integrated care approaches, the role of nursing in primary care has been growing. The nurse practitioners and practice nurses are usually the main contact point for patients enrolled in an integrated care programme. Currently, we witness the growing importance of the role of district nurses (mostly employed by home-care organisations), as a result of the reforms in the long-term care sector.

Health insurers further try to simulate innovation in multi-disciplinary collaboration within and across sectors by offering so-called module payments, like for the modules 'Collaboration in integrated primary care' and 'Collaborative care for frail elderly'. However, these modules are segmented and do not offer structural funding for sustainable integration.

Description of specific policies for integration of social and healthcare programmes for management of patients with multi-morbidity with current or potential social needs?

The 2015 reforms of the long-term care aim to shift residential to non-residential care and to decentralise non-residential care to home-care organisations, municipalities, and informal caregivers. The provision of non-residential care has been devolved to either health insurers (HIA/*Zvw*) or municipalities (SSA/*WMO*). Health insurers are responsible for contracting district nursing and personal care, whereas municipalities are responsible for all other non-residential care covered by the SSA, which

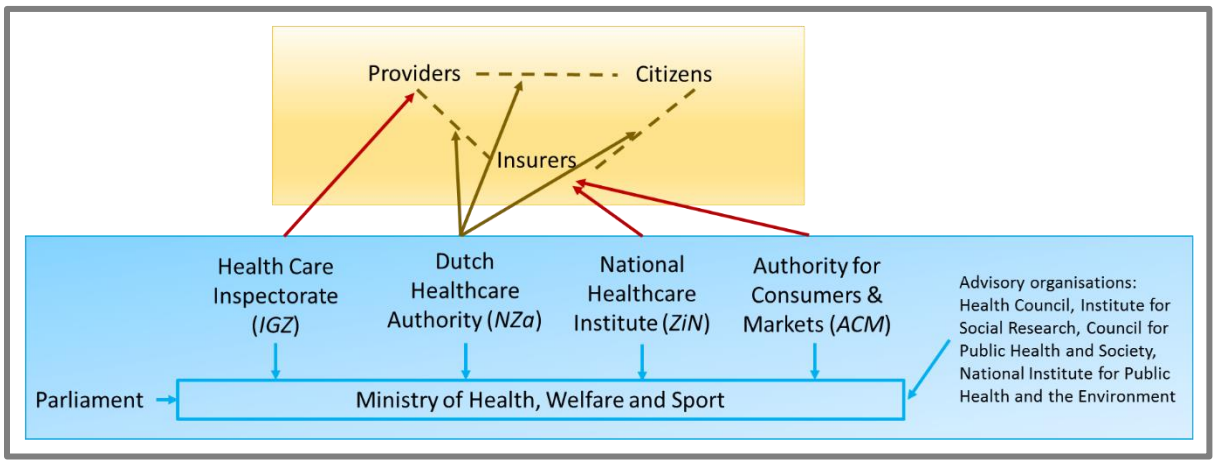
mainly pertains to social support. This has led to the recognition that much closer collaboration between health- and social care is needed. Innovations in this collaboration are financially supported by the bundled payments and module-payments mentioned above.

2.2. Leadership & governance

Briefly describe how governance of the health and social care system is structured at national/regional level and who the main actors are[5]

Figure 2.3 below shows how the Dutch health- and social care system is governed. The figure was adapted from the European Observatory Health Systems in Transition report on the Netherlands.[5]

Figure 2.3: Governance in the Dutch health- and social care system



The Dutch Ministry of Health has the ultimate responsibility for offering safe, accessible, and affordable health care. They set the national health budget and determine the regulatory framework in which the three markets mentioned previously operate. They also set the rules for risk equalisation between health insurers. The Health Care Inspectorate oversees the quality, safety, and accessibility of care. The Dutch Healthcare Authority oversees the functioning of the three markets, including contracting and defining reimbursement-labels. The National Healthcare Institute supervises quality, access, and affordability of healthcare, regulates defaulters, administers the Health Insurance Fund (including risk adjustment), and assesses pharmaceuticals and some other types of care before these enter the benefit package. The Consumers and Markets Authority aims to enforce fair competition in all sectors of the Dutch economy (thus goes beyond healthcare).

For social care the Ministry of Social Affairs and Welfare also plays an important role (especially with regard to social security), as well as municipalities.

Briefly describe how governance of the integrated care initiatives/programmes at national/regional level is structured and who the main actors are

Currently, integrated care programmes are almost all bottom-up approaches initiated by care groups. The **care group** is a relatively new legal entity in the Dutch health care system, comprised of multiple providers working in primary care, often exclusively GPs. These care groups were formed in reaction to the introduction of managed competition in the Dutch health care system, to increase primary care's power to negotiate with health insurers. Insurers purchase the various integrated care programmes for

chronic diseases and frail elderly from the care groups by negotiating a bundled payment contract. The care groups are responsible for implementing the integrated care programmes either by providing the care themselves or sub-contracting other providers. The fees for the sub-contracted services are subject to negotiation between the care group and the individual providers. Currently there are about 115 care groups in the Netherlands.

2.3. Workforce

How is the workforce prepared for and involved in the transitions and scale-up of integrated care?

Regulation of professions is an aspect of the Dutch health care system that is still very largely controlled by the central government. They can implemented a 'numerus clausus' at medical faculties, limiting the number of enrolled students.[5] Furthermore, there is a 'capacity organisation' (*Dutch: Capaciteitsorgaan*) that determines how many positions within each medical specialisation will become available.[9] Overall, there is currently a job shortage for medical specialists but this is much less so for geriatricians and elderly care physicians that are particularly relevant in the field of integrated care and multi-morbidity (e.g., frail and complex elderly patients). This, and the fact that these educational programmes have become more extensive and longer, makes them more appealing for medical school graduates. The National Healthcare Institute also has an advisory board that looks at the educational and occupational demand for medical occupations in the future, considering for example demography and technological developments.[10]

Describe the occurrence of new professional roles and occupations involved in integrated care.

- **Nurses in GP-care**: Within GP-care it is interesting to note that there are different types of nurses involved in integrated care. Namely, there are practice nurses, nurse practitioners, and physician assistants. These occupations are all funded via the Health Insurance Act (HIA/*ZvW*). The difference between these nurses is their educational background, which is most often secondary vocational education (*MBO*) for nurse practitioners and physician assistants, and higher professional education (*HBO*) for practice nurses. Many additional post-vocational courses and programmes are also available for nurses. Nurses can specialise, often in one of the integrated care programmes or care chains (i.e., COPD, asthma, diabetes, CVD, mental health, elderly care).

- **District nurses**:[11] Alongside nurses working in GP-care, there are also district nurses that have come to play a large role in the current Dutch health- and social care system.[5] These nurses almost always have a higher professional education (*HBO*) with community specialisation. District nurses are in charge of home-care (i.e., home nursing and personal care) and funded via the Health Insurance Act (HIA/*ZvW*). Currently (2016), there are two types of tasks for the district nurse, financed via different mechanisms within this act, i.e., **Community working (S1)** and **Nursing and caring (S2)** of individuals. In the near future, most likely by 2017, there will only be one financing mechanism for district nurses, as the aforementioned distinction creates an administrative burden for nurses.[12]

- **Social district teams** (*Dutch: Buurtteams*): These are teams of professionals working for the municipality (funded via the SSA/*WMO*). Their role has increased dramatically since the 2015 transitions.[4] The district covered by one team can vary from entire small towns or villages, to a particular neighbourhood in a large city. Furthermore, there are differentiations, such as social district teams that specifically focus on social support for citizens. The social district team members often conduct so called 'kitchen table dialogues' (*Dutch: keukentafelgesprek*) with citizens to assess

their needs, determine official indications for social support, and subsequently decide what funding and provisions will be made available. Depending on district-specific needs, different types of professionals work in a district team as long as they are 'generalists' in the field of community demographics, individual support, and care. Professionals can for example be social workers, community development workers, child and youth welfare workers, housing consultants, or educators.[12]

- **Elderly care physician in primary care**: In the Netherlands there is a tradition that physicians can specialise in caring for chronically ill and/or long-term care provision. These physicians can be employed by a primary healthcare centre, a care group, a nursing home or have their own private practice. The normative reorientation towards more individual and social responsibility, underlies the shift from residential to non-residential care and the decentralisation of non-residential care to home-care organisations, municipalities and informal caregivers. As more elderly also prefer to live at home for longer, the role of elderly care physicians in advising and assisting in primary care has increased.

2.4. Technologies & medical products

Describe national/regional policies to promote the use of ICT to support integrated care?[4,5]
Every GP has an electronic patient record system. However, there is no national standard for this, nor is there an inter-practice/provider system in place. There has been much effort by the government to arrange this, however, mostly due to privacy issues this has not yet been successful. A national roll-out of the electronic patient record failed after vigorous debate and opposition. Many GPs resisted a central exchange of patient data because they feared unqualified access to the information. New, more pragmatic, mostly regional initiatives to exchange information on a voluntary basis, after the patient has explicitly give consent, are being piloted.

Describe national/regional policies stimulating e-health applications and assistive devices?[4]
In 2012 a 'National Implementation Agenda for eHealth' was set, this resulted in the 'eHealth Governance Covenant 2014-2019'. Opportunities and innovations in eHealth are recognised but the lack of their wide-spread implementation is also recognised. As of 2012, there is an annual eHealth monitoring. The 2015 monitoring showed that both in primary and secondary care eHealth pilots were being conducted, with a continuation after the pilot phase in more than 70% of cases. Developments are, however, still much needed. These are mostly related to online services for healthcare users, information exchange between care providers, and remote monitoring for dispensing medicines.

2.5. Information & research

Describe legislative framework on data privacy with respect to integrated care? Does it follow the current EU directive? Is it constraining implementation of integrated care?[4,15]
The EU Directive General Data Protection Regulation is implemented in the Netherlands through the Personal Data Protection Act, which requires medical care providers to keep medical files up to date and requires that this information stays confidential. Patient level data can only be exchanged via care providers if the patient explicitly agrees to this.

Describe specific national/regional research programmes for integrated care and/or multi-morbidity

There is no specific national programme for multi-morbidity research. However, there was a national research programme for elderly care (*Dutch: NPO*) funded by the Netherlands Organisation for Health Research and Development (*ZonMw*).

In the Netherlands we often speak of 'project-titus', whereby different innovations are constantly being implemented in practice, both bottom-up and top-down, using several, sometimes consecutive, project-budgets but without sustainable structural funding.

Describe if and how they are embedded in larger (European-wide) innovation & research platforms for integrated care?

Dutch teams have been involved in prior EU multi-morbidity and/or integrated care research projects and partnerships (e.g., ICARE4EU, CHRODIS, DISMEVAL, the European Innovation Partnership on Active and Healthy Ageing, the joint programming initiative More Years Better Lives, the Ambient Assisted Living joint programme).

2.6. Financing

Brief description of the funding system for the health and social care sector in general and integrated care specifically[5]

Sources of funding for the three main acts are:

1. **Health Insurance Act** (HIA/*Zvw*):
   - Funded via insured persons' premiums (with a deductible of 385 euros, and income-dependent allowance) and voluntary health insurance, co-payments, income-dependent employer contribution, and risk adjusted HIA/*Zvw* fund (via state budget – taxes).
2. **Long-term Care Act** (LTCA/*Wlz*):
   - Funded via income-dependent contribution, cost-sharing (patient's income-dependent costs), and general fund for LTCA/*Wlz* (via state budget – taxes).
3. **Social Support Act** (SSA/*WMO*):
   - Funded via municipality (via state budget –taxes).

Health insurers cannot deny anyone their basic benefit package (HIA/*Zvw*), this is subsequently risk adjusted via a risk equalisation scheme. For Voluntary Health Insurance, on the other hand, insurers can deny persons. Risk adjustment is an important aspect of the Dutch system, as it ensures that vulnerable persons who generate high costs, such as those with multi-morbidity, have at least basic health insurance. Furthermore, there is an 'allowance' for persons with low income that cannot afford the monthly health insurer premiums.

GP-care is paid for via fee-for-service and capitation, bundled payments for integrated care, and pay-for-performance and innovation modules. Health insurers negotiate with providers on price, quality and volume of care. The Dutch Healthcare Authority, however, has set maximum prices for most care. GPs usually agree on a contract with one predominant health insurer, after which other insurers 'follow' this same contract. Only in the case of bundled payments and pay-for-performance/innovation modules it may occur that the insurers do not follow one-another. GPs are supposed to negotiate separately with insurers to maintain competition, however, care groups negotiate about the integrated care programmes. The three segments by which GPs are paid are described below:

1. Basic care (~75%)
   i. Capitation fee for each patient registered with the practice, differentiated according to age (above or under 65 years) and deprivation status (zip code).

ii. Consultation fee for each consultation and home-visit.
iii. Nurse practitioner fee for mental care (unlike i. and ii. this needs to be contracted with an insurer).
iv. Fees for specific services like small surgery, complex wound care, and palliative care.

2. Integrated care – bundled payments (~15%)
   - For several chronic conditions integrated care programmes, financed in the form of bundled payments, are available, e.g., COPD, asthma, diabetes mellitus type 2, [high risk] CVD, and frail elderly care.
   - Care is provided for by care groups that coordinate care for these conditions. The care group negotiates a fixed fee per patient with the insurer, thus a contract with the insurer is necessary here. The GP still receives the existing capitation fee and the consultation fee is also obtained for issues not related to the specific condition. This is, however, not the case for the frail elderly care programme.
   - The bundled payments are also called DTCs (Diagnosis-Treatment Combinations, similar to Diagnosis-Related Groups (DRGs), *Dutch: Diagnose-Behandeling Combinatie (DBC)*).
   - Most current bundled payments (DTCs) in primary care are disease-oriented, with mental health care chains underway. However, there are also pilots underway for frail elderly care.
   - Collaboration modules, for example in setting up a structural collaboration between primary and social care, fall under this segment.[13]
3. Pay-for-performance and innovation (~10%)
   - Subject to contract with health insurer, for example related to accessibility, efficiency in prescribing and referrals to secondary care, and non-care related issues such as accreditation.
   - Innovation modules, for example in setting up case finding of frail elderly, fall under this segment.

For specialist care, insurers can apply selective contracting. However, free choice of care providers remains very important in the Netherlands, and thus 75% of the bill of non-contracted care providers is reimbursed. Hospitals and health insurers negotiate, hospitals then in turn negotiate with professionals (e.g., specialists) working for them (i.e., there is no direct negotiation between professionals and insurers). About 30% of funding for hospital care is fixed, this is for complex care (e.g., transplantation) and trauma care. The other 70% is freely negotiable. Each insurer negotiates with each hospital, sometimes a lump-sum budget is negotiated, and otherwise price and/or volume per diagnosis-treatment combination is negotiated (i.e., DTC/*DBC*). The Dutch Healthcare Authority has set 4400 DTCs. As of 2012 there is a new DTC system, called DOTs (DBCs On the way to Transparency), because there were too many separate DTCs.

Via the Long-term Care Act, the home-care package can be financed in kind or via a personal budget to self-purchase services (*PGBs*). The recent reforms led to many claims from citizens which were confronted with substantially lower personal budgets. As the national Social Insurance Bank, who manages these budgets, was not prepared/able to handle claims the reforms caused substantial delays in payment and much criticism.

Municipalities receive state funds and are free to divide these between the types of care falling under their responsibility (e.g., domestic care, participation support) as they please and negotiate with care providers. This has led to much critique, as municipalities are a) not used to contracting care, and b) inequalities between municipalities have arisen.

Are financial policies aligned with large scale implementation of integrated care?[4]

Several financial policies are aligned with larger scale implementation of integrated care, namely those in the second and third tier of GP care. Also the pilots with bundled elderly care are promising as they show a shift from disease-oriented to person-oriented care.

How is sustainability of funding for integrated care ensured?[4,14]

Currently most care is annually negotiated between insurer and providers, however, longer-term contracts are on the rise. These are thought to be desirable as they may reduce administrative burden, allow for a vision towards longer- and higher level goals, and give more time to improve quality.

2.7. Dutch – English concept dictionary

Table 2.4: Dutch – English key terms and acronyms

Aanvullend zorgverzekeringspakket = Voluntary Health Insurance (VHI)
Algemene Wet Bijzondere Ziektekosten (AWBZ) = Exceptional Medical Expenses Act (EMEA)
Autoriteit Consument & Markt (ACM) = Consumers and Market Authority
Buurtteams/Dorpteams = social district teams (funded via SSA/*WMO*)
Buurtzorg = social district care (funded via SSA/*WMO*)
Centrum indicatiestelling zorg (CIZ) = Centre for Needs Assessment
Consultatiebureau = children's health centre
Diagnose-Behandeling Combinatie (DBC) = Diagnosis Treatment Combination (DTC)
Eigen risico = deductible
Ergotherapie = occupational therapy
HBO = higher professional education
Hotel zorg / **Zorghotel** = convalescence (short-stay nursing home-care) (funded via HIA/*Zvw)*
Huisarts Informatie Systeem (HIS) = Information system of the GP
Huishuidelijke zorg = domestic care (funded via SSA/*WMO*)
Gemeentelijke Gezondheidsdienst (GGD) = municipal health services
Inspectie voor de Gezondheidszorg (IGZ) = Health Care Inspectorate
Ketenzorg Informatie Systeem (KIS) = care chain information system
Ketenzorg = care chain
Keukentafelgesprek = kitchen table dialogue
Maatschappelijk werk = social work (funded via *WMO*-SSA)
MBO = secondary vocational education
MDO = multidisciplinary meeting (*Dutch: multidisciplinair overleg)*
Nederlandse Zorgautoriteit (NZa) = *Dutch Healthcare Authority*
Praktijkassistent = [GP] physician assistant
Praktijkondersteuner = nurse practitioner
Praktijkverpleegkundige = GP-practice nurse
Preferente zorgverzekeraar = Predominant health insurer, in a region (preferred/dominant)
Sociale buurtteams = social district teams (funded via SSA/*WMO*)
Sociaal team = social district team (funded via SSA/*WMO*)
Sociale wijkteams = social district teams (funded via SSA/*WMO*)
Specialist ouderengeneeskunde = elderly care physician
Steunpunt mantelzorgers = support point for informal caregivers (funded via SSA/*WMO*)
Steunpunt welzijn = well-being support-point (funded via SSA/*WMO*)
Thuiszorg = home-care organisation (funded via both SSA/*WMO* & HIA/*Zvw*)
Verpleeghuiszorg = nursing home-care (funded via LTCA/*Wlz*)
Vrijwilligerscoordinatoren = volunteer work coordinators (funded via SSA/*WMO*)
Welzijnsactiviteit = well-being activities (funded via SSA/*WMO*)
Welzijnsorganisatie = well-being organisations (funded via SSA/*WMO*)
Welzijnswerk = Welfare services (funded via SSA/*WMO*)
Wet Maatschappelijke Ondersteuning (WMO) = Social Support Act (SSA)
Wet langdurige zorg (Wlz) = Long-term Care Act (LTCA)
Wethouder = municipal executive board member
Wijkspecialisten = area specialists (e.g., geriatricians)

Wijkteams = social district teams (funded via SSA/*WMO*)
Wijkverpleging = district nursing
Wijkverpleegkundige = district nurse (funded via HIA/*Zvw*)
WMO loket = Social Security Act 'window' (funded via SSA/*WMO*)
ZonMw = Netherlands Organisation for Health Research and Development
Zorginstituut Nederland (ZiN) = National Healthcare Institute
Zorgtrajectbegeleider = Case worker dementia (funded in principle via HIA/*Zvw,* in practice also via SSA/*WMO*)
Zorgverzekeringswet (ZVW) = Health Insurance Act (HIA)

Social district teams ≈ buurtteams, dorpteams, buurtzorg, sociale buurtteams, social team, wijkteams.

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3. Progamme 1: Proactive Primary Care Approach for Frail Elderly (U-PROFIT)

3.1. Basic information

3.1.1. Procedure

In this report, documents and interviews were used to obtain information about the U-PROFIT approach. During the process of selecting the most promising integrated care programmes for multi-morbidity in the Netherlands, the first and last author (FL & MRvM) spoke to the contact point(s) several times about the approach. Phone and face to face meetings were held from October 2015 and continued throughout the process of writing this report (circa October 2016). The main contact point provided most of the documentation used and brought the first author (FL) in contact with different stakeholders that could be interviewed.

Documentation about the RCT was used such as the initial project plan[1], the elderly care nursing teaching module[2], the two PhD theses that came forth out of the RCT[3,4], and the final project report[5]. An article from the *I-UP-Med* phase was used on the implementation in the North-West Veluwe.[6] From the *I-UP-Utrecht* phase, the project proposal was used.[7] Other sources include the toolkit of care pathways used in the nurses' training and clinical practice[8], and sources from the health insurer Zilveren Kruis Achmea[9,10]. Lastly, several websites on elderly care in the Netherlands on which the U-PROFIT approach was discussed or presented were used.[11-13]

In May through August 2016, 13 stakeholders were interviewed to obtain more information on the U-PROFIT approach. For an overview of the persons interviewed see **Appendix Table A3.1**. A distinction is made between the following types of stakeholders: programme manager, initiator of the programme, physicians (e.g., GPs, elderly care physicians, geriatricians etc.), non-physician medical staff/social staff/new professional groups (e.g., elderly care nurses, district nurses, neighbourhood teams), representative of sponsor/payer organisation (e.g., health insurers, municipalities), clients or their representatives (e.g., frail elderly), informal caregivers, other stakeholders (e.g., representatives from elderly care networks). It is possible that one interviewed stakeholder falls into multiple categories, only one stakeholder type label is then used throughout the text. The interviews covered the topics presented in this report and explored 'how' and 'why' questions. All interviews were held by the first author (FL) and in one case with a co-author (MH), eleven face to face and two by telephone. Interviews took between 24 and 76 minutes (mean = 44 minutes).

Interviews were recorded and transcribed verbatim. The first author (FL) analysed these and discussed findings with the co-authors. All interviewees signed an informed consent that made using their results in this report and for future research purposes possible. Information from the interviews is referenced in this report as 'Interviewed Person xx_programme 1' (*IPxx_1*), when this is a direct quote the statement is presented in quotation marks. When a reference is given after punctuation (i.e., … .(*IPxx_1*)), this is the reference for the entire prior section, when the reference is given within the punctuation (i.e., … (*IPxx_1*).), this the reference only for this sentence. When information from the interviews is referenced, the type of stakeholder that made this statement is described in the text. In the case of potentially compromising their anonymity, the stakeholder type is not made explicit directly

in the text. Direct quotes from interviews are numbered, in the **Appendix Table A3.2** the original Dutch quotes are shown.

Throughout this report both factual information on the U-PROFIT approach and subjective experiences with the approach are reported on. These two types of information stem from the documents as well as the interviews. Each section below begins with factual information and subsequently provides reflections and experiences on the approach. Please note that, unless otherwise stated, figures were made by the authors of this report.

3.1.2. Overview basic information

Table 3.1: Overview of basic information on U-PROFIT

Programme name	Implementation of the *Proactive Primary Care Approach for Frail Elderly (U-PROFIT)* in 8 Primary Care Centres in Utrecht (*I-UP-Utrecht*)
Contact point	Affiliated to University Medical Centre Utrecht and health centres Leidsche Rijn Julius.
Starting date programme	1. 2010-2013: Randomised controlled trial (RCT) of the U-PROFIT approach (*RCT-UP*) 2. 2014-onwards: Implementation North-West Veluwe in 42 GP practices that are part of the Medicamus GP-collaboration (*I-UP-Med*) 3. 2016-onwards: Implementation in the Utrecht region in 8 primary care centres via a research and development grant (*I-UP-Utrecht*) The focus of the current thick description is on *I-UP-Utrecht*. *See timeline in **Figure 3.1**.
Geographical scope	Utrecht (*RCT-UP* & *I-UP-Utrecht*) and North-West Veluwe (*I-UP-Med*). *See map in *2. Macro level* chapter.
Target group	Frail elderly (≥60 years) living at home.
Number of persons treated	1. *RCT-UP* 2010-2013: 1,446 (in total 3,092: U-PRIM & U-CARE 1,446, U-PRIM 790, control group 856) 2. *I-UP-Med* 2014-2015: 7,904 (only persons aged ≥75) 3. *I-UP-Utrecht* 2016-2018: 5,632
Aim	To make a transition from reactive towards proactive elderly care and to preserve daily functioning, improve quality of care, improve the health of a predefined [potentially frail] population, and to reduce costs. Elderly persons should become more self-sufficient and be able to live independently for longer. In the current implementation phase (*I-UP-Utrecht*), arranging sustainable financing is another aim.
Definition of integrated care	Integrated care is defined as that in which primary and social care (and whenever possible secondary care) in the region collaborate effectively and efficiently.[7] Furthermore, the patient, informal caregiver, primary care providers, home-care organisations, and municipalities (e.g., district teams) should take responsibility together.[7]
Definition of multi-morbidity	The approach targets frail elderly. Frailty is defined as a loss of resources in the physical, psychological, cognitive, and social domains, that results in an increased vulnerability for adverse health outcomes.[3]

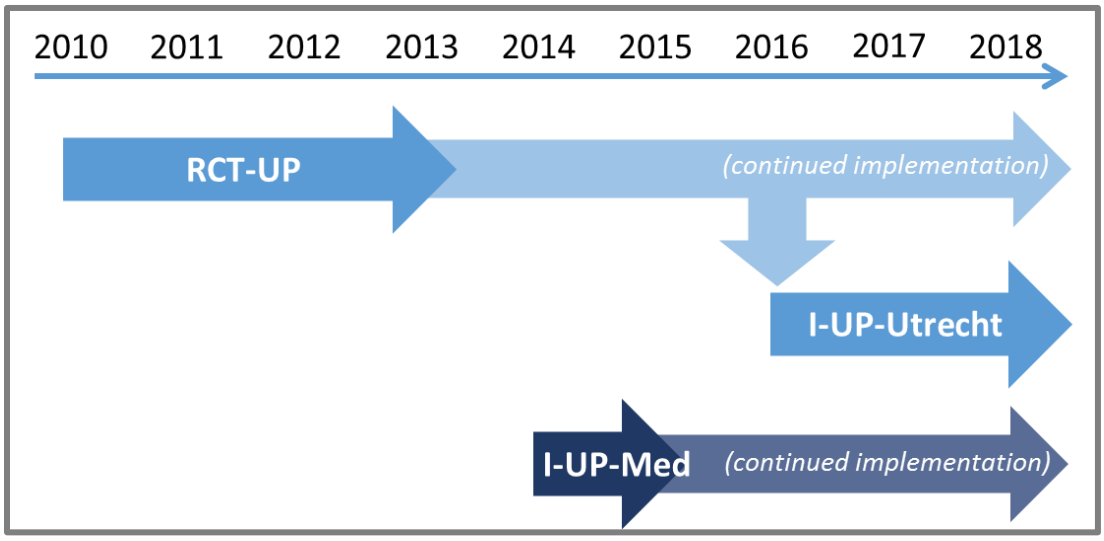
Definition of person-centeredness	No specific definition given. However, tailored care is provided for that incorporates a holistic assessment and individualised care planning.[8]
Definition of self-management	No specific definition given. However, it is implied through aspects of the approach such creating a care plan together with the elderly person and his or her informal caregiver, providing information and support, giving education and health information, and motivating behavioural change.[7]
Organisational form and ownership	The eight involved primary care centres (*I-UP-Utrecht*) have signed a contract in the form a grant proposal for the Netherlands Organisation for Health Research and Development (ZonMw).[7] See section *3.3 Leadership & governance* for more information.
Involved partners	Each of the eight primary care centres (*I-UP-Utrecht*) has made arrangements with a wide variety of partners in primary health- and social care. See section *3.3 Leadership & governance* for more information, specifically **Figure 3.3.**
Involved disciplines and professions	Elderly care nurses (i.e., practice nurses or district nurses in *I-UP-Utrecht*), general practitioners, elderly care physicians, pharmacists, geriatricians, mental healthcare workers (i.e., psychologists, psychiatrists, mental health nurses), informal caregivers [coordinators], home-care employees, household care employees, nursing home employees, social district teams, area specialists, Social Security Act window employees, well-being support-point employees, volunteers [coordinators], dementia case managers. See section *3.3 Leadership & governance* for more information, specifically **Figure 3.3.**

3.1.3. Timeline

The implementation of the Primary Care Approach for Frail Elderly (U-PROFIT) can be divided into three phases (see timeline in **Figure 3.1**).

1. *RCT-UP* from 2010-2013: Implementation in 39 general practices in the Utrecht region. These practices were randomised into three groups: a) screening with U-PRIM & nurse-led U-CARE intervention (13), b) only screening with U-PRIM (14), and c) control (12) practices. More information on the RCT is provided in the *3.6 Information & research/monitoring* section. After the RCT, phase, many participating practices [especially those in group a] continued to work with the U-PROFIT approach.
2. *I-UP-Med* from 2014-2015 (onwards): The U-PROFIT approach was implemented in 42 general practices that belong to the Medicamus cooperation in the North-West Veluwe. This was initiated by GPs that were searching for an elderly care strategy. After the first year of implementation, practices have continued to work with the U-PROFIT approach. *Difference from other phases is that the focus here is on persons aged 75 years and older (instead of 60).*
3. *I-UP-Utrecht* 2016-2017 (onwards): The U-PROFIT approach is being implemented in eight primary care centres in the Utrecht region. Several general practices from the *RCT-UP* phase are also participating in the current phase. *Difference from other phases is that not only GP-practice nurses, but also district nurses can take on the role of elderly care nurse in I-UP-Utrecht.*

Figure 3.1: Timeline phases of U-PROFIT implementation



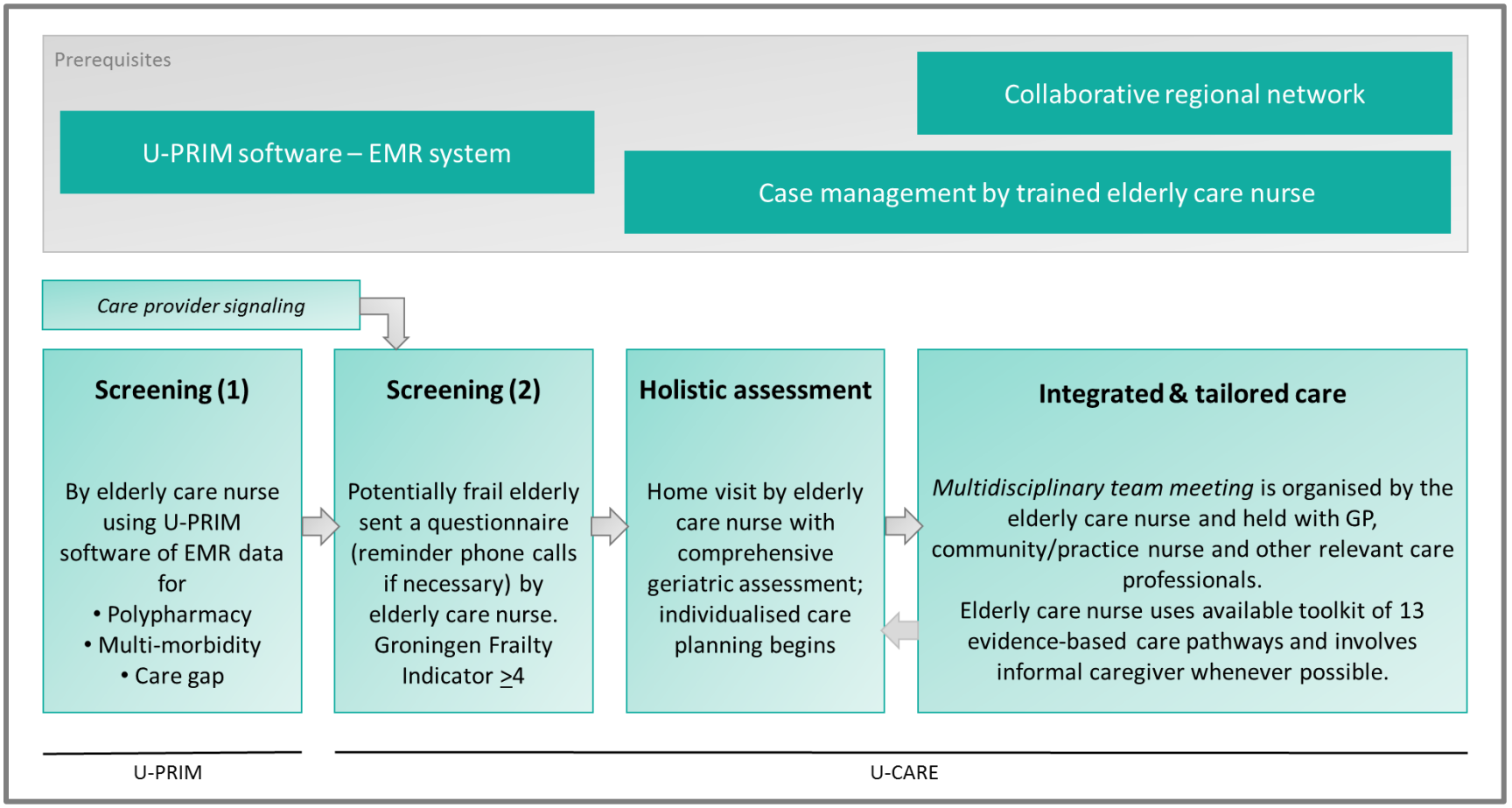
3.2. Service delivery

This chapter begins with factual information on the design of delivery of care, as obtained from both the document analysis as well as the interviews. Next, specific information on self-management interventions is provided. Hereafter, making use of the document analysis but predominantly the interviews, for each step in the care process the variations in daily practice are described. Here we address how the ideal differs from actual implementation and between the different implementation phases. How the stakeholders reflect on each of the steps is also is described.

3.2.1. Design of delivery of care

In **Figure 3.2** below the U-PROFIT care process at the micro level is depicted.

Figure 3.2: U-PROFIT care process at micro level



The steps depicted in the care process are described one-by-one below. Note: in the current section this pertains to the planned care delivery, in the section *3.2.3. Variations in, and reflections on, service delivery* the variations in daily practice and reflections on these steps is presented.

- **Screening (1) – U-PRIM software and EMR data**

An elderly care nurse in the primary care centre is in charge of applying the U-PRIM screening software to the GP electronic medical records (EMRs) (*Dutch: HIS*) to create a list of potentially frail elderly aged 60 years and over. The elderly care nurse can either be a practice nurse or a district nurse, this will be further described in the section *3.4 Workforce*. Frail elderly need to meet at least one of the following three criteria to be identified:[14]

1. Polypharmacy: Five or more different drugs in chronic use in the past year (prescribed at least 3 times in the past year, with at least 1 prescription in the last 6 months).
2. Multi-morbidity: Defined on the basis of a frailty index score ≥0.20. This frailty index score is calculated using health deficits (symptoms, signs, diseases, social problems, and functional impairments) reported in the EMR according to the International Classification of Primary Care (ICPC) or diseases in the patient's EMR. The score represents the proportion of deficits an elderly person has out of 50 predefined deficit categories relevant for frailty.[8,15] Thus at least 10/50 deficits need to be present for the categorisation of multi-morbidity.
3. Consultation gap: Persons registered with the primary care practice, but with a 'care gap' of at least three years (excluding annual flu vaccines) during which they have not contacted the GP.

In consultation with the GP, the elderly care nurse contacts potentially frail elderly for a second screening step.

It is also possible for the GP, a nurse practitioner, or another care professional to signal that an elderly person is frail and may benefit from the U-PROFIT approach, i.e., care finding; the nurse can also reach out to such persons for the second stage of screening. These can be frail elderly persons identified via the ≥75 years frailty identification module that used to be offered by the predominant health insurer Zilveren Kruis Achmea in the region (see section *3.7 Financing* for more information), or via disease-specific integrated care chains (e.g., chronic obstructive pulmonary diseases (COPD), asthma, diabetes mellitus type 2, cardiovascular diseases (CVD), and mental health).

- **Screening (2) – Additional questionnaire**

It is possible that persons that come forth in the first screening phase are not included in the second stage because the professionals are aware that the frail elderly is terminally ill, living in a nursing home, or not living alone but with sufficient support, or for other reasons making it inappropriate to reach out to the frail elderly. For those included in the second part of screening, the elderly care nurse sends a questionnaire, namely the Groningen Frailty Indicator (GFI)[16],to the potentially frail elderly persons identified in the first screening.

The GFI consists of 15 items that pertain to mobility (4 items), vision (1 item), hearing (1 item), nutrition (1 item), polypharmacy (1 item), cognition (1 item), psychosocial well-being (e.g., loneliness) (5 items), and overall physical fitness (1 item). A sum score is made (range 0-15). Persons with a score of four or greater are considered frail. The elderly care nurse sends a reminder and calls persons if the questionnaire is not returned.

After the GFI is returned and the nurse has taken a look at the scores, he/she will only contact those who were identified as frail to discuss their results and make an appointment for a home visit and inclusion in the U-CARE intervention. If the elderly persons says on the phone that a home visit and/or additional care is not necessary they are sent a thank you letter with the contact information of the elderly care nurse so that they can get in touch with him/her in the future (*IP12_1*).

For persons included through signalling or different care chains and not U-PRIM, the nurse often conducts a home visit right away and measure the level of frailty with the GFI face-to-face (*IP12_1*).

- **Holistic assessment – home visit**

From this point forward, the elderly care nurse acts as the frail elderly's case manager. The nurse visits the frail elderly person at home to use the results from the first two screening steps to conduct a holistic assessment in the form of a Comprehensive Geriatric Assessment.[7,14] The nurse has been trained to conduct such an assessment and can use the U-CARE toolkit to set up a tailor-made care plan. This toolkit provides specific screening instruments and evidence-based interventions for common geriatric conditions that can be used during the home visit (screening stage 2). For example, if there is an indication of malnutrition on the basis of the GFI, the toolkit recommends that the SNAQ65+ instrument be used to determine further the degree of malnutrition.

During the home visit, the nurse should pay attention to prevention and signal deterioration risks. The aim of this assessment is to support the development of an individualised care plan that pays attention to various domains: somatic, psychological, social, and functioning.[8] The nurse discusses with the frail elderly what his or her priorities are in order to incorporate these into the care plan and make arrangements. Examples of what the nurse does with/for the frail elderly include deciding whether he/she should get domestic-care help, helping to make an appointments at the dentist or with a dietician, support finding daytime activities, and arranging a medication-review (*IP05_1, IP12_1*). The toolkit also provides an example format for an individualised care plan, see **Appendix Table A3.3**.

The nurse usually makes a follow-up appointment during this first home-visit (*IP12_1*). After the visit, the nurse reports the findings from the holistic assessment and if already present the individualised care plan, into an ICT system that is at least shared with the GP (*IP12_1, IP05_1*).

- **Multi-disciplinary team meetings**

The elderly care nurse always discusses the first home visit with the GP (*IP05_1, IP12_1*). When the elderly person is 'complex', other professionals are involved and a multi-disciplinary team meeting is organised (*IP05_1, IP12_1*). These meetings are most often attended by the GP, district nurse (in case the elderly care nurse him- or herself is not a district nurse), the elderly care physician, and the informal caregiver(s). Other disciplines may also be included, depending on the elderly person's needs, e.g., pharmacists, geriatricians, mental health services, well-being workers, and informal caregiver coordinators.[7,14]

As will be described in the '*Leadership & Governance*' section below, each primary care centre has collaborations set up with home-care organisations. Regular meetings also take place between these organisations to discuss common patients. (*IP12_1*)

- **Integrated and tailored care**

The elderly care nurse formulates an individualised care plan. This is usually already done during the first home-visit but is optimised and adjusted throughout the case management care trajectory. The nurse has been trained to create such a plan and to provide integrated and tailored care. To do so, he/she can use the aforementioned toolkit, which encompasses 13 evidence-based care pathways[8]:

1. Falls and mobility
2. Physical functioning
3. Nutrition and malnutrition
4. Mood and depression
5. Loneliness
6. Cognition
7. Incontinence
8. Polypharmacy
9. Vision impairment
10. Hearing loss
11. Caregiver burden
12. Pain
13. Sleep

These 13 evidence-based care pathways each begin with suggestions for additional assessment tools, as described above. Next, the pathways propose possible interventions. The loneliness care pathway is shown as an example in **Appendix Figure A3.1**. The nurse has been trained to use this 'toolkit' and the multidisciplinary team meeting(s) to create a tailored care plan that may integrate aspects of these specific care pathways. The individualised care plan should contain information about actual problems, possible goals, and interventions and should be tailored to the frail elderly's wishes. The coordinating role of the elderly care nurse should be stressed. The individualised care plan needs to be linked to the EMR. To this end, primary care centres can develop modules in their EMR to link these plans or these can simply be scanned and attached to the EMR (will be described in *3.5 Technologies & medical products* section). It is important that agreements are made as to which ICPC codes will be linked back into the EMR system after the holistic assessment has taken place, to ensure uniformity in registry.[8]

The elderly care nurse is responsible for providing education, support, and motivating behavioural change. He/she also needs to understand the frail elderly person's social network, in order to determine how this can be used in the care process. Organising a smooth **transfer** between primary care, secondary care, and the home, as well as monitoring the progress and frailty of the elderly are also her/his tasks.

As **polypharmacy** is a common issue in multi-morbidity and highlighted in the SELFIE framework, we provide some more information on this care pathway. This begins with a questionnaire that provides insight into which medications are used for what purpose(s), their efficacy, any problems experienced, checks as to whether any help is needed, and patient questions about medication. This questionnaire is based on the Dutch National General Practitioner Association guidelines (*Dutch: NHG-Standaarden*). The elderly care nurse also needs to use the EMR to note which medication is used, and conduct a medication review. This needs to be discussed with the GP, and a full medication review needs to be conducted with the pharmacist. If necessary, the care plan needs to be adapted based on these findings. Key tasks of the elderly care nurse with respect to the frail elderly and polypharmacy thus include:

support correct use and explore causes of low compliance, provide instructions and information, discuss other dosage-forms, provide 'reminder' tools, and ensure that the frail elderly takes his/her medication list to appointments.

There are different ways in which the elderly care nurse can incorporate **informal caregivers** [when present]. The elderly care nurse is advised to speak with the informal caregiver at least once, to discuss their positive and negative feelings surrounding informal caregiving. The informal caregiver should be involved in the individualised care planning and can be present during the holistic assessment. Furthermore, the elderly care nurse needs to: monitor the informal caregiver's general health and mental well-being, provide advice on healthy lifestyle, inform the informal caregiver about available courses, refer the informal caregiver to other care providers if necessary, determine who is there to support the informal caregiver, make a separate care plan if necessary, be available for the informal caregiver, record in the EMR who the informal caregiver is, and plan a family meeting if necessary (if disagreement about care plans).

One of the 13 evidence-based care pathways is 'caregiver burden'.[8] This care pathway also begins with the use of questionnaires, namely the 'Caregiver Strain Index'[17] and/or the 'Experienced Pressure/Stress for Informal Caregivers' (*Dutch: Ervaren Druk door Informele Zorg (EDIZ)*)[18]. Problems in the physical and mental domains related to capacity and burden of informal care should be understood by the elderly care nurse, and potentially discussed with the GP.

The care trajectory for the frail elderly does not have a set timeline or end point – this really depends on the wishes and needs of the frail elderly. Therefore, the number of visits and time between visits vary between frail elderly. When the trajectory does end, the elderly care nurse always leaves his/her phone number so that in case of any problems in the future the frail elderly can directly get in touch with him/her. *(IP01_1)*

There are three general preconditions for the care process:

1. **U-PRIM software** is used as a first screening tool and must be compatible with the routinely collected data in the primary care centre's EMRs. This is discussed further in the *3.5 Technologies & medical products* section.
2. Each primary care centre implementing the U-PROFIT approach must have at least one **trained and registered elderly care nurse**. The elderly care nurse can be either a practice or district nurse with elderly care experience who is additionally trained as an elderly care nurse for the current approach. More information on this new professional role 'elderly care nurse' will be described in the *3.4 Workforce* section. The elderly care nurse can employed at and/or stationed at the centre or have a close collaboration with it. These organisational arrangements will be described in the section *3.3 Leadership & governance*.
3. Setting up and using a **collaborative regional network** is one of the core skills of the elderly care nurse. He/she needs to be able to effectively collaborate within primary care and should work with a community mind-set in which professionals from other disciplines can be (in)formally involved.

3.2.2. Self-management interventions

A task specified for the elderly care nurse is to promote self-management, including: creating the care plan together with the frail elderly person, providing information and support, giving education and health information, and motivating behavioural change.[7,8]

The 13 evidence-based care pathways described above also address how the elderly care nurse can stimulate self-management, for example: really try to *activate* the elderly person to stay in touch with his/her contacts (pathway 5), to really *involve* the elderly in the care planning (pathway 4), *educate*, *motivate*, and *stimulate* the elderly to conduct [at-home] exercises and keep track of this in a diary (pathway 2).[8] The main self-management intervention across all of the different care plans is education and information, for example, about exercise (pathways 1,2,4,5,6), consequences of falls (pathway 1), good shoes (pathway 1), reducing fall-fear (pathway 1), incontinence (pathway 7), depression (pathway 4), cognition (pathway 6), hearing aids (pathway 10), and polypharmacy (pathway 8). Furthermore, stimulating and motivating frail elderly is a self-management support intervention that is frequently applied – related to exercise (pathways 1,2), keeping a food diary (pathway 3), and activity planning (pathway 5). Teaching appropriate coping styles is also applied (pathway 5), as is activating the role of the wider social network (pathway 5,6) and participating in group activities (pathway 6). Assertiveness (pathway 8) is also a skill the elderly care nurse needs to try to teach the frail elderly. For the informal caregiver, courses (particularly related to cognitive (pathway 7) issues) should be discussed as well as general informal caregiver support groups (pathway 11).

3.2.3. Variations in, and reflections on, service delivery

For each step in the care process, as depicted in **Figure 3.2**, variations in daily practice and throughout the different implementation phases are described. Subsequently, reflections on the care process made by the different stakeholders are described.

- **Screening (1): U-PRIM software and EMR data**

Variations in daily practice and implementation phases
Variations exist in how often the U-PRIM screening software is used. Namely, each care centre needs to decide how often the elderly care nurse runs the U-PRIM software and subsequently look at the list of potentially frail elderly. Centres just starting out with the approach get a very long list of potentially frail elderly, thus the initial workload of the elderly care nurses is quite high. (*IP12_1*)

Furthermore, there have been some variations in the application of U-PRIM throughout the different implementation phases, namely in the North-West Veluwe (*I-UP-Med*), only persons aged 75 years and older were screened (*IP02_1*), due the fact that financing for the care provision of this group was already well-arranged (see *3.7 Financing* section). Furthermore, because the GPs' populations in this region had a relatively high socio-economic status they felt that they could begin by only focusing on the older population. Another variation is that the U-PRIM screening was expanded upon in the *I-UP-Utrecht* implementation, namely information is additionally provided on cognitive deterioration and geriatric events (as noted in the EMR) for the elderly care nurse. However, this does not influence the in- or exclusion and is only meant as extra information. *(IP01_1)*

Reflections
The process of transitioning to proactive elderly care and trying to gain insight into their population was already being undertaken by GPs before the U-PRIM software was introduced in the *RCT-UP phase* (*IP03_1 – programme initiator*). One stakeholder, representing an elderly care network organisation, mentioned that it is important to realise that all GPs actually already record this valuable 'prevention' data in their EMRs, and that only a small initial investment is needed for U-PRIM (*IP10_1*). The use of U-PRIM is and was subsequently well-received, it was mentioned that this is because it makes identification of the frail population more systematic, and is validated (*IP03_1 – programme initiator*). This stakeholder also mentioned that just randomly searching through the EMR for potentially frail is not a good idea, and said:

"…I think this is a good instrument to use for your selection. And in any presentation I give, I always tell people don't just go and start, that's such a waste of time." (IP03_1) [1]

An elderly care nurse mentioned that the frailest persons that come forth from the U-PRIM screening have often already been signalled by care professionals, but that it is especially the group that is not extremely frail yet for whom the U-PROFIT approach can be a great benefit (*IP05_1*).

- **Screening (2): Additional questionnaire**

Variations in daily practice and implementation phases
During the *RCT-UP* phase several additional questionnaires were used alongside the GFI in the second screening stage, namely on complexity of care and well-being. These questionnaires were not used to determine the in- or exclusion, but provided the elderly care nurse with more information before the holistic assessment – home visit. These additional questionnaires were, however, excluded in the *I-UP-Utrecht* phase because they are quite long / to increase the response to the questionnaire. *(IP01_1)* In the *I-UP-Med* phase, these extended questionnaires were also not used, but a few additional items on falls, incontinence, home-care use, and informal caregiver presence were used *(IP01_1).*

Reflections
During the interviews, a physician mentioned that the first EMR screening stage identifies mostly the medical problems of frail elderly and that during the second GFI questionnaire stage much more is discovered about loneliness and a wider range of issues (*IP04_1*). Further, an elderly care nurse explained that some primary care centres call all persons that have not returned the questionnaire within two weeks, and that in such cases this phone call itself provides a lot of information, such as why the elderly person not filled in the questionnaire – this may point to visual or cognitive issues or organisational/administrative (do not open their mail) issues. (*IP05_1, IP01_1*)

During an interview, the programme manager explained that the GFI questionnaire is used as a means of signalling and selecting. It is, however, not a hard diagnosis. Namely, an elderly person with a higher GFI score (more frail) can have an informal caregiver and a lot of family living close by, and thus be less frail than another elderly person with a lower GFI score but living alone. *(IP01_1)* An interviewed elderly care nurse mentioned that especially for persons with memory problems it can certainly be the case that someone is frail but only has a score of 2 (e.g., memory problems and polypharmacy) and that for cases with memory problems she almost always takes a closer look at the individual's file to decide whether a follow-up is needed (*IP12_1*). This nurse also mentioned that elderly fill in the questionnaire

in different ways, 'sometimes' means something different to everyone (*IP12_1*). Further, the programme manager explained that elderly can fill in that they do not have memory problems but subsequently explain that these are not any worse than is to be expected at their age (*IP05_1*):

"…[The] GFI gives information as to what the main problems are or where the attention is… what the patients indicate. Although of course that isn't always right. So then you see also that patients with memory problems fill in for the question 'do you have problems with your memory' no and then when you go back and ask them they say 'yeah, I don't have more problems than someone else of my age' or they are in denial that they don't see it and sometimes the patient is convinced that they don't have any memory problems." (IP05_1) [2]

- **Holistic assessment – home visit:**

Variations in daily practice and implementation phases

The programme manager explained that some elderly care nurses make the individualised care plan during the first home visit, whereas others already discuss what's important to the frail elderly but make this plan in collaboration with the GP and then connect back to the frail elderly (*IP05_1*).

Although the nurses are provided with many questionnaires in the toolkit that they can use during the home-visits to gain more insight into problem-areas, they are free to use different instruments. Nurses mentioned that they do so when they have prior experience with other instruments (*IP05_1, IP12_1*). For example, the TraZAG instrument, roughly translated to the "Geriatric Care Assessment tool for both in- and outpatient uses" (*Dutch: TRAnsmuraal, Zorg Assessment Geriatrie*) is a popular instrument in the Netherlands and used by some elderly care nurses.

Reflections

The importance of conducting a home visit was highlighted by different stakeholders during the interviews. The programme manager gave the following example of what an informal caregiver said:

"…the GP saw my mother during an office visit, but at that consultation my mother is a different woman than when she's at home, at home you see the chaos…" (IP01_1). [3]

The programme manager explained that for the elderly care nurses the U-PROFIT approach is a different way of working. Namely, they go to a potentially frail elderly person's house in a proactive way. This means that it is not necessary that there is a concrete care question. The nurse also has to accept that a frail elderly person may not want help, even though the nurse thinks this is necessary. *(IP01_1)*

"Now you come in[to someone's life] in a totally different way, so the care need is not always expressed, and sometimes, what's most difficult for the nurses is that they say […] there might be a problem, but that the patient doesn't want anything or at that moment doesn't want anything, that the nurses find this hard to accept. Then they say, 'yeah I can't do anything', because they really want to do something, but then what I say to them is 'hey what you've done is brought the whole situation to light. You know what's going on, you've made the connection and that's already doing something', and they […] want to act […], even though bringing light to the whole situation is already a really valuable action." (IP01_1) [4]

In making the individualised care plan the frail elderly has a say – what's important to him or her to address first? Sometimes the professional might think it is one thing, but the frail elderly is concerned with another. Addressing what really matters to the frail elderly is important to keep him or her in charge, self-sufficient, and essentially living at home for longer (*IP10_1*), which the programme manager said is:

> *"[…] what everyone essentially wants. That's what the government really wants, but most older people too. And that only works if you link up with what someone finds important." (IP10_1) [5]*

Subsequently, the programme manager explained that the nurse should leave the home visit with a good overview of the needs of the frail elderly and the professionals currently involved, but may not always act at that point in time [if the frail elderly does not want this] *(IP01_1).*

- **Multi-disciplinary team meetings**

Variations in daily practice and implementation phases
How often and which professionals exactly need to be present during the multi-disciplinary team meetings is something that has explicitly not been protocolled. The idea is that each practice / centre needs to determine what works for them and per frail elderly they need to decide what is necessary. *(IP01_1, IP13_1)*

Reflections
The experiences with the multi-disciplinary team meetings and collaboration between the nurses and GPs is experienced positively, more on this is described in the section *3.4.2 Workforce - Experiences with 'elderly care nurse'*.

- **Integrated & tailored care**

Variations in daily practice and implementation phases
An interviewed elderly care nurse explained that the duration of the trajectory is very different for everyone, sometimes one home visit and several follow-up actions by the nurse (arranging things) can be sufficient, but sometimes they go by regularly (*IP05_1*).

Reflections
Although the elderly care nurse is the case manager, the GP still remains responsible for the care, and good collaboration/discussions with him/her are thus needed (*IP02_1 – programme initiator*).

> *"You know, GPs are […] in this type of process the central care provider, but it doesn't always have to be the GP him- or herself that does it [provides the care]. In this case then it's the nurse that does it, but in my eyes it's still always the GP's responsibility, so the GP has to stay connected and that means that if there are real treatment plans being made these need to be discussed with the GP." (IP02_1) [6]*

A frail elderly woman interviewed mentioned that she still saw the GP, but less, and was sure that the nurse always communicated well with the GP and that she thus was also up to date always (*IP08_1*).

Various stakeholders mentioned how the role of the informal caregiver had grown since the introduction of the elderly care nurse in the process. For example, a physician mentioned that GPs used

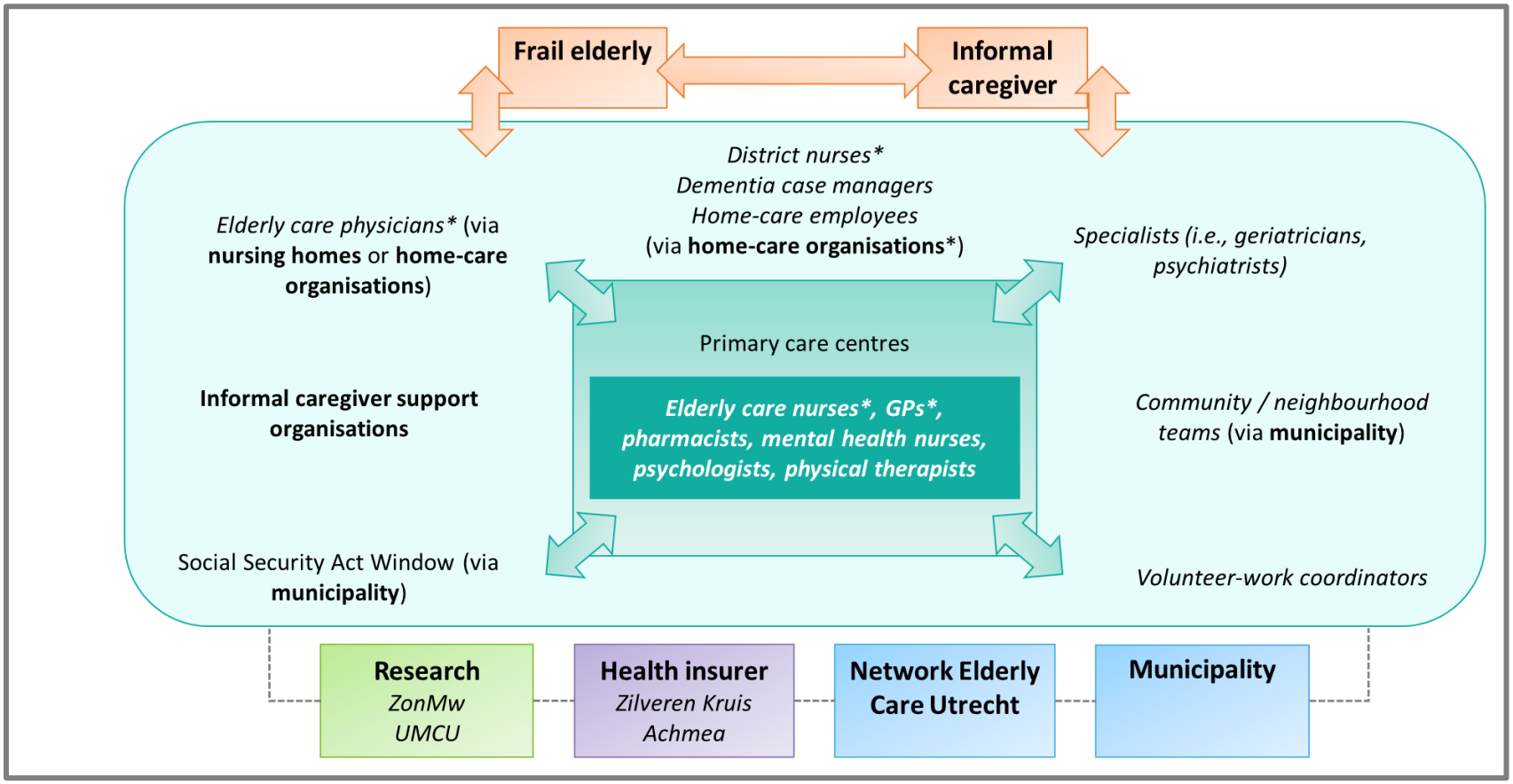
to have a phone number of some informal caregivers, but now the nurse actually speaks to these persons and sees them – they have more time for this and can really involve them (*IP04_1*). Furthermore, the informal caregiver spoken to during an interview explained how the nurse had gotten in touch with him before she reached out to his mother (frail elderly included in the programme) (*IP09_1*). This informal caregiver also explained that if he felt the nurse needed to know anything (e.g., any changes in his mother's health had taken place) he would just email and she always got in touch with him (*IP09_1*). For patient and informal caregiver, the fact that the elderly care nurse is a consistent factor in their lives, who 'grows with them' is really valued and that he/she is their one contact point that they can always reach out to (*IP08_1, IP09_1).* Whether and to what extent the informal caregiver is involved really depends on the situation. One nurse mentioned that especially in the case of dementia she is often supporting the informal caregiver to a great extent (*IP05_1).*

3.3. Leadership & governance

3.3.1. Overview of actors, their collaborations, and their roles

An overview of the different types of actors, organisations, and professionals involved in the *I-UP-Utrecht* phase of U-PROFIT implementation can be seen in **Figure 3.3.** In the section below their roles are described. Next, stakeholders' reflections on leadership and governance, predominantly based on the interviews, are provided.

Figure 3.3: Overview of actors, organisations, and professionals involved in the *I-UP-Utrecht* implementation of the U-PROFIT approach



Note: ZonMw = Netherlands Organisation for Health Research and Development; UMCU = University Medical Centre Utrecht.
Organisations and *professionals* marked with a * are involved in U-PROFIT in each care centre (*I-UP-Utrecht*).

Professional actors at the service delivery level are made up of the primary care centres; currently eight clusters of primary care centres are implementing the approach in routine daily practice. In **Appendix Table A3.4** the eight primary care centres are[iii] described as well as their collaboration efforts and initiatives. The information on the centres stems from public information from websites and the information that the centres provided when signing the grant agreement for the *I-UP-Utrecht*. The primary care centres differ in size, type of collaborations implicitly set up in their centre, and types of collaborations set up outside of their centre for the promotion of integrated care in general and/or for elderly care specifically. These collaborations were at least in part already underway prior to their starting to work with the U-PROFIT approach, as a result of macro level changes in the Netherlands. The centres each take a different [local] approach to setting up collaborations.

Within the **primary care centres** the elderly care nurse and a GP are always involved in the U-PROFIT approach. These are the two key professionals at service delivery level, the elderly care nurse acts as case manager and is the central contact point for the frail elderly, but closely collaborates with the GP – the latter has the final care responsibility. In the current *I-UP-Utrecht* phase, the elderly care nurse can be a practice nurse working in a GP, or a district nurse working for a home-care organisation, potentially employed on a part-time basis by the GP or dispatched there. Each primary care centre can approach this differently. The elderly care nurse role will be described extensively in the *3.4 Workforce* section. Other professionals can also be linked to these primary care centres and are involved in the care process at the service delivery level, such as the pharmacist, mental health nurses (*Dutch: POH-GGZ*), psychologists, and physical therapists.

In primary care centres where a practice nurse is the elderly care nurse, district nurses are almost always also involved. In these cases district nurses are usually employed at **home-care organisations**. Dementia case managers also working for home-care organisations and other types of home-care employees can also be involved in the care process.

Collaboration with the **elderly care physician** is also set up through the U-PROFIT approach. These physicians are most often employed at nursing homes or home-care organisations. **Specialists** such as psychiatrists and geriatricians can also be called upon. Elderly care physicians and these specialists can, for example, conduct extra diagnostics in the primary care setting or provide advice to directly involved care providers. The collaboration with secondary care is currently not that concrete and only in some primary care centres do geriatricians and/or psychiatrist get called upon regularly. Further, one of the tasks of the elderly care nurse is to coordinate and monitor transitions from hospital – primary care – home. A specific focus in the U-PROFIT approach is on preventing unnecessary referrals and trying to keep care 'close to home'.[7] How collaborations with secondary care can be made more structural is a point that will be further worked out by the centres during 2016.

When the needs of a frail elderly person pertain to issues of wider well-being (e.g., loneliness), **social district teams** are involved. These teams can subsequently arrange informal caregiver support [via informal caregiver support organisations]. *(IP13_1)* Furthermore, volunteer work coordinators and the 'Social Security Act window' (e.g., to get a special transportation taxi or household help) can also be used.

[iii] These centres are in fact a mixture of primary care centres (*Dutch: Eerstelijns centrum*), health centres (*Dutch: Gezondheidscentra*), or GP practices collaborating via a care group or foundation (*Dutch: Zorggroep or Stichting*). For the consistency in this report we speak of eight clusters of primary centres, as this is also the level at which the grant agreement for *I-UP-Utrecht* was signed.

An aspect of the U-PROFIT approach that makes the primary care centres the central point of the approach is the fact that predominantly EMR data is used to identify frail elderly. Furthermore, the GP has traditionally been seen as the first contact point in the care system, currently both the GP and municipality form gatekeepers to care in the Netherlands (see Macro level description). Overall, the different partnerships set up around the primary care centres have the purpose of information provision, communication, consulting one-another, multidisciplinary meetings, integrated care provision, using individualised care planning, and referrals/substitution.[7] The elderly care nurse needs to know how/when to call upon other professionals and involve these in the multidisciplinary care team. Working together more structurally should allow for professionals to know 'where to find one-another' when a patient (frail elderly, but this can transcend to other patients as well) requires a specific type of care that is not within their own expertise.

The role of the **municipality** in the approach is on the one hand via the Social Security Act provisions and the social district teams. However, during the interviews it was mentioned that the role of the municipality is unclear – this pertains to a general discussion in the Netherlands on the extent to which elderly care should be their responsibility (*IP02_1*).

An important actor in the different U-PROFIT phases has been the **Elderly Care Network Organisation Utrecht** (*Dutch: Netwerk Utrecht Zorg voor Ouderen (NUZO)*). The network serves and represents both elderly and professionals. The municipality is a partner in the network, other members are elderly groups, informal caregiver networks, and research organisations. The goal of the network is to improve elderly care. One of the main tasks of the network is translating research findings into practice, e.g., how can findings from the various elderly care RCTs be implemented in practice? (*IP10_1*) The network recognised that it is very difficult for elderly to keep an overview of their care [needs]. It is also difficult for elderly, especially now with the Dutch government focusing strongly on self-sufficiency and prolonged independent living for elderly, to know how to go about this. The network helped develop the approach and was involved in the writing of the initial grant for the RCT (*IP02_1*). One of the main points that they were concerned with and felt was important was being able to keep an overview of their care [needs] and having one person that they could rely on and had this overview for them. (*IP10_1)*

Research-related organisations, i.e., Netherlands Organisation for Health Research and Development **ZonMw** and the University Medical Centre Utrecht (**UMCU**), have played a role throughout various implementation stages in financing and information and research/monitoring (see more information in these sections). Lastly, the predominant health insurer in the region, Zilveren Kruis Achmea, has also been involved in the process.

The **frail elderly person** him- or herself and the **informal caregiver** [when present] of course interact with these professionals throughout the care process. This interaction is predominantly via the elderly care nurse, who is their primary contact point. As described in the *3.2 Service delivery* section, the frail elderly and informal caregiver are actively involved throughout the care process and take part in shared-decision making. For example, their preferences and priorities are a central point in the individualised care plan.

3.3.2. Reflections on leadership & governance

Cross-sector organisational collaboration

In interviews with initiators of the programme, it was mentioned that at a practical, service delivery level, collaboration between professionals from different sectors is not an issue (*IP02_1, IP03_1*). Instead, these stakeholders pointed out that it is at the organisational level that collaboration is more difficult, due for example, to bureaucratic and funding issues (*IP02_1, IP03_1*). Another point that came up during the interviews was the influence of macro level changes on these collaborations. For example, previously the municipality's Social Security window could give a 'social indication', but now that is done by different care providers, so sometimes the elderly care nurses need to search for these persons to get such an indication.

Another theme that came forth from the interviews was having a stable contact person between organisations. Again, following macro level changes, restructurings at home-care organisations have led to a high rate of personnel turnover, meaning that care providers need to continually meet new people. Subsequently, an elderly care practice nurse and a representative of a payer organisation pointed out that really knowing one another is important for the collaboration. *(IP05_1, IP07_1)*

"[…], so those are also really close connections and yeah you know when you first start you of course also just have to get to know people." (IP05_1) [7]

This issue was also mentioned with regard to linking up with the municipality, namely in small municipalities when political parties change, contact persons also change (*IP03_1 – programme initiator*). Similarly, a barrier in the collaboration and discussions with the health insurer Zilveren Kruis Achmea was also said to be frequent internal organisational changes, which meant having to restart discussions and often learning to work with a new person (*IP01_1, IP10_1*).

The programme manager indicated that another part of the complication of collaborations between the sectors is privacy. For example, if the elderly care nurse feels that for a frail elderly person a social district team might be able to provide suitable support, he/she needs to be careful with what type of information can be shared across the sectors and first needs approval from the frail elderly to reach out to them and to share information and files with them. *(IP01_1)*

Collaboration forms – formalisation and physical proximity

As was described above and can be seen in **Appendix Table A3.4**, care centres each take a local approach to setting up collaborations. This seems practical and realistic because each region has their own social care provisions and networks (e.g., informal caregiver networks). A prescribed collaboration therefore may not work in such a bottom-up approach. Each centre has a multitude of agreements (formal or informal) with different actors.

Making formalised agreements between organisations is not seen as desirable by some care organisations, as the essence is that people work well together. In their eyes, collaboration should be a bottom-up process by which the care providers communicate well and get along, make good agreements, and then later at a higher level agreements only if this is really necessary. (*IP03_1 – programme initiator*)

An element that can be seen in the various primary care centres is that collaboration is thought to be facilitated by physical proximity – professionals from different organisations work [several days a

week] in the primary care centres. The informal 'coffee break' talk is mentioned by different primary care centres as a way of promoting more team work.[7] In the interviews with the programme manager, initiator, and an elderly care nurse, it was also mentioned that collaboration is facilitated by working under one roof *(IP01_1, IP03_1, IP12_1).*

"[…] you see for example in [care centre x], there they really have a big health centre where for example you also have informal caregiver support, so when you sit close to one-another you notice the connections are closer and that's really valuable." (IP01_1) [8]

Working together with different organisations (e.g., GPs, home-care organisations, and welfare services) in a care centre helps to increase the commitment – very this is in part because all organisations have signed a rental contract for the building (*IP03_1 – programme initiator*). The programme manager also mentioned that in small towns collaboration may not require literally working under one roof, because everyone knows one-another already (*IP01_1*).

"[Town x] is a small town, there everyone knows each other also care providers and that, there they aren't all under one roof, but because it's such a small town you easily know where to find one-another. In a city it's often organised differently, and yeah, there are many more…" (IP01_1) [9]

3.4. Workforce

In this section we first describe the professionals involved in the U-PROFIT approach and subsequently describe the experiences of different stakeholders with the new professional role in the U-PROFIT approach.

A very wide array of professionals is involved in the U-PROFIT approach and current *I-UP-Utrecht* implementation (see **Figure 3.3** above). An important starting point is the idea of 'shared care management' by the frail elderly, informal caregiver, primary care, home-care, and other involved disciplines.[7]

The main care provider in the U-PROFIT approach is the registered elderly care nurse. As of the *I-UP-Utrecht* implementation, this role can be taken up by either a practice or district nurse. The next most prominent care provider in the U-PROFIT approach, is the GP. Hereafter, it is often the elderly care physician that is involved in the multidisciplinary team. Other disciplines are also invited on the basis of the specific elderly person's needs, e.g., the pharmacists, geriatrician, mental health services, well-being workers, and informal caregiver coordinators. See **Table 3.1** in *3.1 Basic information* and **Figure 3.3** in the *3.3 Leadership & governance* section, and for an overview of the various types of professionals involved.

3.4.1. New professional role 'elderly care nurse'

A prerequisite is that the nurse that takes on the role of elderly care nurse is already experienced in elderly care. The nurse subsequently receives an additional special training in elderly care for the purpose of the U-PROFIT approach. In the current implementation phase this training consisted of three training days and five peer-learning days. In principle, elderly care nurses have to have a registered nursing – bachelor level education (*in the Dutch, HBO- level 6*). As described earlier, the elderly care nurse can be employed with a GP or a home-care organisation – this differs per care centre.

The elderly care nurse is responsible within the primary care centres to plan, organise, and execute the care for frail elderly patients. Potentially frail elderly are identified through the U-PRIM case finding, sent extra questionnaires, and visited by the nurse for a holistic assessment. The nurse subsequently discusses the case with the GP and calls upon other needed professionals. He/she also makes an individualised care plan. The elderly care nurse has three types of tasks, namely: directly related to care, administration/coordination, and networking (**see Table 3.2**).

Table 3.2: Elderly care nurse tasks

Tasks related to the care of the frail-elderly directly:
• Intake using the U-PROFIT approach with a holistic assessment, with knowledge on all 13 evidence-based care pathways. • Developing an individualised care plan with the frail elderly, GP, and other care providers based on clinical reasoning and the preferences of the frail elderly. • Executing, evaluating, and adjusting the care plan. • Monitoring health, functional ability, and disabilities. • Supervising and supporting the frail elderly. • Providing information.

• Providing [health] education. • Motivating behavioural change. • Understanding the social network of the frail elderly and using this network. • Case management for dementia trajectory, in case necessary (for frail elderly and informal caregiver). • Small nursing actions. • Monitoring diseases such as COPD, asthma, diabetes mellitus type 2, and CVD. • In case of transition from and to a hospital, a coordinating role. • In case of transition from hospital to home situation, new estimation of frailty.
Administrative and coordination tasks: • Registration in the GP information system. • Care coordination: coordinating care and communicating with all involved care providers. • Keeping track of what the different care providers are doing. • Supporting informal caregivers if necessary. • Staying in contact with network partners. • Requesting indications (e.g., social care). • Calling upon different professionals and organisations, such as social care, social services, Social Security Act 'help-desk', home-care organisations, volunteer organisations, informal caregivers, physical therapy, day activities, mental health services, and elderly care physicians. • Participating in multidisciplinary team meetings, with the elderly care nurse, district nurse, and elderly care physician. Depending on what needs to be discussed, also with: pharmacist, geriatrician, mental health specialists, social care providers, and informal caregiver coordinators.
Networking tasks: • Participating in regional networks, such as the social district teams, the social care organisations, and the Alzheimer network. • Taking an active role in quality improvements, for example with the care coordination profile, collaborative transfer forms, and developing protocols. • Making their role as elderly care nurse visible, for example by organising case-discussions with different disciplines and giving presentations. • Connecting the GP and social care.

3.4.2. Experiences with 'elderly care nurse' profession

Educational level of the elderly care nurse

Throughout the different implementation phases of the U-PROFIT approach, different professionals have taken the role of elderly care nurse upon themselves: practice nurses, nurse practitioners, and district nurses. During the *RCT-UP* phase practice nurses, during *I-UP-Med* practice nurses and nurse practitioners, and during *I-UP-Utrecht* practice nurses and district nurses were elderly care nurses. Both practice nurses and community nurses are in principle registered nurses with bachelor educational level (*Dutch: HBO*). Nurse practitioners, however, often have a lower educational background (i.e., secondary vocational education (*in Dutch, MBO*)). The reason that nurse practitioners also took on the elderly care nurse role during *I-UP-Med* was due to a shortage of practice nurses (*IP01_1 – programme manager*). The reason that during *I-UP-Utrecht* district nurses also take on this elderly care nurse role is due to

changes in the macro level in the Netherlands. Specifically, district nurses have 'prevention' in their task description, and thus the health insurer stimulated that also district nurses take on the role of elderly care nurses in the current phase. In *I-UP-Utrecht*, further, it was an explicit decision to only allow nurses with a higher educational level to work as registered elderly care nurse.

Practice or district elderly care nurse (1) – skills

The programme manager explained that frail elderly persons usually reach out to the GP in the first place, and thus the central role of the GP, and primary care centres in identifying frail elderly cannot be disregarded. With the district nurse taking up this role, it is important to keep this in mind – how can he/she find these persons? (*IP01_1*) On the other hand, the elderly care network representative and an elderly care nurse mentioned during the interviews that if a district nurse is already in close contact with a frail elderly, then he/she should take on the role of elderly care nurse: it is not desirable to change this and/or create instability for the frail elderly (*IP10_1, IP12_1*).

A programme initiator and elderly care nurse described that in some care centres, nurses specialised in elderly care were already present before the centres began working with the U-PROFIT approach, this was often one of the reasons that they wanted to be involved in the approach – they had seen the benefits (*IP03_1, IP12_1*). These stakeholders explained that for some nurses learning to work with the U-PROFIT approach was very new, whereas for others it was only a slight adaptation of their usual work. (*IP03_1, IP12_1*)

For both types of nurses there may be challenges associated with this professional role, for example, the practice nurse is often not used to working with an individualised care plan, whereas the district nurse is (*IP01_1 – programme manager*).

"[…] although the practice nurse is not used to having a real care plan. The district nurse is, so the district nurse is really used to provide care in that way and the practice nurse isn't." (IP01_1) [10]

For district nurses, on the other hand, taking a less medical approach and more holistic, social approach is perhaps different (*IP03_1, IP05_1*).

"Those are real district nurses. So they need to learn to look better, look at all aspects, understand the 'social map' better. So they need some time to get used to the process, but they're real nurses so I'm not worried about that and they learn that too, that's no problem." (IP03_1) [11]

"[…] actually the district nurse should be looking much broader and also working preventatively and should also look, well how is the mood and how is the cognition, are other interventions needed […]" (IP05_1) [12]

Nurse practitioners working as elderly care nurses (such as in *I-UP-Med*) may also experience challenges in that in the Netherlands these types of nurses mostly work in specific disease domains and with protocols, whereas for elderly care a higher degree of flexibility is needed (*IP01_1*). Furthermore, often the practice nurse is working full-time as an elderly care nurse, and the district nurse part-time – there may be (dis)advantageous to both of these constructions (*IP04_1*).

For successful implementation of the U-PROFIT approach and successful elderly care, close collaboration between district and practice nurses, and between district nurses and primary care centres should be stimulated that allows for each professional to learn from one-another (*IP04_1*).

Practice or district elderly care nurse (2) – workplace

An issue that parallels the discussion as to whether the practice or district nurse takes on the role of elderly care nurse is where the nurses are employed and/or stationed. Currently this varies across the primary care centres implementing the U-PROFIT approach. The practice elderly care nurse always has the primary care centre as his/her workplace. The district elderly care nurse, however, is traditionally employed at a home-care organisation but can also be stationed or dispatched at primary care centres.

Care centres can station district elderly care nurses within their workplace to ensure that they can access the EMRs and work with U-PRIM (*IP02_1*). During the interviews, however, it came up that it is easiest for GPs to work closely with elderly care nurses that have access to the same information sources as they do, this facilitates close collaboration and ensures efficiency during face-to-face meetings (*IP04_1*).

> *"They [practice nurses] also have access to our system, so we work in the same EMR or the same information system, and I find that very pleasant. So […] if they have been somewhere, then I read alongside them right away and that's not the case with district nurses. And that's a real shame […], we meet with the district nurse team once a week, so then there the information is shared, but that's different than with the practice nurse. So that's a bit further away." (IP04_1) [13]*

It is also possible for nurses to work part-time as district nurses and part-time as elderly care nurses. In such a scenario, the home-care organisations at which the district nurses are employed, receive part of the grant money for their part-time elderly care nurse role from the care group. (*IP03_1*) Due to the instability in home-care organisations (as a result of macro level changes), primary care centres might perceive hiring their own district nurse as an easier option than working with such changing organisations (*IP07_1*).

On the other hand, the point can be raised as to whether the primary care centres have the organisational ability to keep growing and include this professional role under their umbrella or whether investing in long-term successful collaboration between organisations should be the aim (*IP06_1, IP07_1*).

General experiences with elderly care nurse profession

Different care providers interviewed mentioned that the shift from reactive- to prevention- and action-oriented took some getting used to but experiences were generally quite positive (*IP01_1, IP03_1*). For example,

> *"[…] as a district nurse there is already a care request from the patient so then there is really already a problem […] and the part of proactive elderly care is more preventive, so you come to the patient through a different route […], as an elderly care nurse I can really see what's needed, who should be coordinating, so you know who's coming to the patient's home, that overview." (IP01_1). [14]*

GPs also have pointed out that they appreciate the ability of the nurse to be proactive and conduct home visits to use their expertise, the nurses ability to quickly respond to and solve problems is also greatly valued (*IP03_1*).

This links to the fact that GPs experienced a lightening of their workload and emotional pressure due to the U-PROFIT approach (*IP03_1*). During the *RCT-UP* phase, the GPs experienced that they themselves needed to conduct less home-visits, since the elderly care nurse had taken these over and was more accessible for the frail elderly.[19] On the one hand the elderly care nurse can lighten the workload of the GPs by taking more time and going more in-depth into the frail elderly's problems, and as described earlier, take more time for informal caregivers. A prerequisite, however, is that the GPs is willing to 'let go' a bit – for some practices it takes time to get used to having the elderly care nurse and actively giving them tasks. Although time-saving appears to occur, this is in part balanced out by the fact that the approach does require more discussion and meetings. (*IP03_1, IP04_1*)

"They [GPs] have been really positive about the elderly care nurses since the start, and the way they can take on different tasks / do different things, so being proactive, that's important. But especially with the first signals that the GP gives and then it's actually maybe much more important to go there and they [the nurses] can use their expertise. Expertise that the GPs have less of, different expertise than the GPs, different focus, and a third thing is to have them solve calamities so short-term hospitalisations, service-indication issues and that type of thing. So those three aspects that's what the GPs in that one practice saw right away as an asset, we can really use that. A lot of meetings are however needed, it doesn't save a lot of time and it gives a huge extra dimension and yet it is also a lightening of the emotional pressure that's on you." (IP03_1) [15]

The role of the elderly care nurse is still in development but is perceived as important in frail elderly care and especially in complex cases that go beyond the medical domain (*IP04_1, IP07_1, IP13_1*). Several aspects of the nurses' role were highlighted, such as that their relationship with the frail elderly is different than that of the GP with the frail elderly because the elderly share more with them, that they have a greater ability to connect to the social domain, geriatricians, and others outside of the primary care centre (in part due to having the time for this), and lastly, especially the collaboration with district care (i.e., district nurses and social district teams) is strong *(IP04_1, IP07_1, IP12_1, IP13_1)*.

"[…] patients are open in a really different way towards the nurses than towards us [GPs]. Often much more is said, they dare to say much more, because then you don't bother the GP even though you [GP] think they can really say more, they just don't." (IP04_1) [16]

3.5. Technologies & medical products

Below we describe the development of the U-PRIM EMR software and two studies that have been conducted to evaluate this software as a screening instrument. Next, we address the role of care chain information systems and patient portals, and include the stakeholders' reflections on this. Lastly, the issue of organisational ICT compatibility is described and again this includes the stakeholders' reflections as expressed throughout the interviews.

3.5.1. U-PRIM and EMRs

An integral ICT application that is used in the U-PROFIT approach is the screening U-PRIM software that finds frail elderly that are highly likely to be eligible for U-CARE. The U-PRIM software was developed and is maintained by researchers and clinicians of the University Medical Centre Utrecht (UMCU) and Mondriaan. The latter is a cooperation between several medical centres in the Netherlands that aims to make health care data more accessible. U-PRIM uses routinely collected data available in the GP EMR system. A prerequisite for U-PRIM is thus the presence of an electronic medical record (EMR) that is compatible with U-PRIM. Usually this is made compatible by the EMR software provider (*IP01_1*). Of the 39 general practices that were going to participate in the *RCT-UP* phase, four withdrew due to technical EMR problems.[20] The U-PRIM software is licence-free (*IP01_1*).

Two studies have evaluated the U-PRIM, the screening instrument. These studies show that the regularly collected EMR data, as used in the U-PRIM screening, can predict adverse health outcomes. One study was done among 13,420 elderly persons (≥60) in 18 primary care centres. The goal was to determine how well the three identification methods in U-PRIM, i.e., polypharmacy, multi-morbidity (i.e., ICPC frailty score), and consultation gaps, could predict adverse health outcomes. Adverse health outcomes were defined as nursing home admission and/or mortality within a five year follow-up period. This study also looked at the predictive ability of specific facets that are partially included in the multi-morbidity, frailty score, namely geriatric events, psychosocial events, and chronic diseases and their multi-morbidity: cancer, ischemic heart disease, heart failure, TIA/CVA, arthritis/osteoarthritis, COPD/asthma, diabetes mellitus, visual impairment, and hearing impairment. This additional information was obtained on the basis of the ICPC codes, but also using pharmacist information (i.e., Anatomical Therapeutic Chemical codes) and diagnostic test results from the EMRs.

During the five year follow-up, 2,013 patients experienced an adverse health outcome (i.e., 375 nursing home admission, 1,638 mortality). The results showed that baseline age, polypharmacy, multi-morbidity (ICPC frailty score), consultation gap, geriatric events, psychosocial events, and chronic diseases and impairments (and multi-morbidity therein), statistically significantly predicted adverse health outcomes during follow-up. In the univariate model, the continuous variables age and multi-morbidity defined with the ICPC frailty score, and the dichotomous variable cognitive impairment (a facet of geriatric events) had the strongest association with adverse health outcomes (Hazard Ratio (HR) = 1.11 95% Confidence Interval (CI) = 1.11-1.12; HR = 5.12 95% = 4.35 – 6.01; HR = 1.11 95% CI = 1.10 – 1.12; respectively). The multivariate model that included age, gender and the U-PRIM inclusion criteria (i.e., polypharmacy, multi-morbidity (ICPC frailty score), and consultation gap) showed good discriminative ability (c-statistic = 0.77 95% CI = 0.76-0.78). The sample was split into three risk-groups (one-third of the study population in each), and the authors showed that the predicted risk of adverse

health outcomes in the highest risk group was at least twice as high in this group as compared to the overall population.[21]

In another study conducted in a primary care centre, a baseline frailty score was used to predict future (i.e., 2 year) adverse health events. Like in the U-PRIM software used for the first stage of screening in the U-PROFIT approach, this frailty score was determined on the basis of routinely collected GP data. Specifically, it is determined on the basis of ICPC deficit codes, but in this case the index includes polypharmacy information (whereas in U-PRIM for U-PROFIT this is presented as separate information). The adverse health events that were looked at both separately and in combination are: emergency department or after-hours GP surgery visits, nursing home admission, and mortality. 1,679 patients, aged 60 and older, were included in the study, with 508 persons experiencing an adverse health event during follow-up. A positive relation was found between the frailty score and the number of adverse health events. The strongest associations were found with emergency department or after-hours GP surgery visits, followed by nursing home admissions. No statistically significant association between frailty score and mortality was found. The frailty score predicted combined adverse health outcomes, even when adjusting for age, gender, and baseline consultation gap (HR = 1.17, 95% CI: 1.13 – 1.20).[22]

3.5.2. Care chain information systems & patient portals

Some centres have a care chain information system (*Dutch: Ketenzorg Informatie Systeem (KIS)*) that is available to report in and links to the EMR. This chain information system may include a module for elderly care in which, for example, the GFI results and individualised care plans can be uploaded. It is possible to add care professionals to this chain information system, after the frail elderly approved this (*IP01_1, IP12_1*). Currently the frail elderly approves this verbally to his/her nurse. In one care centre, the elderly care nurse reports all findings from the home visit in a care chain system and easily shares this with the GP and when needed an elderly care physician. The nurse can also share the information with home-care employees, however, often these organisations work in different ICT systems which makes this an additional, and somewhat inconvenient, task for them (*IP12_1*).

"You know, they're all extra systems and they [other professionals] are also just super busy, that just doesn't work." (IP12_1) [17]

Different professionals interviewed mentioned that ICT and especially cross-organisational information sharing still need to be improved (*IP01_1, IP03_1, IP06_1, IP07_1, IP12_1, IP13_1*).

"For example what still doesn't work very well is an ICT system with registration possibilities […]" (IP01_1 – programme manager) [18]

Furthermore, one of the wishes of the care organisations and the health insurer Zilveren Kruis Achmea is to have a patient portal. The idea would be that care professionals from different organisations and the informal caregiver can log into this – provided that the patient has given permission for this. However, it's difficult to find systems that can link to the GP's EMR and the home-care organisations ICT systems and it is essential to avoid that professionals need to register information in multiple places. (*IP03_1 – programme initiator, IP06_1 – payer representative, IP07_1 – payer representative*)

3.5.3. Organisational ICT compatibility

As already touched upon above, an issue is information sharing and ICT compatibility between organisations collaborating in the U-PROFIT approach. For example, when a district nurse is stationed in a care centre as elderly care nurse, he/she has access to the information system and can use the U-PRIM screening of the EMR data. This elderly care nurse, however, cannot transfer the data or information back to his/her own home-care organisation, but does need to ensure that his/her colleagues are aware that this frail elderly is participating in the U-PROFIT approach (*IP02_1 – programme initiator, IP03_1 – programme initiator*). The other way around is the same – a practice nurse working as an elderly care nurse regularly meets with the home-care organisations (and thus district nurses) to discuss cases and overlap therein but cannot share registered information (*IP12_1 – elderly care nurse*). In the past, in the Netherlands, it was the norm that home-care employees would keep a folder at the homes that they visited, thus when an elderly care practice nurse visited a home, he/she could take a look in this folder and make notes on this to let the other care providers know that he/she had visited (*IP05_1, IP12_1 – both elderly care nurses*). This latter method, however, does not seem sustainable and will cease to work as home-care organisations are also starting to work more with electronic files (*IP12_1 – elderly care nurse*).

Due to these organisational ICT gaps and the importance of good information sharing between involved organisations and the basis of the U-PROFIT approach in U-PRIM, some stakeholders suggest hiring or stationing district nurses in primary care centres can bypass these issues. Others, however, recognise the issue but see examples elsewhere [in the Netherlands] where ICT has been set up to facilitate cross-organisational collaboration. Again, this is an area that requires more attention and developments.

3.6. Information & research/monitoring

In this section we describe the type of and results of the research that has been conducted throughout the various implementation phases of the U-PROFIT approach. Hereafter we describe the stakeholders' experiences with the research, specifically we describe the impact data collection has on daily practice, the impact that research findings have an further implementation, and the role of research in the future.

3.6.1. Research throughout U-PROFIT implementation phases

- ***RCT-UP* phase**

Two PhD theses have been written on the U-PROFIT approach during the *RCT-UP* phase.[3,4] In this cluster-RCT, general practices were randomised into three groups, those implementing U-PRIM & U-CARE (group a), only U-PRIM (group b), and usual care (group c). In the *3.2 Service delivery* section the content of the U-PRIM screening and U-CARE nurse-led approach was described, in the sub-section '*Reflections on, and Variations in…*', variations in the approach during the *RCT-UP* phase were described. The practices in group b in the RCT only implemented the U-PRIM screening aspect of the approach. These practices received a U-PRIM report every three months and were advised to use these to support proactive care according to current standards and guidelines. They were to do so with their existing personnel.

Because the results of the *RCT-UP* phase have resulted in discussions regarding further implementation and financing (described in the section *3.7 Financing*), the results of the effect evaluation and cost-effectiveness study are described quite extensively in **Table 3.3** below. To summarise:

- ✓ In both the U-CARE & U-PRIM (a) and only U-PRIM (b) groups activities of daily living were better preserved, quality of life (as assessed by a self-report 0-10 scale) was higher, and satisfaction with care was higher, as compared to the usual care group (c) (all $p \leq 0.05$). *(Effect evaluation)*[20]
- ✓ Based on self-reported information, the U-CARE & U-PRIM group (a) had more GP [home-] visits than the other two groups. No further differences in self-reported care utilisation were seen between the three groups. *(Effect evaluation)*[20]
- ✓ Frail elderly in the U-PRIM & U-CARE group (a) had slightly higher Quality Adjusted Life Years (QALYs) (as assessed by the EQ-5D-3L) than the other two groups (b & c). This group (a) also saved 815 euros and had a QALY gain of 0.0067 as compared to usual care (group c) – and thus has a dominant ICER. *(Cost-effectiveness study)*[23]
- ✓ There was a probability of 75% cost-effectiveness at 20,000 euro willingness-to-pay (WTP) for the U-PRIM & U-CARE (a) approach when compared to usual care (c). *(Cost-effectiveness study)*[23]
- ✓ Only U-PRIM (b) as compared to usual care (c) was shown to result in cost saving of 980 euros, but a QALY reduction of 0.0048 and there was only a 36% probability of cost-effectiveness at a WTF of 20,000 euros. *(Cost-effectiveness study)*[23]
- ✓ GPs and elderly care nurses perceived the U-PROFIT approach positively, especially because it improved coordination and helped them provide structured care. Participating frail elderly indicated four main roles of the elderly care nurse: monitoring, directing, coaching, and visiting. They appreciated the proactive and tailored care. *(qualitative study)*[24]

Thus the findings are mixed, the effect evaluation suggests that whether U-PRIM is provided solely or in combination with U-CARE does not have a major impact on the primary patient-level outcome ADL or self-reported care utilisation, whereas the cost-effectiveness study more strongly favours U-PRIM in combination with U-CARE when it comes to QALYs and self-report *and* EMR cost utilisation information.

Table 3.3: Extensive description of the effect evaluation and cost-effectiveness of U-PROFIT (*RCT-UP*)

Effect evaluation[20] The primary outcome of the cluster-RCT was activities of daily living (ADL), secondary outcomes included: quality of life, mortality, nursing home admission, emergency department admission, out-of-hours GP surgery visits, caregiver burden, and caregiver quality of life (see **Appendix Table A3.5** for an overview of measures). Baseline, 6-month, and 12-month data was collected on these primary and secondary outcomes. Demographic information was also collected via EMRs, as well as GP practice information. Thirteen primary care centres were included in group a (U-PRIM & U-CARE) and 1,146 participants, 11 centres and 790 participants in group b (only U-PRIM), and 11 centres and 856 participants in group c (control). The total of 3,092 elderly included in the RCT represents only 40.5% of the approached for informed consent to participant in the trial (i.e., 7,638 participants in total were eligible). The effect evaluation study of the RCT showed better preserved ADL in frail elderly after 12 months in both U-PRIM & U-CARE (group a) and only U-PRIM (group b) as compared to usual care (group c) (mean KATZ-15 = 1.88, 1.87, and 2.03, respectively, $p<0.05$). Additional analyses showed that within highly educated frail elderly, those in the U-CARE & U-PRIM group (a) had a better preservation of ADL than those in the only U-PRIM group (b) and the control group (c) (KATZ-15 = 1.01, 1.26, 1.40, respectively, within highly educated persons, $p<0.01$). No differences were found at 12-month follow-up between the groups with regard to quality of life outcomes as assessed by the RAND-36 scale or the EQ-5D. However, the self-report quality of life instrument showed better perceived quality of life in both the U-CARE & U-PRIM group (a) and the only U-PRIM group (b) as compared to the usual care group (c) (0-10 QoL scale = 7.19, 7.19, and 7.08, respectively, $p<0.05$, $p=-.29$ after multiple testing correction). No differences in mortality were observed. Frail elderly in the U-CARE & U-PRIM group (a) appeared to have a higher satisfaction with care, this was not statistically significant though. The U-CARE & U-PRIM group (a) had more in-practice consultations and home visits (mean visits = 9.34 as compared to 7.02 (b) and 7.12 (c)). No differences in hospital admissions or emergency department visits were observed. A comparison in nursing home admissions and admissions to an assisted living facility was not possible due to low number of events. The fact that both the U-PRIM & U-CARE (a) and only U-PRIM (b) groups showed some positive effects calls for more research to be done to determine what type of actions were undertaken in the only U-PRIM group, e.g., how did nurses and GPs deal with the U-PRIM lists of potentially frail elderly?
Cost-effectiveness study[23] In this study incremental costs per quality adjusted life year (QALY) gained were the main outcome. A societal perspective was taken, and the follow-up of 12-months was used.

The intervention costs included:

- U-PRIM software start up and maintenance expenses
- U-PRIM usage in proactive care
- U-CARE education, toolkit, website
- U-CARE programme usage in proactive care
- **Total U-PRIM & U-CARE costs: 28 euros + 102.89 euros = 131 euros**

See **Appendix Table A.6** for more details on the assumptions of the cost-effectiveness study and more details on the intervention costs.

Healthcare utilisation was estimated with extracted EMR data on daytime GP consultations and emergency department visits. The self-report 12-month follow-up questionnaire was used to determine healthcare utilisation on: number of out-of-office GP consultations, hospital admissions, permanent and temporary nursing home admissions and residences in assisted living facilities, home-care and day-care. Informal caregivers also provided self-report information that could be used to determine hours of informal caregiving per week. The Dutch manual for cost research in healthcare was used.

- GP consultations during office hours = 30.95 euros per GP consultation
- Out-of-hours GP consultations = 98.30 euros per out-of-hours GP consultation

The three-level EQ-5D was used to determine health status, the Dutch EQ-5D tariff was used to calculate mean utility values for the different health states derived from the EQ-5D.

Total costs for each frail elderly was calculated by multiplying the healthcare resources utilised by their unit costs. QALYs per frail elderly were calculated using an area under the curve approach with linear interpolation of the EQ-5D utility values among the baseline, 6-month, and 12-month data. Baseline differences in EQ-5D between the different intervention groups was corrected for.

The mean total costs and effects for each intervention group, the incremental costs were divided by the difference in QALY to obtain the incremental cost-effectiveness ratios (ICER) for U-PRIM & U-CARE (group a) and only U-PRIM (group b) as compared to usual care (group c) as well as for U-PRIM & U-CARE (group a) as compared to only U-PRIM (group b). A willingness-to-pay (WTP) of 20,000 euros was adopted. Several sensitivity analyses were conducted, one of which was taking a healthcare perspective (excluding informal caregiving costs) instead of a societal perspective.

Pertaining to healthcare utilisation: The only U-PRIM group (b) had statistically significantly fewer GP consultations of any kind than the U-PRIM & U-CARE (a) and control (c) groups. The U-PRIM & U-CARE group (a) had statistically significantly more telephone GP-consultations, but fewer nursing home days than frail elderly in the other groups (b and c). A trend was seen for fewer hospital days in both the U-PRIM & U-CARE (a) and only U-PRIM (b) groups as compared to the usual care group (c). From a societal perspective, frail elderly in the U-PRIM & U-CARE (a) and in the only U-PRIM (b) groups had lower overall costs, 6825 and 6651 euros, as compared to the usual care group (c), at 7601 euros.

After correction for baseline EQ-5D, it appeared that the U-PRIM & U-CARE group (a) had higher QALYs than frail elderly in the only U-PRIM (b) and usual care (c) groups (0.709, 0.698, and 0.703, respectively). With 1,000 bootstrapped samples, U-PRIM & U-CARE (group a) as compared to usual care (group c) saved 815 euros and showed a QALY gain of 0.0067, thus with a dominant ICER. 71% of the bootstrapped data pairs showed higher effectiveness and lower costs (i.e., were situated in the

southeast quadrant of the cost-effectiveness plane). The probability of cost-effectiveness at 20,000 euros WTP, was 75% (as tested with cost-effectiveness acceptability curves). U-PRIM & U-CARE (group a) was not compared to only U-PRIM (group b) because U-PRIM was shown to result in cost saving of 980 euros, but a QALY reduction of 0.0048; 60% of bootstrapped data pairs showed lower effectiveness and lower costs (southwest quadrant), and there was only a 36% probability of cost-effectiveness at a WTF of 20,000 euros.

- ***I-UP-Med*** **phase**

During this phase a process evaluation of the implementation of the U-PROFIT approach in the North-West Veluwe region in a one year period was conducted.[6] This was a mixed-method study in which routinely collected EMR data was used, implementation questionnaires among elderly care nurses, GPs, and other involved professionals, four interviews with participating frail elderly, and regional working groups to stimulate cross-sector collaboration. Care providers indicated prior to the start of the U-PROFIT programme that they wanted more structure, collaboration, and coordination in the care provision of frail elderly. Throughout and after implementation, these experienced needs were reduced, and professionals felt they had a better overview of frail elderly. Frail elderly and their informal caregivers were satisfied with the approach.

- ***I-UP-Utrecht*** **phase**

In the *I-UP-Utrecht* phase, self-report data will be collected in a random 10% of the frail elderly per primary care centre at baseline and 12-month follow-up. Retrospective EMR data will also be collected. See **Appendix Table A3.7** for an overview of what will be measured, at what level, and at what time intervals. Specifically, activities of daily living, various facets of quality of life, mortality, elderly experiences (with a focus group), amount of elderly care with an individualised care plan, and health- and social care costs will be brought to light. The various facets of quality of life that were included in the current questionnaire were requested by health insurer Zilveren Kruis Achmea. Several of these items stem from the EQ-5D-L5 questionnaire, others were created for the purpose of this monitoring of the U-PROFIT implementation. See **Appendix Table A3.8** for an overview of these questions.

3.6.2. Experiences with research

Programme initiators and an elderly care nurse mentioned that in practice collecting data for research is a challenge, e.g., getting nurses to fill in questionnaires and for nurses to get frail elderly to do so as well (*IP02_1, IP03_1, IP05_1*).

Nevertheless, the research that was conducted during the *RCT-UP* phase had an impact on the following implementation phases. The U-PROFIT approach was funded in a larger ZonMw national elderly care programme and showed some of the most promising results as compared to other elderly care programmes in other regions. However, the findings were also interpreted by some as ‘a little does just as much as a lot’ when comparing the U-PRIM & U-CARE vs. U-PRIM groups. Critique was made as to whether randomising such a complex and integrated care programme in a cluster-RCT design was really the best choice, and for this reason a lot of focus was also placed on process and qualitative research in the RCT. Overall there has been a struggle by different stakeholders in interpreting the

findings and knowing how 'strong' they really were, especially in the financing discussions this has played an important role. (*IP02_1, IP03_1, IP06_1, IP07_1*)

> *"But what happened, research was done, that had a result, and it's one of the few effective trajectories in the NPO studies, but at the same time there was a lot of 'fuss' about what it really was. Because a little does just as much as a lot and it seems to be just a little bit different than nothing, that's what I remember." (IP06_1) [19]*

While conducting the interviews for this report and thinking about future research possibilities surrounding the U-PROFIT approach, different stakeholders highlighted that they felt that doing more research would contribute to clarifying the effects of the approach further. For example, extending the follow-up of the *RCT-UP* groups could be interesting, as well as exploring the different professional roles working as elderly care nurses. Lastly, there are several different types of primary care centres currently implementing the U-PROFIT approach and thus it would also be interesting to look at their different implementation forms to explore what works where, and why. (*IP01_1, IP02_1, IP06_1, IP07_1*)

3.7. Financing

3.7.1. Overview of financing throughout different U-PROFIT implementation phases

Throughout the three phases of the U-PROFIT implementation, three main sources of funding can be distinguished, those from health insurer Zilveren Kruis Achmea, from the Netherlands Organisation for Health Research and Development (ZonMw), and internal investments from the care organisations. These sources of funding come on top of the base payments to primary care centres. These base payments include a capitation fee for every citizen registered at a GP practice plus a fee for service (per consultation and per diagnostic test/specific care service/small surgical procedure on a specified list).

Health insurer Zilveren Kruis Achmea is the predominant insurer in the regions in which U-PROFIT has been implemented (circa 50% coverage). This insurer has had different practice-level modules (i.e., financing labels) for elderly care that have been used throughout the implementation phases. These modules provide an extra budget at practice level that has to be used to improve the care for persons aged 75 years and over:

i. Module frail elderly identification *(Dutch: 75+ 'in kaart'):* This module no longer exists; it was meant to help GPs identify frail elderly 75 years and older in their population. Often these funds were in part used to hire nurses to do this. (*IP06_1, P07_1*)
ii. Module case management (CM) for frail elderly (assuming that 20% of a GP's 75+ population would get this type of CM) *(Dutch: POH-S):* The health insurer does not specify which level of educational background the case manager needs to have, the care providers can decide this for themselves (e.g., practice nurse, nurse practitioner).
iii. Module collaborative primary frail elderly care *(Dutch: Samenwerking rondom kwetsbare ouderen):* The goal is to establish good collaboration between health- and social care, specifically between GP practices and home-care organisations (e.g., with district nurses).

In **Figure 3.4** the various financial arrangements per phase are shown (*IP01_1, IP02_1, IP03_1, IP06_1, IP07_1*)[9,10]. The dark purple blocks represent the *RCT-UP*, *I-UP-Med*, and *I-UP-Utrecht* 'official' phases, the light purple shows the continuation.

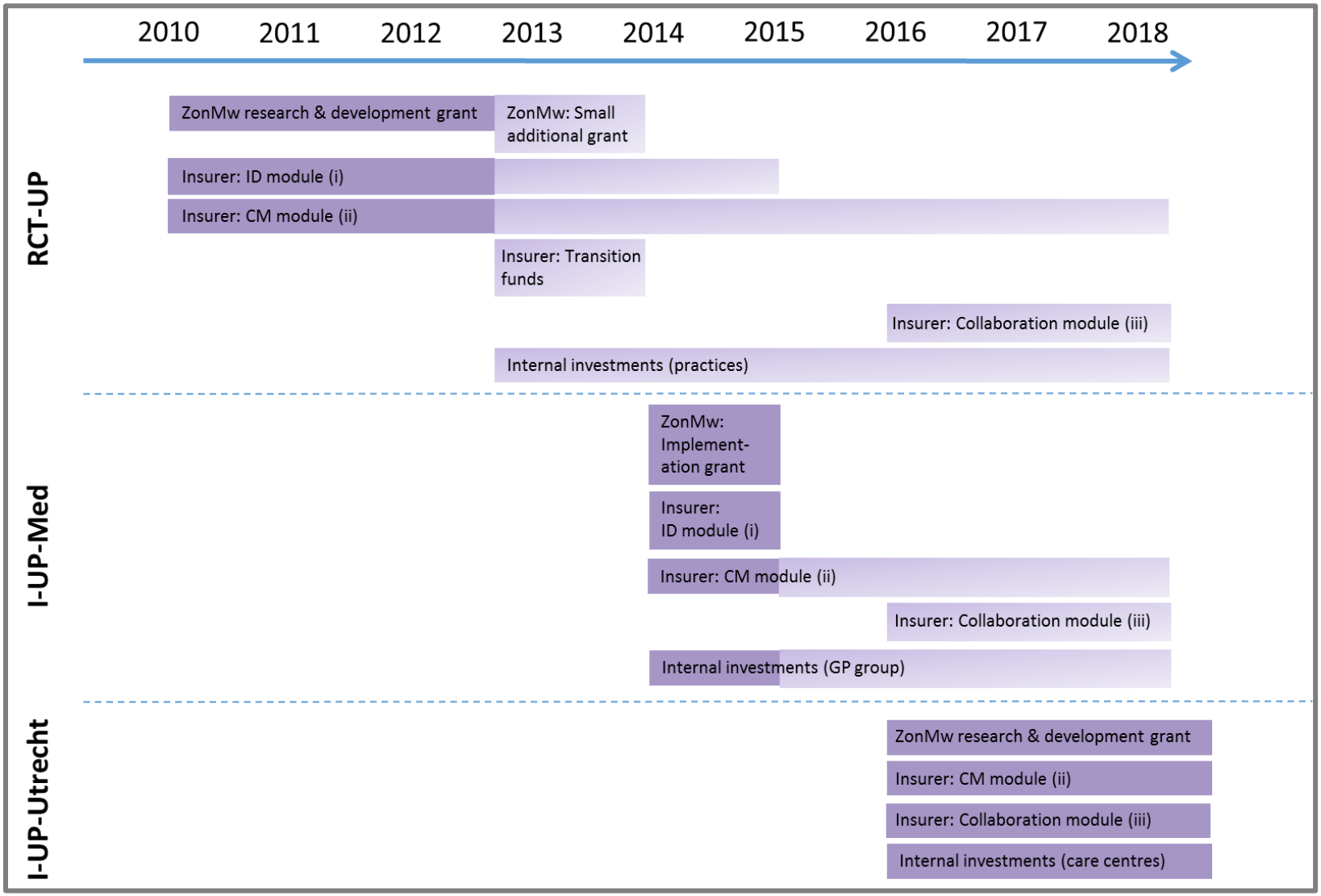
1. **RCT-UP**
    a. During the *RCT-UP* phase, ZonMw research and development funds were used. The GPs could also make use of two of the health insurer's modules, that for identifying frail elderly (i) in their population and the case management of frail elderly (ii). As both of these modules are for the ≥75 group and the U-PROFIT approach targets on the ≥60 group, the gap could be filled with the financing sources from ZonMw.
    b. After the RCT officially ended, some practices continued to work with the U-PROFIT approach. A small additional implementation fund for one year (2013-2014) was provided for by ZonMw. Furthermore, the health insurer Zilveren Kruis Achmea provided transition funds for one year to aid the GP practices that were in the U-PRIM & U-CARE group (a), to ensure that patient-treatment would not come to a sudden halt and provide a buffer for the practices that had in many cases hired elderly care nurses for the RCT phase. Right after the RCT phase, the GP practices that wanted to continue working with the approach could continue using the health insurer module for identifying frail elderly (i) and the case management of frail elderly (ii). As of 2015,

however, the prior ceased to exist. As of 2016, practices could also start making use of the health insurer module for collaborative primary frail elderly care (iii). Throughout this period practices also used internal investments to keep working with the approach (e.g., employing the elderly care nurse). Some practices also, as of 2016, streamed into the *I-UP-Utrecht* phase.

2. **I-UP-Med**
    a. An implementation grant was made available by ZonMw for this phase of the U-PROFIT implementation in the North-West Veluwe. Additionally, the frail elderly identification module (i) could be used until 2015 as well as the case management for frail elderly module (ii). The Medicamus GP cooperation also made internal investments.
    b. During the continued implementation, the health insurer's collaborative primary frail elderly care module (iii) could also be used.

3. **I-UP-Utrecht**: During this phase, funding comes from a ZonMw research and development grant, as well as two health insurer modules (case management for frail elderly (ii) and collaborative primary frail elderly care (iii)) and care centre's internal investments.

Figure 3.4: Implementation timeline U-PROFIT approach and matching financial arrangements



Note: Dark purple represents an 'official' phase, the light purple shows continuation. CM = Case management, ID = Identification.

3.7.2. Details of I-UP-Utrecht financing

The financing in *I-UP-Utrecht* is predominantly via the research and development grant of ZonMw, in combination with the health insurer's module financing (ii and iii described above), and co-financing by the care centres themselves. In **Tables 3.4** below the mechanisms of payment are shown.

Table 3.4: Overview of payers – providers in current *I-UP-Utrecht* phase

Payer(s)	**Mechanism**	**Paid to**	**Details of payment mechanisms**
ZonMw grant	**Budget to pay salary** for practice nurses →	Primary care centres	The budget is based on the expected payment per FTE elderly care nurse, per primary care centre (no. of FTE based on the % of ≥60 year old frail elderly in the centre).
Health insurer Zilveren Kruis Achmea	**Budget** for case management →	Primary care centres	Module case management frail elderly (ii)
	Budget for coordination →	Primary care centres	Module collaboration in primary frail elderly care (iii) (based on 20% of the ≥75 year old population)
Care centres	**Salary** & Development costs →	Primary care centres	Co-financing

ZonMw finances each primary care centre a different amount, this is based on the following factors[7]:

A. Total # of patients per primary care centre
B. Total # of patients ≥60 years per primary care centre
C. % of patients ≥60 years (= **A** / **B**)
D. % ≥60 and frail *(fixed at 21% for all centres)*
E. # ≥60 and frail (= **D** * **B**)
F. Hours of care per frail elderly *(fixed at 5 hours for all centres)*
G. Total hours elderly care nurse for the frail ≥60 population (= **E** * **F**)
H. Hours per FTE *(fixed at 1320 for all centres)*
I. FTE needed (= **G** / **H**)
J. Costs per FTE elderly care nurse *(fixed at 74,443.80 euros per year for all centres)*
K. Total extra costs needed for elderly care nurse (= **I** * **J**)
L. Already financed through the frail elderly modules for ≥75 years elderly (= **L1** + **L2**)

L1. Case management (nurse) funding for frail elderly (module ii) = 52.84 euros per frail elderly per year (fixed at 20% of patients ≥75 years)

L2. Facilitating collaborative primary frail elderly care (module iii) = 125 euros per frail elderly (fixed at 20% of patients ≥75 years)

M. Total amount that financing is needed for (= **K** – **L**)

N. Total FTE needed (= **M** / **J**)

Thus the funding that the primary care centres receive from ZonMw was reduced by the amount that health insurer Zilveren Kruis Achmea already financed for patients ≥75 years through the two modules (ii and iii).

In total 5,631 frail elderly are expected to be included in this implementation phase, i.e., the total of factor **E** across the eight health centres; 10% of these will be monitored. The total amount of financing needed (factor **M**), is expanded upon by accountability costs (for monitoring). Two centres also received some extra funding for this monitoring [and analyses].

The co-financing represents the financing for the training, selection of nurses, software investments, and project costs. These can be funded via innovation funds of the larger care group (e.g., GPs practices working via PreventZorg) or via the primary care centres themselves (e.g., health centre de Bilt). It is also possible for centres to make use of the health insurer module 'integrated primary care' (*Dutch: Geintegreerde Eerstelijnszorg (GEZ)*) (i.e., primary care centres Leidsche Rijn Julius and Healthy Overvecht do so). This module is meant to stimulate multidisciplinary collaboration between GPs and social care providers and is also related to care chain provisions (e.g., COPD, asthma, diabetes mellitus type 2, and CVD).

Based on calculations in the *RCT-UP* phase, in care centre de Bilt, the mean time that was needed for screening and case management of a frail elderly 75 years and older was 5.75 hours. For those that did not require case management this was 1.25 hours. A mean time of 5 hours was agreed upon for the tasks of the elderly care nurse per frail elderly (factor **F** above). It was assumed that the needed time for the ≥75 years group would be the same in the 60-75 year old group.

The salary costs (factor **J** above) were fixed on the basis of the expected educational background and experience of the nurses that would be eligible for the elderly care nurse position.

3.7.3. Main issues in financing

Different issues surrounding the financing of the U-PROFIT approach can be identified, namely those pertaining to whether the district nurse is solely responsible for prevention or together with the practice nurse / GP, whether existing frail elderly care modules cover the needed care, how research findings should be interpreted, and how integration of primary and district care can take form. (*IP01_1, IP02_1, IP03_1, IP06_1, IP07_1, IP10_1*)

With the ending of the health insurer's module of frail elderly (≥75) identification (i) and with macro level changes in the health- and social care system, prevention tasks shifted to the district nurse and to the municipalities. Thus, from the perspective of the health insurer, a risk of 'double paying' was perceived. The question was raised whether these prevention tasks set out for the elderly care nurse should not always be done by a district nurse. (*IP01_1, IP02_1, IP03_1 – programme manager & initiators, respectively*) One proposed solution is to reallocate funds between the home-care

organisations who employ the district nurses and the primary care organisations who employ the elderly care nurses (*IP03_1 – programme initiator*). Further, the question has been raised whether using the case management and collaboration modules (ii and iii) is not sufficient to provide the care needed in U-PROFIT, and thus whether any additional funding is at all necessary (*IP02_1 – programme initiator*).

In trying to get the funding via the ZonMw research and development grant (for *I-UP-Utrecht*), a major issue was the role of the district nurse. Initially the U-PROFIT approach was really embedded in GP-care, but with the macro level changes, the insurer was looking for new connections between the GP and district nurse – this made it important that he/she plays a role in the supportive tasks for elderly and becomes integral to the U-PROFIT approach. (*IP06_1 – payer representative*)

Reallocating funds, moving towards shared savings and population management, and closing the gap between health- and social care is desirable, but making this work in practice is still seen as a challenge by different types of stakeholders involved (*IP03_1 – programme manager, IP07_1 – payer representative*).

"That's in practice of course very easy to write down and say, but to actually do it [that's another thing], there are then always different organisational interests behind there." (IP07_1) [20]

Within primary care currently in the Netherlands all parties (e.g., physiotherapists, dieticians, pharmacists, GPs) mostly negotiate separately with the insurer, whereas in order to attain integration this should perhaps be done together (*IP10_1 – elderly care network representative*). It is difficult for the health insurer and all parties involved in the discussions to really think in terms of integrated and chained financing, this is new (*IP10_1).* It is important to realise that currently the partners working together in primary care are one-another's colleagues but also competitors (*Dutch*: *'concollega's'*) (*IP10_1*).

"Because we are, some of the partners are also each other's competitors […]. That's difficult. But if you keep making it explicit / mentioning it, you try to be clear about it, then I think in the end you will figure it out together." (IP10_1) [21]

Thus parties are not used to working with a pooled budget that needs to be divided amongst themselves, they need time to learn to do so (*IP10_1– elderly care network representative*).

In the *I-UP-Med* implementation less issues arose surrounding financing due to their focus on the ≥75 years group, which allows for more funding from existing modules to be used (*IP02_1 – programme initiator*) (see also the rough calculation above). Furthermore, some criticisms have been that the prior frail elderly (≥75) identification module was used to hire elderly care nurses, and thus when this funding stopped an issue arose and transitional funds were needed (*IP06_1 – payer representative*). The newest collaboration module is meant to stimulate collaboration, and not hire personnel (*IP06_1 – payer representative*). As described in the *3.3. Leadership & governance* section, this also relates to the discussion as to whether primary care centres should hire district nurses to work as elderly care nurses, or whether investments should be made in collaborating with home-care centres; the latter would be preferred by the health insurer (*IP06_1 – payer representative*).

The difficulty in interpreting effects of the *RCT-UP* and macro level changes hampered discussions between care providers and the health insurer, and complicated the process of arranging sustainable financing (*IP01_1 – programme manager, IP02_1 – programme initiator, IP06_1 – payer*

representative). Furthermore, several stakeholders mentioned that restructuring within the health insurer also formed a barrier to building sustainable relationships and moving the discussions along more rapidly (*IP01_1 – programme manager, IP10_1 – elderly care network representative*).

"Yeah, what was also difficult in that part of finishing the project [RCT] and where we are now, is that at [health insurer] there have also been many internal changes, many different people that have been involved in this debate, shifting of positions and functions […]." (IP01_1) [22]

Different interviewed stakeholders have expressed their interest in further research about the approach in helping these discussions along (*IP03_1 – programme initiator, IP06_1 and IP07_1 – payer representatives*).

Currently there are two ongoing trajectories pertaining to the financing of the U-PROFIT approach. Namely, there are discussions 1) between *I-UP-Utrecht* care centres and the predominant health insurer, and 2) a regional plan for elderly care has been proposed to this health insurer (*IP01_1, IP02_1, IP03_1, IP07_1*). The latter is slightly different from the U-PROFIT approach and aims for 5-year financing with a network of primary care, home-care, elderly care physicians, and hospitals.

The *I-UP-Utrecht* – Zilveren Kruis Achmea discussions are taking place and looking at possibilities for reallocation and changing the organisation of care. One of the prerequisites of getting the ZonMw research and development grant to fund *I-UP-Utrecht* was that the care centres and the health insurer Zilveren Kruis Achmea would negotiate about the future financing, which they currently do every two to three months.

3.8. Implementation process

3.8.1. Historical and present information

The need for the U-PROFIT approach came forth because GPs in the region wanted a) to gain insight into the level of frailty in the population, and b) to have a specialised programme for their nurses. The goal of the U-PROFIT approach was to transform primary care from reactive towards proactive care, and to increase capacity to improve the coordination [between care and cure] for frail elderly.[1]

The U-PROFIT approach was developed by a group of researchers, general practitioners, practice nurses, experts, older persons (involved in the planning and development), and the Elderly Care Network Utrecht.[14,25] Translation of the results into practice and educational training for the nurses form important parts of the U-PROFIT approach; Utrecht University of Applied Sciences, Nursing Department, (*Dutch: Hogeschool Utrecht*) is involved.[1]

The purpose of executing an RCT of the U-PROFIT approach was to gain insight into effectiveness, in order to allow for structural regional implementation in Utrecht to be realised thereafter.[1] Initial implementation of the U-PROFIT approach occurred with a large collaborative team in primary care in the region, in which commitment was high among all involved GPs and care centres.[1] Primary care centres, the Elderly Care Network Utrecht, and Julius Research Centre (University Medical Centre Utrecht (UMCU)) all shared the same ambition in implementing the approach.[7]

A notable event that influenced the implementation during the *RCT-UP* phase was the medical ethical committee decision that the study needed their approval. They felt that the study falls under the Medical Research Involving Human Subjects Act (*Dutch acronym: WMO*). The developers of the programme felt that it could be considered 'regular care', which would mean it did not fall under this Act. Nevertheless, it was decided that it did need approval and that all participants needed to sign informed consent – it is thought that this greatly reduced the response rate during the RCT (which was around 40%).[20] Persons that did not sign informed consent still received the U-PROFIT approach, but could not be monitored. (*IP02_1*)

As described throughout the report, various barriers to arranging sustainable financing and regional implementation can be identified. Main issues pertain to the 60-75 year old age group, the focus on prevention in the approach, and the role of practice as compared to district nurses. When looking at the costs for elderly care that are already being covered through the two current modules (factors **L** in the calculation above), this is about 55 and 125 euros (total 180 euros) per frail elderly $\geq$ 75 per year. With the set 1320 hours per FTE for the elderly care nurse (factor **H** above), their hourly rate is approximately 56.40 euros (factor **J** above; 74,443.80 euros per FTE per year/1320 hours). Thus the current funding, 180 euros, would equate to about 3.2 hours of care by the elderly care nurse per frail elderly aged $\geq$ 75 years and over in one year. The estimated time needed per frail elderly in the U-PROFIT programme is 5 hours. Thus there is too little time for solely a practice nurse to deliver the care set out in the U-PROFIT approach using the existing financing modules, especially when considering the 60-75 year old group. This suggests that either additional funding for this GP-based nurse is needed, or as is currently being explored, tasks need to be [in part] shifted to the district nurse. The district nurse has care provision tasks that fall within the U-PROFIT approach in his/her task description. However, specific information on district nurses' costs, tasks, and case load would be needed to conclude more about this.

Although the financing of the U-PROFIT approach has not been without turbulence, it is reassuring that interviewed stakeholders mentioned that at the service delivery level, professionals from different sectors and organisations all contribute to provide good care, and that for the most part collaboration is very successful (*IP05_1, IP12_1 – elderly care nurses*). Furthermore, an implementation strategy of U-PROFIT was developed (*I-UP-Utrecht*) and a small monitoring budget was allocated to further explore the possibilities of the approach in the future. The collaboration with the SELFIE project was well-received by stakeholders spoken to throughout the development of the current report, all parties seem keen on finding a solution.

3.8.2. Future implementation/development

Several themes for future development and implementation have been brought up throughout this report. To summarise:

- **Elderly care nurse**: Which professional should take this role upon him- or herself? What are the advantages and disadvantages of having practice nurses or district nurses in this role? Related to this, what type of training does the elderly care nurse need, e.g., setting up a community network is essential now, and it will be even more so in the future (*IP01_1 – programme manager*)?
- **ICT**: How can ICT facilitate coordination and collaboration across sectors? Much more development is needed in this field (*IP01_1 – programme manager, IP03_1 – programme initiator, IP12_1 – elderly care nurse*). Related to this are issues surrounding privacy and information sharing.
- **Role of different actors**: Due to the macro level changes, the roles of different actors in the elderly care process have changed and will continue to do so, such as the growing role of the municipality (*IP02_1 – programme initiator*).
- **Transfer care**: This is seen as an important development point, setting up collaboration with secondary care needs to be worked on (*IP01_1 – programme manager*).
- **Financing**: This is of course an essential theme that needs to be worked on in the coming period to ensure sustainability of the approach.

3.9. Discussion

3.9.1. General discussion

In this report we comprehensively described one of the three most promising integrated care programmes for multi-morbidity in the Netherlands, namely Proactive Primary Care Approach for Frail Elderly as it is being implemented in primary care centres in Utrecht. From the information obtained from documents and interviewed stakeholders we can draw the general conclusion that the main focus of the approach on prevention and proactive care has remained stable throughout the different implementation phases. The ever changing macro level context in the Netherlands has meant that the programme has had to make some adaptations, for example by increasing collaboration with home-care organisations and having district nurses also take on the role of elderly care nurse. Furthermore, very different types of financial means have been used to keep the programme up-and-running, including grants and existing elderly care modules. The programme distinguishes itself from other elderly care programmes in the Netherlands by using a screening method of EMR data that can quickly make insightful to the nurse which elderly may benefit from such a programme. Case finding is an additional, but not the sole, means of inclusion. Lastly, a unique feature of the programme is the evidence-based toolkit that nurses can use to help structure the holistic assessment and individualised care planning.

Below more aspects of the U-PROFIT approach are highlighted per section and in accordance with the SELFIE framework. However, it is important to note that there were some limitations in this study. First, in qualitative research the goal is not to establish a representative population but to explore themes. In the current thick description information from the interviews was used to gain a better insight into the programme itself and into how stakeholders reflected on the various implementation phases. It should be acknowledged that the persons interviewed were all intrinsically motivated to participate and to share their experiences. Unfortunately it was not feasible to interview care providers or included frail elderly from each of the eight clusters of primary care centres.

3.9.2. Discussion of the programme in the context of the conceptual framework

In this section, the U-PROFIT approach is described in relation to the SELFIE conceptual framework. Interesting similarities or differences are mentioned, starting with the core of the framework, followed by each pie in the same order as the sections of this report.

Holistic understanding of the individual with multi-morbidity and his/her environment
The U-PROFIT approach takes a holistic approach to frail elderly care. The two screening stages and the holistic assessment conducted during the first home visit should cover most of the topics identified in the core of the SELFIE framework, specifically: health, well-being, capabilities, self-management, needs, and preferences are included in the holistic assessment and care planning. Some environmental factors from the SELFIE framework are explicitly included in the holistic assessment and care programme, namely the availability or use of welfare services, the social network, and the community. Other factors were not identified during the document analysis or interviews, namely the role of transport, housing, and financing. However, it is to be expected that in individualised care planning the elderly care nurse takes these factors into consideration.

Service delivery

With regard to service delivery, the proactive approach involving automatic practice-wide screening of the elderly, not just case finding, is worth mentioning. This was an explicit choice based on the idea that early identification and adequate integrated care can prevent rapid progression of frailty that results in nursing home admission.

Currently the focus of the programme is largely on primary care and social care, however, in the future more focus will be placed on continuity of care and transfer care between primary and secondary care. Monitoring such transitions is already included in the tasks set for elderly care nurses, but no structural collaboration between the primary care centres implementing the U-PROFIT approach and secondary care have been made with regard to the frail elderly population. The programme initiators and managers have mentioned that this is something they are working towards.

At the meso level, organisational and structural collaboration have become 'required' due to macro level changes. Namely, the care provision for complex, multi-morbid, and/or frail persons is not solely in the hands of primary care, but also of social care. As has been described throughout this report, in daily practice this is feasible, but at an organisational level there is still room for improvement.

Leadership & governance

In the U-PROFIT approach, shared-decision making predominantly takes place between the elderly care nurse, the GP, the frail elderly and, when present, the informal caregiver. Through the screening approach the care is tailored to the specific target group. However, there is no subsequent formal triage by which some elderly are provided a different care package than others. The care is tailored though in the sense that the nurse can determine what is necessary and how much care each elderly needs in the programme.

The macro level changes in the system in the Netherlands have brought about issues regarding responsibility at the micro and meso level. Namely, traditionally in the Dutch healthcare system the GP is the main gate keeper into further care. Nowadays, however, the role that social care and the municipality have in gatekeeping is growing. Issues regarding who is the primary responsible care provider for a frail elderly person, or any complex or multi-morbid person for that matter, has become complicated. In essence there are three parties that could be approaching a frail elderly person in the Netherlands: the elderly care nurse via the GP, a district nurse via a home care organisation, or a social district team employee via the municipality. Frail, complex, and multi-morbid persons often have needs that span across the services of these sectors, and thus it is not 'wrong' that each is involved. However, it is essential that it remains clear who the primary contact point for the frail elderly person is and who has the final say and final responsibility. This requires that these sectors work closely together and communicate so that care is coordinated and at least one professional maintains the overview. These factors are also essential in the contexts of reducing duplication of services and subsequently costs.

The role of the GP practice as compared to the district nurses and social district team with regard to 'individual-level prevention' is another unclear area in the Netherlands right now – whose task is this? Some argue that the social district team and district nurse have this in their caseload. The counterargument is that the GP practice is better equipped for this because they have the most extensive records of the patients.

Workforce

Related to what has been described above, from a patient-perspective having a single contact point when multiple care providers are involved is important. This contact point can subsequently keep other involved providers up to date and involve them when necessary. Often this contact point is defined in the role of case manager for frail, complex, and multi-morbid persons. Due to the macro level changes and unclear responsibilities between primary- and social care, in the current implementation of the U-PROFIT approach different types of professionals can take this role upon themselves. Hopefully the ongoing monitoring and the SELFIE evaluation will provide more insight into whether either or both types of professionals (i.e., practice or district nurses) should hold this position.

Technologies & medical products

The U-PROFIT approach makes efficient and smart use of regularly collected EMR data in the screening process. Up until now, however, there has not been much use of technology in the actual care process. For example, a patient portal has not been realised, nor are e-health tools or remote monitoring systems actively used. However, in the Netherlands, many frail elderly who live independently are connected to an alarm system that can be activated by pushing a button on a wrist bracelet or a necklace in case of emergency. This alerts a nearby hospital or nursing home that can send someone over to check on the elderly person.

There are issues related to data and information sharing across organisations for reasons related to privacy, and as a consequence of this there is the burden of double-registration by some professionals. This is currently not efficient and can certainly be improved upon in the future. This relates to larger macro level issues in the Netherlands related to information sharing between organisations and information ownership. For example, up until now it has not been possible to create a national personal health record system to which all professionals granted permission by the patient have access.

Information & research

In essence the screening of the EMR can be viewed as a method of using individual level data to predict risk, and based on this risk provide a preventive care programme. Several studies have been conducted that confirm the ability of this screening method to predict adverse health events.

The implementation of the U-PROFIT approach was initially coupled to a cluster-randomized trial. The results of this trial have, likely contrary to initial assumptions, not greatly facilitated the wider implementation or scaling up of the programme. Instead, the RCT results have led to some confusion as to what actually works. Many valid explanations for the mixed findings can be given. The application of such a research design to investigate the implementation of a care programme in daily practice can be criticized because it still requires individual patient consent despite the practice-wide implementation of the programme, the care programme is continuously improved upon, and the control programme is also subject to general national and regional policies stimulating integrated elderly care. In line with general trends for evaluating such real-world interventions that change and grow throughout, novel and more action-oriented research techniques may be better suited.

Financing

Financing and the sustainability thereof is an important issue in the U-PROFIT approach. Much has been made possible by temporary project-based grants. That the programme continues to exist and is

implemented leads to the conclusion that in the Netherlands there is apparently sufficient budget from these types of grants to keep such a care programme going. However, we can assume that all parties would agree that such a form of financing is not stable enough to allow for better organisational integration. With the current financing mechanism, secured budgets and sustainable financial incentives to collaborate, such as shared savings agreements, are lacking. The current elderly care modules are temporary incentives to stimulate innovation, which are paid on top of the base payment for the duration of the existence of these modules. In the future these modules need to be become part of more permanent payment systems, such as bundled payments for elderly care.

This thick description report sheds light on what the U-PROFIT approach is, how it is being implemented in daily practice, and how different stakeholders reflect on it. The insights gained in this report form the basis for setting up an empirical evaluation of U-PROFIT in the context of further SELFIE research.

3.10. Appendix

Table A3.1: Interview partner overview

TD code	Stakeholder category	Stakeholder description
IP01_1	A	Programme manager
IP02_1	B	Initiator of the programme
IP03_1	B	Initiator of the programme
IP04_1	D1	Physician
IP05_1	D2	Non-physician medical staff, social staff, new professional group *(elderly care nurse)*
IP06_1	C	Representative of sponsor/payer organisation
IP07_1	C	Representative of sponsor/payer organisation
IP08_1	F	Client or their representative
IP09_1	E	Informal caregiver
IP10_1	G	Other stakeholder (*representative elderly care network organisation*)
IP11_1	D1	Physician
IP12_1	D2	Non-physician medical staff, social staff, new professional group *(elderly care nurse)*
IP13_1	D2	Non-physician medical staff, social staff, new professional group

Table A3.2: Overview of quotes and translations

Quote #	Dutch	English
[1]	"…dat vind ik een mooi instrument om je selectie te doen. En ik zeg ook bij wat voor presentatie ik ook geef, ga alsjeblieft niet zomaar aan de slag, is een volstrekt zinloze bezigheid [lacht]."	*"…I think this is a good instrument to use for your selection. And in any presentation I give, I always tell people don't just go and start, that's such a waste of time." (IP03_1)*
[2]	"…GFI waar de zwaartepunten of waar de aandacht zit zeg maar. Wat de patiënten aangeven. Alhoewel dat natuurlijk niet altijd klopt ook. Dus dat zie je ook dat patiënten die geheugenproblemen hebben en op de vraag van "heeft u problemen met het geheugen" gewoon nee invullen en als je dan navraagt, zeggen ze "ja, ik heb niet meer problemen dan iemand van mijn leeftijd ook" of ze zitten dan in de ontkenning dat ze het niet zien en soms zijn patiënten zelf ervan overtuigd dat ze geen geheugenproblemen hebben."	*"…[The] GFI gives information as to what the main problems are or where the attention is… what the patients indicate. Although of course that isn't always right. So then you see also that patients with memory problems fill in the question 'do you have problems with your memory' no and then when you go back and ask them they say 'yeah, I don't have more problems than someone else of my age' or they are in denial that they don't see it and sometimes the patient is convinced that they don't have any memory problems." (IP05_1)*
[3]	"…de huisarts die zag mijn moeder op het spreekuur maar op het spreekuur is mijn	*"…the GP saw my mother during an office visit, but at that consultation my mother is a*

	moeder een andere vrouw dan thuis en thuis zie je chaos…"	*different woman than when she's at home, at home you see the chaos…" (IP01_1).*
[4]	"Nu is het een andere binnenkomst zeg maar, dus er is niet altijd een zorgvraag en soms, en wat het meest lastig is voor de verpleegkundigen is dat ze zeggen van, […] dat er misschien wel problematiek is, maar dat de patiënt niks wil of op dat moment even niks wil, dan vinden verpleegkundigen het lastig om dat te accepteren. Dan zeggen ze van ja ik kan niks doen, want ze willen graag iets doen, terwijl wat ik dan tegen hen zeg is wat je hebt gedaan, is je hebt de situatie in kaart gebracht. Je weet wat er speelt, je hebt het lijntje gelegd en dat is dus, je hebt al iets gedaan […] zij willen graag handelen […] terwijl de situatie in beeld brengen, zie ik ook als een hele waardevolle actie."	*"Now you come in[to someone's life] in a totally different way, so the care need is not always expressed, and sometimes, what's most difficult for the nurses is that they say […] there might be a problem, but that the patient doesn't want anything or at that moment doesn't want anything, that the nurses find this hard to accept. Then they say, 'yeah I can't do anything', because they really want to do something, but then what I say to them is 'hey what you've done is brought the whole situation to light. You know what's going on, you've made the connection and that's already doing something', and they […] want to act […], even though bringing light to the whole situation is already a really valuable action." (IP01_1)*
[5]	" […] toch wat iedereen uiteindelijk wil. Wat je overheid ook heel erg graag wil, maar de meeste ouderen ook graag. En dat lukt alleen maar als je ook goed aanhaakt bij wat iemand belangrijk vindt."	*"[…] what everyone essentially wants. That's what the government really wants, but most older people too. And that only works if you link up with what someone finds important." (IP10_1)*
[6]	"Weet je, huisartsen zijn […] in dit soort processen de centrale zorgverlener, alleen het hoeft niet altijd de huisarts zelf te zijn die het doet. In dit geval is het dan de verpleegkundige die het doet, maar in mijn ogen nog altijd wel de verantwoordelijkheid van de huisarts, dus de huisarts moet aangesloten blijven en dat betekent als er echt behandelplannen gemaakt worden dat die met de huisartsen besproken worden."	*"You know, GPs are […] in this type of process the central care provider, but it doesn't always have to be the GP him- or herself that does it [provides the care]. In this case then it's the nurse that does it, but in my eyes it's still always the GP's responsibility, so the GP has to stay connected and that means that if there are real treatment plans being made these need to be discussed with the GP." (IP02_1)*
[7]	"[…] dus dat zijn gewoon hele korte lijnen ook en ja weet je als je net start, moet je natuurlijk gewoon mensen leren kennen ook."	*"[…], so those are also really close connections and yeah you know when you first start you of course also just have to get to know people." (IP05_1)*
[8]	"[…] de huisartsen met wie je toch onder een dak zit en wat ik bijvoorbeeld zie in x, daar hebben ze echt een groot gezondheidscentrum waar ook bijvoorbeeld de	*"[…] you see for example in [care centre x], there they really have a big health centre where for example you also have informal caregiver support, so when you sit close to*

	mantelzorgerondersteuning zit dus als het maar dichtbij elkaar zit, dan merk je dat de lijntjes korter zijn en dat is wel heel erg waardevol."	*one-another you notice the connections are closer and that's really valuable." (IP01_1)*
[9]	"X is een klein dorp, daar kent iedereen ook elkaar qua zorgverleners en dat [uhm] daar zit het niet allemaal onder een dak, maar omdat het zo een klein dorp is, weet je elkaar ook makkelijk te vinden. In de stad is dat vaak anders georganiseerd en meer ja, zijn er veel…"	*"[Town x] is a small town, there everyone knows each other also care providers and that, there they aren't all under one roof, but because it's such a small town you easily know where to find one-another. In a city it's often organised differently, and yeah, there are many more…" (IP01_1)*
[10]	"[…] hoewel de praktijkverpleegkundigen zijn niet gewend om echt een zorgplan te hebben. De wijkverpleegkundige wel, dus de wijkverpleegkundige is heel erg gewend om op die manier ook zorg te verlenen en de praktijkverpleegkundige niet."	*"[…] although the practice nurse is not used to having a real care plan. The district nurse is, so the district nurse is really used to provide care in that way and the practice nurse isn't." (IP01_1)*
[11]	"Dat zijn echt wijkverpleegkundigen. Dus die moeten leren om wat beter te kijken, alle aspecten kijken, moeten de sociale kaart beter leren. Die hebben dus wat tijd nodig om te wennen aan het proces, maar het zijn echte verpleegkundigen dus ik maak me niet zo zorgen om en ze leren dat ook, dat is geen probleem."	*"Those are real district nurses. So they need to learn to look better, look at all aspects, understand the 'social map' better. So they need some time to get used to the process, but they're real nurses so I'm not worried about that and they learn that too, that's no problem." (IP03_1)*
[12]	"[…] terwijl het eigenlijk de bedoeling is dat de wijkverpleegkunde ook veel breder gaat kijken en ook preventief gaat werken en ook moet kijken nou hoe is het met die stemming en hoe is het met de cognitie, moeten er andere interventies […]"	*"[…] actually the district nurse should be looking much broader and also working preventatively and should also look, well how is the mood and how is the cognition, are other interventions needed […]" (IP05_1)*
[13]	"Ze kunnen ook in ons systeem, dus we werken in hetzelfde HIS of in hetzelfde informatiesysteem, en dat vind ik wel heel erg prettig. Dus […] als […] zij zijn geweest, dan lees ik het wel meteen mee en dat is niet met de wijkverpleegkundigen. En dat is wel een gemis […] wij overleggen een keer in de week met het wijkverpleegkundig team, dus daar komt wel informatie naar boven, maar dat is op een andere manier dan met de praktijkverpleegkundige. Dus dat staat net iets verder weg."	*"They [practice nurses] also have access to our system, so we work in the same EMR or the same information system, and I find that very pleasant. So […] if they have been somewhere, then I read alongside them right away and that's not the case with district nurses. And that's a real shame […], we meet with the district nurse team once a week, so then there the information is shared, but that's different than with the practice nurse. So that's a bit further away." (IP04_1)*

[14]	"[…] als wijkverpleegkunde is er al een zorgvraag van de patiënt dus dan is er al echt een probleem […] en het stukje proactieve ouderenzorg is meer preventief, dus je komt via een andere weg bij de patiënt binnen. […] maar daar kan ik als praktijkverpleegkundige ouderenzorg kijken van wat is er nodig, bij wie wordt de coördinatie belegd, zodat je van elkaar weet wie bij de patiënt thuiskomt, dat overzicht."	*"[…] as a district nurse there is already a care request from the patient so then there is really already a problem […] and the part of proactive elderly care is more preventive, so you come to the patient through a different route […], as an elderly care nurse I can really see what's needed, who should be coordinating, so you know who's coming to the patient's home, that overview." (IP01_1).*
[15]	"Die zijn vanaf begin aan zeer positief geweest over de ouderenverpleegkundigen en de manier waarop zij inzetbaar is om verschillende dingen te doen, dus proactief te wezen, dat is belangrijk. Maar juist bij de eerste signalen van de huisartsen en dat is eigenlijk misschien wel veel belangrijker, daarheen te gaan en hun expertise in te zetten. Expertise die de huisartsen minder hebben, andere deskundigheid dan de huisarts, andere focus en het derde is om ze in te zetten voor het oplossen van calamiteiten dus kortdurende opnames, indicatiestelling en dat soort dingen. Dus die drie aspecten, daar hebben de huisartsen van de ene praktijk zeg maar onmiddellijk van gezien nou dat is een aanwinst, daar hebben we echt heel veel aan. Er moet wel veel overlegd worden, heel veel tijdwinst leverde daar ook weer niet op en het geeft een enorme extra dimensie en toch nog ook een verlichting van de emotionele druk waar je op staat."	*"They [GPs] have been really positive about the elderly care nurses since the start, and the way they can take on different tasks / do different things, so being proactive, that's important. But especially with the first signals that the GP gives and then it's actually maybe much more important to go there and they [the nurses] can use their expertise. Expertise that the GPs have less of, different expertise than the GPs, different focus, and a third thing is to have them solve calamities so short-term hospitalisations, service-indication issues and that type of thing. So those three aspects that's what the GPs in that one practice saw right away as an asset, we can really use that. A lot of meetings are however needed, it doesn't save a lot of time and it gives a huge extra dimension and yet it is also a lightening of the emotional pressure that's on you." (IP03_1)*
[16]	"[…] patiënten zijn echt anders open tegen de verpleegkundigen dan tegen ons. Vaak komt er dan nog meer uit, durven ze toch wat meer te zeggen he, want dan val je toch niet de dokter weer lastig ook al denk je dat ze het echt wel mogen zeggen, maar doen ze gewoon niet."	*"[…] patients are open in a really different way towards the nurses than towards us [GPs]. Often much more is said, they dare to say much more, because then you don't bother the GP even though you [GP] think they can really say more, they just don't." (IP04_1)*
[17]	"Weet je, het zijn allemaal extra systemen en zij zijn ook gewoon razend druk, dat werkt gewoon niet."	*"You know, they're all extra systems and they [other professionals] are also just super busy, that just doesn't work." (IP12_1)*

[18]	"Bijvoorbeeld wat nog niet heel goed werkt is een ICT systeem met registratie […]"	*"For example what still doesn't work very well is an ICT system with registration possibilities […]" (IP01_1)*
[19]	"Maar wat er is ontstaan, er is een onderzoek gedaan, daar is een uitkomst van geweest, het was een van de weinige effectieve trajecten uit de eerste MNO studie, maar tegelijkertijd was er heel veel fus over hoe waar het nou was. Want een beetje doet net zoveel als heel veel en lijkt net iets anders te zijn dan niets, dat is wat mij is bijgebleven."	*"But what happened, research was done, that had a result, and it's one of the few effective trajectories in the NPO studies, but at the same time there was a lot of 'fuss' about what it really was. Because a little does just as much as a lot and it seems to be just a little bit different than nothing, that's what I remember." (IP06_1)*
[20]	"Dat is in de praktijk natuurlijk heel makkelijk om op te schrijven en uit te spreken, maar om het te doen, daar zitten weer al die belangen achter van de organisaties ja…"	*"That's in practice of course very easy to write down and say, but to actually do it [that's another thing], there are then always different organisational interests behind there." (IP07_1)*
[21]	"Want we zijn ook, een deel zijn partners elkaars concullega's, dat hebben we ook in het begin van het netwerk gemerkt. Dat is lastig. Maar als je dat maar blijft benoemen, je probeert er duidelijk in te zijn [uhm] denk ik dat je er uiteindelijk wel uitkomt met elkaar."	*"Because we are, some of the partners are also each other's competitors […]. That's difficult. But if you keep making it explicit / mentioning it, you try to be clear about it, then I think in the end you will figure it out together." (IP10_1)*
[22]	"Ja, wat ook lastig is bij dat hele stukje van afronding project en waar we nu staan, is dat ook bij [zorgverzekeraar] heel veel wisselingen van de wacht is geweest. Heel veel verschillende mensen die zich met dit vraagstuk bezighouden. Verschuivingen van posities en functies […]."	*"Yeah, what was also difficult in that part of finishing the project [RCT] and where we are now, is that at [health insurer] there have also been many internal changes, many different people that have been involved in this debate, shifting of positions and functions […]." (IP01_1)*

Table A3.3: Example format individualised care plan[8]

Basic information Name Birth date Address Gender **Additional information** Living situation [Contact with] children? Contact persons Information informal caregiver In case partner is informal caregiver, check burden Information other care providers Domestic care? GP **Referral by GP** Date referral Date first contact Reason of referral
Care history / overview Social contacts/activities? ADL independent? If not, help from… Knows about care provisions in the community? Uses care provisions in the community? Which? Points to discuss with GP? Other care providers involved?
Own observation (nurses) – see specific care pathways for additional assessments and possible interventions. *Falls and mobility* Additional care pathway assessments Adjustments in the home? *Functioning* Walking Adjustments in the home? *Nutrition and malnutrition* Additional assessment – SNAQ Possibly also MNA *Mood and depression* Additional assessments – Geriatric Depression Scale (GDS), Mini-Mental State Examination (MMSE), Observation List for Early Symptoms of Dementia (OLD) *Loneliness* Additional assessment – Loneliness scale *Cognition* Additional assessments – GDS, MMSE, OLD, Clock Drawing *Incontinence* Severity / type Check materials, see care pathway

Polypharmacy
Medication use, adherence
Additional assessment?
Vision impairment
Glasses yes/no
Regular check-ups yes/no
Hearing
See care pathway
Caregiver burden
Does the frail elderly get enough help from informal caregivers?
Is the frail elderly an informal caregiver? Burden of care (see care pathway)?
Other problems
Pain?
If yes, where?
Known by GP?
Does the frail elderly use painkillers?
Do these work?
Abuse? (alcohol, smoking, medication, gambling)
Sleep
Hygiene (both personal and domestic)
Skin, oedema
RR, wrists, joints

<u>Care plan</u>
Problem-areas according to U-PROFIT:
…
Other problems/problem-areas (for example mentioned by GP, frail elderly him- or herself, informal caregiver)
…
Frail elderly's primary goal(s)
…
Planned actions (+ by whom)
…
Evaluation (date)
…
Date next visit …

Figure A3.1: Example of an evidence-based care pathway – loneliness[8]

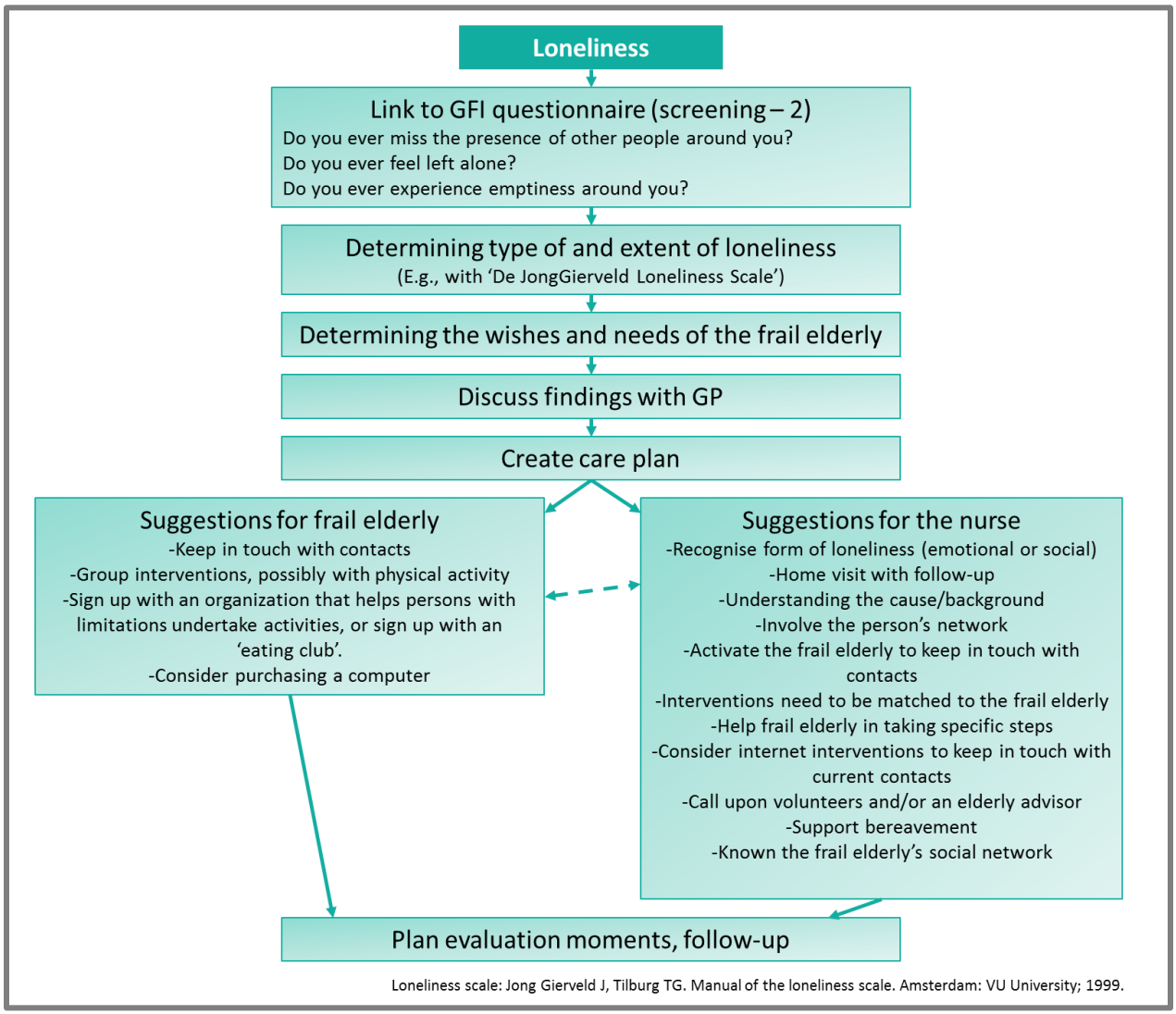


Table A3.4: Eight clusters of primary care centres implementing the approach: specifications of their collaborations[7]

Primary care centre de Bilt (*Dutch: Gezondheidscentrum de Bilt*) • This is one primary care centre in the township *de Bilt* that consists has the following main professionals working under one roof: GPs, dietician, physical therapists, practice nurses, and psychologists. Additional services provided for in the centre are: pharmacy, skin therapy, jaw physiotherapy, child psychology, child physiotherapy, speech therapy, social work, exercise therapy, podiatry, travel advice centre (e.g., for vaccinations), social district team, informal caregiver support, borrowing service for medical decides (e.g., wheelchairs), obstetrician, substance addiction care[iv], district nursing. • The primary care centre has created a 'BackOffice team' which consist of elderly care nurses, employees from the MENS op Maat organisation that provides support in using social care provisions, district nurses, volunteer work coordinators, informal caregiver support, and dementia case managers. • The primary care centre has collaborative agreements with a local home-care[v] organisation, who have a 'Mobile Geriatrics Team', and with their elderly care physician. • **Practice nurses** and **district nurses** take on the role of elderly care nurse. • Total patient population ≈ 14,870, 28% ≥60
Primary care centre Maarn/Maarsbergen (*Dutch: Gezondheidscentrum Maarn/Maarsbergen*) • This is one primary care centre that serves the *Maarn-Maarsbergen* region. • The primary care centre consists of: GPs, pharmacy, practice nurses, developmental therapy, psychologists, obstetrician, dentists, physical therapy, child physiotherapy, podiatry, home-care, dietician, occupational therapy, speech therapy. • Furthermore, a Social Security Act 'Window' is located within the centre (for social care applications), also there is an informal caregiver support employee, social district team, and district nurse situated in the centre – which promotes regular face to face and informal contact. • Once every three months a meeting is held with coordinators from the municipality's social district teams. • There is collaboration with home-care organisation Vitras. A Vitras manager is also part of the overall management of the health centre. • Once every 4-6 weeks a meeting takes place between GPs, dementia case managers, elderly care nurses, home-care employees, district nurses, and an elderly care physician about individual patients with dementia. • A **practice nurse** takes on the role of elderly care nurse. • Total patient population ≈ 5,876, 30% ≥60
Health centre Roerdomp *(Dutch: Gezondheidscentrum de Roerdomp)* • This is one primary care centre in *Nieuwegein*. • The centre offers GP care, has nurse practitioners, a pharmacy, physical therapy, offers diet advice, speech therapy, blood research, psychological support, social work, various care chains, activities and courses, and addiction therapy. • The care centre collaborates closely with MOvactor, a well-being organisation; persons can be referred to MOvactor but MOvactor also has an office hour in the health centre and is present

[iv] Vitras is a care, nursing, and home nursing organisation. LINK to website.

[v] Foundation de Bilthuysen provides care for elderly: nursing home-care, home-care, household care, well-being activities, and short-stay nursing home-care. LINK to website.

in the primary care meetings. This is a network collaboration and not a legally formalised collaboration.
- Close collaboration with the two largest home-care organisations in the community (Vitras and Buurtzorg), both informally as well as in primary care meetings. This is also a network collaboration and not a legally formalized collaboration.
- Collaboration is increasing with the social neighbourhood teams.
- Contact has been made with an elderly care physician (from Zorgspectrum), this will be picked up for case meetings.
- **Practice nurse** takes on the role of elderly care nurse.
- Total patient population ≈ 7,500, 24.4% ≥60

Primary care centres Leidsche Rijn Julius (*Dutch: Leidsche Rijn Julius Gezondheidscentra*)
- This is a foundation that links five primary care centres in the *Leidsche Rijn* region.
- Each primary care centre has at least GPs and physical therapists, and to varying degrees the following services/professionals: pharmacy, children's health centres (*Dutch: Consultatiebureau*), dietician, occupational therapy, hypnotherapy, child physiotherapy, speech therapy, podiatry, psychologists, dentist, maternity care, obstetrician, substance addiction care, and district nurses.
- The primary care centres are making agreements with home-care organisation Careyn about district nursing.
- An informal collaboration has been set up between the elderly care nurses and the social district teams in the area.
- **Practice nurses** and **district nurses** take on the role of elderly care nurse.
- Total patient population ≈ 36,412, 9% ≥60

Foundation 'Healthy Overvecht' (*Dutch: Overvecht Gezond*)
- Collaborative foundation in the neighbourhood '*Overvecht*' in the city *Utrecht*.
- For the implementation of the U-PROFIT approach, this includes one GP practice (clinic Overvecht*) and three primary care centres (Carnegiedreef*, Overvecht*, Gagelhof*).
- The foundation focuses on the 'triangle' of GPs, social district teams, and district nursing. Other partners can include the municipality, volunteers, and specialists that all collaborate under the umbrella of 'Healthy Community Overvecht'.[vi]
- The municipality of Utrecht and health insurer Zilveren Kruis Achmea have put forth an agenda for the period 2015-2019 in which the collaborative 'triangle' in Healthy Overvecht is an important starting point.
- Collaborative agreements have been made between social district teams, area specialists (e.g., geriatricians), and district nurses.
- **Practice nurses** take on the role of elderly care nurse.
- Total patient population ≈ 23,521, 20% ≥60

Health centres Maarssenbroek *(Dutch: GezondheidsCentra Maarssenbroek)*
- This includes two primary care centres under the same umbrella organisation in *Maarssenbroek*.
- Main care provisions include: GP-care, physical therapy, maternity care, pharmacy, and ultrasound centre.

[vi] Network 'Healthy Community Overvecht' (*Dutch: Gezonde Wijk Overvecht*); Foundation 'Overvecht Healthy' in (*Dutch: Stichting Overvecht Gezond*). LINK to website.

- In one or both centres there is also a centre for children and family, dermatological centre, dietician, municipal public health services, speech therapy, social work, mental health services, podiatry, and dental care.
- There is an elderly care nurse that collaborates closely with district nurses (from home-care organisations) and with an elderly care physician also working for a home-care organisation.*
- A district nurse is a member of the social district team, and functions as an intermediate between the GP-care and the district team.*
- **Practice nurses** take on the role of elderly care nurse.
- Total patient population ≈ 14,573, 20% ≥ 60

Primary care centre Maarssenbroek *(Dutch: Eerstelijns Centrum Maarssenbroek)*

- This primary care centre in *Maarssenbroek* consists of three GPs, a pharmacy, a physical therapy practice, and psychological care.
- Same collaborative activities as in health centres Maarssenbroek*.
- **Practice nurses** and **district nurses** take on the role of elderly care nurse.
- Total patient population ≈ 9,184, 22% ≥60

Care group PreventZorg *(Dutch: PreventZorg zorggroep)*

- PreventZorg is a care group[vii] in four regions. In the region *Bilthoven* there are four GP practices that take part in this care group: GP Provostlaan, GP Orionlaan, GP Bilthoven Noord, and GP Bilthoven.
- This care group arranges chronic care [chains], which ensures collaboration between various care providers in the region.
- Total patient population ≈ 18,250, 30% ≥60
- There is an intention of these four GP practices to create collaborative agreements with home-care, social district teams, municipal social care services and MENS op Maat (who assist in making use of social care provisions).
- **Practice nurses** and a **district nurse** (GP Orionlaan) take on the role of elderly care nurse.

[vii] A care group is defined as an organisation, formed by mainly primary care providers, which collaboratively sets up contracts with health insurance companies, to coordinate and execute chronic care in a certain region, with the aim of improving quality of care. This pertains mostly to chronic care chains (e.g., COPD, asthma, diabetes, CVD).

Table A3.5: Data collection during *RCT-UP* phase *(October 2010 – March 2012)*[14,20]

Concept	Instrument	Source	Timing of measurement
Health and well-being			
Activities of Daily Living (ADL)*	KATZ-15 index ADL/IADL (scale 0-15)	Frail elderly self-report	0-6-12 months
Quality of life (QoL)	EQ-5D	Frail elderly self-report	0-6-12 months
Self-reported QoL*	0-10 scale	Frail elderly self-report	0-6-12 months
Physical domain quality of life	RAND-36 physical domain	Frail elderly self-report	0-6-12 months
Mental domain quality of life	RAND-36 mental domain	Frail elderly self-report	0-6-12 months
Social domain quality of life	RAND-36 social domain	Frail elderly self-report	0-6-12 months
Vitality domain quality of life	RAND-36 vitality domain	Frail elderly self-report	0-6-12 months
Mortality		EMR data	Retrospective
Experience with care			
Satisfaction with primary care	0-10 scale	Frail elderly self-report	0-6-12 months
Informal caregiver burden	Self-Rated Burden (VAS) Carer-QoL	Informal caregiver self-report	0-6-12 months
Costs			
Number of hospital admissions	Protocol deviation, post-hoc analysis	Frail elderly self-report & EMR data	0-6-12 months Retrospective
Admissions to a nursing home or assisted-living facility		Frail elderly self-report & EMR data	0-6-12 months Retrospective
Primary care out-of-office hours consultations during follow-up		Frail elderly self-report & EMR data	0-6-12 months Retrospective
Telephone consultations with GP		EMR data	Retrospective
GP consultations within office hours		EMR data	Retrospective

Table A3.6: Additional intervention cost information from the cost-effectiveness study of the RCT-UP[23]

Assumptions

- Potentially frail older persons calculated on the assumption of 2350 patients per GP practice, 23.5% ≥60 years, and 20% potentially frail in U-PRIM report. All costs converted to 'costs per potentially frail elderly persons per year'
- ✓ VAT tariff of 21%
- ✓ 39% employment for elderly care nurses, 35% for GPs.
- ✓ Costs directly related to the intervention do not include actions fo the GPs and practice nurses that do not involve direct patient contact, as this should be covered by administration of healthcare utilisation.
- ✓ Costs indexed to 2012.

Details of the intervention costs

- U-PRIM software start-up and maintenance costs (**7.10 euros** per potentially frail older persons per year),
- U-PRIM usage in proactive care (i.e., one hour per week for evaluating the report and preparing care – 30 minutes by the elderly care nurse, and 30 minutes by the GP) (**20.90 euros** per potentially frail older persons per year),
- U-CARE education: cost of delivery of the educational programme (**0.85 euros** per potentially frail elderly persons per year)
- U-CARE education: costs of time investment of the elderly care nurse in the educational programme (**0.75 euros** per potentially frail elderly persons per year)
- U-CARE toolkit printing costs (**0.01 euros** per potentially frail elderly persons per year)
- U-CARE website development costs (used for elderly care nurse to register questionnaire data) (**0.04 euros** per potentially frail elderly persons per year)
- U-CARE programme usage costs by the GP – 57 minutes (**59.58 euros** per potentially frail elderly persons per year)
- U-CARE programme usage costs by the elderly care nurse – 97 minutes (**41.66 euros** per potentially frail elderly persons per year)

= U-PRIM & U-CARE (group a) total intervention costs = **131 euros** per potentially frail elderly persons per year)

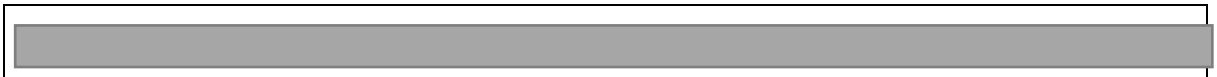
Table A3.7: Data collection during *I-UP-Utrecht* phase *(March 2016 – March 2017)*[7,26]

Concept	Instrument	Source	Timing of measurements
Health and well-being			
ADL	Activities of Daily Living (KATZ-15) Mobility (EQ-5D-5L Usual activities dimension)	Frail elderly self-report – 10%	0 & 12 months
QoL (see **Appendix Table A.6.**)	Overall life rating (Zilveren Kruis Achmea (AZK)) Pain/discomfort (EQ-5D-L5) Anxiety/depression (EQ-5D-L5) Your health state today (EQ-5D-L5) Love and friendship (AZK) Thinking about the future (AZK) Things that make you feel valuable (AZK) Enjoyment and pleasure (AZK) Independence (AZK) To what extent do you consider yourself a happy person? (AZK) Together-sufficient (AZK)	Frail elderly self-report – 10%	0 & 12 months
Mortality		EMR data	Retrospective
Experience with care			
Elderly experiences		Focus group with included frail elderly	12 month retrospective
Number of elderly with intense care, including an individual care plan	Number of care plans	EMR data	Retrospective
Costs			
Hospital admission (number, length of stay)	TOPICS-MDS resource utilisation scale	Frail elderly self-report 10%	0 & 12 months
Emergency room admission (number)	TOPICS-MDS resource utilisation scale	Frail elderly self-report 10%	0 & 12 months
Nursing home admission (number, length of stay)	TOPICS-MDS resource utilisation scale	Frail elderly self-report 10%	0 & 12 months

Contact with GP (phone, visits)	TOPICS-MDS resource utilisation scale	Frail elderly self-report 10%	0 & 12 months
Weekly hours of home-care	TOPICS-MDS resource utilisation scale	Frail elderly self-report 10%	0 & 12 months
Other process measures			
Number of identified frail elderly	U-PRIM inclusion & GFI≥4	EMR data	Start
Number of home visits		EMR data	Retrospective
Multidisciplinary activities	Team meetings (how often, who was present)	EMR data	Retrospective

Table A3.8: Zilveren Kruis Achmea Quality of Life questionnaire used during *I-UP-Utrecht*[26]

Quality of life The following question and statements are about your experienced quality of life in different domains. For the question and statements you can choose the answer that is currently the most accurate for you. For each question/statement you choose one answer. There are no right or wrong answers.
Kwaliteit van leven De volgende vraag en stellingen gaan over de door u ervaren kwaliteit van leven op verschillende gebieden. Bij deze vraag en stellingen kunt u het antwoord kiezen dat het meest bij u past op dit moment. Bij elke vraag/stelling kiest u één antwoord. Er zijn geen goede of foute antwoorden.
How would you **rate your life** at this moment? 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10
Welk rapportcijfer geeft u uw leven op dit moment? 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 – 10
Pain/discomfort* ☐ I have no pain or discomfort ☐ I have slight pain or discomfort ☐ I have moderate pain or discomfort ☐ I have severe pain or discomfort ☐ I have extreme pain or discomfort
Pijn/ongemak ☐ Ik heb geen pijn of ongemak ☐ Ik heb een beetje pijn of ongemak ☐ Ik heb matige pijn of ongemak ☐ Ik heb ernstige pijn of ongemak ☐ Ik heb extreme pijn of ongemak
Anxiety/depression* ☐ I am not anxious or depressed ☐ I am slightly anxious or depressed ☐ I am moderately anxious or depressed ☐ I am severely anxious or depressed ☐ I am extremely anxious or depressed
Angst/somberheid ☐ Ik ben niet angstig of somber ☐ Ik ben een beetje angstig of somber ☐ Ik ben matig angstig of somber ☐ Ik ben erg angstig of somber ☐ Ik ben extreem angstig of somber
Your health state today* To help people indicate how good or how bad a health state is, we have made a measurement scale (similar to a thermometer). On the measurement scale, '100' means the best possible health state that you can imagine, and a '0' the worst possible health state that you can imagine. We ask you to indicate on this measurement scale how good or how bad you think your own health state is today. Place an X on the bar below on the measurement scale that according to you shows how good or how bad your health state today is.



0 25 50 75 100

Uw gezondheidstoestand vandaag
Om mensen te helpen bij het aangeven hoe goed of hoe slecht een gezondheidstoestand is, hebben we een meetschaal (te vergelijken met een thermometer) gemaakt. Op de meetschaal hiernaast betekent '100' de beste gezondheidstoestand die u zich kunt voorstellen, en een '0' de slechtste gezondheidstoestand die u zich kunt voorstellen.

We willen u vragen op deze meetschaal aan te geven hoe goed of hoe slecht volgens u uw eigen gezondheidstoestand vandaag is. Zet een kruisje op de balk hieronder op de meetschaal dat volgens u aangeeft hoe goed of hoe slecht uw gezondheidstoestand vandaag is.

0 25 50 75 100

For each question/statement you choose one answer. That is the answer that best suits you currently.

Per vraag/stelling kiest u één antwoord. Dat is het antwoord wat op dit moment het beste bij u past

Love and friendship

- I can get all the love and friendship that I want
- I can get a lot of the love and friendship that I want
- I can get some of the love and friendship that I want
- I cannot get any of the love and friendship that I want

Liefde en vriendschap

- Ik kan alle liefde en vriendschap krijgen die ik wil
- Ik kan veel van de liefde en vriendschap krijgen die ik wil
- Ik kan een beetje van de liefde en vriendschap krijgen die ik wil
- Ik kan niets krijgen van de liefde en vriendschap die ik wil

Thinking about the future

- I do not worry about the future
- I worry slightly/a little about the future
- I worry substantially/a lot about the future
- I worry very much about the future

Denken aan de toekomst

- Ik maak me geen zorgen over de toekomst
- Ik maak me een beetje zorgen over de toekomst
- Ik maak me nogal zorgen over de toekomst
- Ik maak me veel zorgen over de toekomst

Things that make you feel valuable

- I am able to do all the things that make me feel valuable
- I am able to do many of the things that make me feel valuable
- I am able to do few of the things that make me feel valuable
- I am not able to do the things that make me feel valuable

Dingen die u waardevol doen voelen

- Ik ben in staat alle dingen te doen die me waardevol doen voelen
- Ik ben in staat om veel van de dingen te doen die me waardevol doen voelen
- Ik ben in staat om weinig van de dingen te doen die me waardevol doen voelen

- Ik ben niet in staat om de dingen te doen die me waardevol doen voelen

Enjoyment and pleasure

- I can have as enjoyment and pleasure as I want
- I can have enough enjoyment and pleasure as I want
- I cannot have enough enjoyment and pleasure as I want
- I cannot have enjoyment or pleasure as I want

Genieten en plezier hebben

- Ik kan zoveel genieten en plezier maken als ik wil
- Ik kan voldoende genieten en plezier maken als ik wil
- Ik kan niet zoveel genieten en plezier maken als ik wil
- Ik kan niet genieten of plezier maken zoals ik wil

Independence

- I am able to be completely independent
- I am able to be independent in many domains
- I am able to be independent in some domains
- I am completely not able to be independent

Onafhankelijkheid

- Ik ben in staat volledig onafhankelijk te zijn
- Ik ben in staat onafhankelijk te zijn op veel gebieden
- Ik ben in staat onafhankelijk te zijn op sommige gebieden
- Ik ben totaal niet in staat onafhankelijk te zijn

To what extent do you consider yourself a happy person?

- Very unhappy
- Unhappy
- Not unhappy, not happy
- Happy
- Very happy

In welke mate vindt u zichzelf een gelukkig mens?

- Erg ongelukkig
- Ongelukkig
- Niet ongelukkig, niet gelukkig
- Gelukkig
- Erg gelukkig

Together-sufficient is described as the ability of people to be self-sufficient with the help of friends, neighbours, family, and volunteers. We want to know to what extent you consider yourself together-sufficient.
To what extent can you, possibly with the help of friends, neighbours, family and volunteers, be self-sufficient?

- Very limited
- Limited
- Moderate
- Good
- Very good

Samenredzaamheid wordt omgeschreven als het vermogen van mensen om zich zoveel mogelijk te redden met behulp van vrienden, buren, familie en vrijwilligers. Wij willen graag weten in welke mate u uzelf samenredzaam acht.
In welke mate kunt u, eventueel met behulp van vrienden, buren, familie en vrijwiligers, uzelf redden?

- Zeer slecht
- Slecht

- Matig
- Goed
- Zeer goed

Note: This questionnaire was translated by the first author, this is not a validated translation (except where items closely resemble the EQ-5D-L5*)

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4. Programme 2: Care Chain Frail Elderly (CCFE)

4.1. Basic information about the programme

4.1.1. Procedure

In this report, documents and interviews were used to obtain information about the CCFE. During the process of selecting the most promising integrated care programmes for multi-morbidity in the Netherlands, the second and last author (FL & MRvM) spoke to the contact point(s) several times about the approach. Phone and face to face meetings were held from October 2015 and continued throughout the process of writing this report (circa October 2016). The main contact point, the regional coordinator of the CCFE, provided most of the documentation used and brought the first author (MH) in contact with different stakeholders that could be interviewed.

Documentation about both the CCFE used, such as the protocol for the care programme, project plans, procurement documents from the health insurer, and presentations given by professionals working in the care groups. Lastly, several websites on elderly care in the Netherlands on which the CCFE was discussed or presented were used.

From July through September 2016, 11 stakeholders were interviewed to obtain more information on the CCFE. For an overview of the persons interviewed see **Appendix Table A.1**. A distinction is made between the following types of stakeholders: programme manager, initiator of the programme, physicians (e.g., GPs, elderly care physicians, geriatricians etc.), non-physician medical staff/social staff/new professional groups (e.g., nurse practitioners, district nurses, case workers dementia), representative of sponsor/payer organisation (e.g., health insurers, municipalities), clients or their representatives (e.g., frail elderly), informal caregivers, other stakeholders (e.g., representatives from elderly care networks). It is possible that one interviewed stakeholder falls into multiple categories, only one stakeholder type label is then used throughout the text. The interviews covered the topics presented in this report and explored 'how' and 'why' questions. All interviews were held by the first author (MH) and in four cases with one of the co-authors (FL or MB). Interviews took between 33 and 62 minutes (mean = 49 minutes).

Interviews were recorded and transcribed verbatim. The first author (MH) analysed these and discussed findings with the co-authors. All interviewees signed an informed consent that made using their results in this report and for future research purposes possible. Information from the interviews is referenced in this report as 'Interviewed Person xx_programme 2' (*IPxx_2*), when this is a direct quote the statement is presented in quotation marks. When a reference is given after punctuation (i.e., ...(*IPxx_2*)), this is the reference for the entire prior section, when the reference is given within the punctuation (i.e., … (*IPxx_2*).), this the reference only for this sentence. When information from the interviews is referenced, the type of stakeholder that made this statement is described in the text. In the case of potentially compromising their anonymity, the stakeholder type is not made explicit directly in the text. Direct quotes from interviews are numbered, in the **Appendix Table A.4** the original Dutch quotes are shown.

Throughout this report both factual information on the CCFE and subjective experiences with the approach are reported on. These two types of information stem from the documents as well as the interviews. Each section below begins with factual information and subsequently provides reflections and experiences on the approach. Please note that, unless otherwise stated, figures were made by the authors of this report.

4.1.2. Overview basic information

Table 4.1: Overview of basic information on CCFE

Programme name	Care Chain Frail Elderly (CCFE)
Contact point	Regional coordinator of the CCFE, employed at one of the care groups where the CCFE is being implemented.
Starting date programme	• CCFE project phase 'KOMPLEET': March 2011 (until 2014) *This project took place in one (PoZoB) of the three care groups.* • Wider implementation CCFE: 2013 onwards *From 2013 onwards the other care groups (DOH and SGE) joined.*
Geographical scope	In the current CCFE-phase the approach is being implemented in three large care groups in South-East Brabant in The Netherlands. (See **Figure 1** in the Macro level description.)
Target group	The target group of the care programme is 'frail elderly'. Frail elderly are defined as persons with a loss of control over their own life, and a case- and care complexity that requires case management with a multidisciplinary care plan.
Number of persons treated	Frail elderly included in the CCFE, on reference date: February 2016[1] Care group 1 (PoZoB): 1,324 Care group 2 (DOH): 855 Care group 3 (SGE): 1,260
Aim	The general goal of the frail elderly care programme is to keep frail elderly with loss of control in optimal health and quality of life for as long as possible at home. An additional aim, formulated from the payers' perspective, is to develop structured multidisciplinary primary care that decreases the demand for secondary care, postpones nursing home admissions, and reduces health care costs for persons in this stage of life[viii].
Definition of integrated care	In the CCFE care is integrated by setting up community networks, organising transfer care, and working in multidisciplinary teams.
Definition of multi-morbidity	*See target group*
Definition of person-centeredness	Patient-centred care is delivered by taking a holistic approach and following the individualised care plan based on personal goals of the frail elderly, with one contact point (case manager) for the elderly.
Definition of self-management	No specific definition of self-management is given, however, throughout the case management and care coordination efforts are taken to support the independence of frail elderly.
Organisational form and ownership	Three, not-for-profit, care groups, that employ or contract GPs and nurse practitioners have been developing and implementing the care programme together since the end of the project phase (2011-2014).
Involved partners	Three care groups, with a total of approximately 200 general practices, are collaborating with secondary care, home care organisations, and other primary care providers. The care groups act as the link between health insurers and the general practices.
Involved disciplines and professions	GPs, nurse practitioners, district nurses, dementia case workers, elderly care physicians, geriatricians, (geriatric) physical therapists, occupational therapists, social workers, pharmacists, welfare consultants, and informal care support.

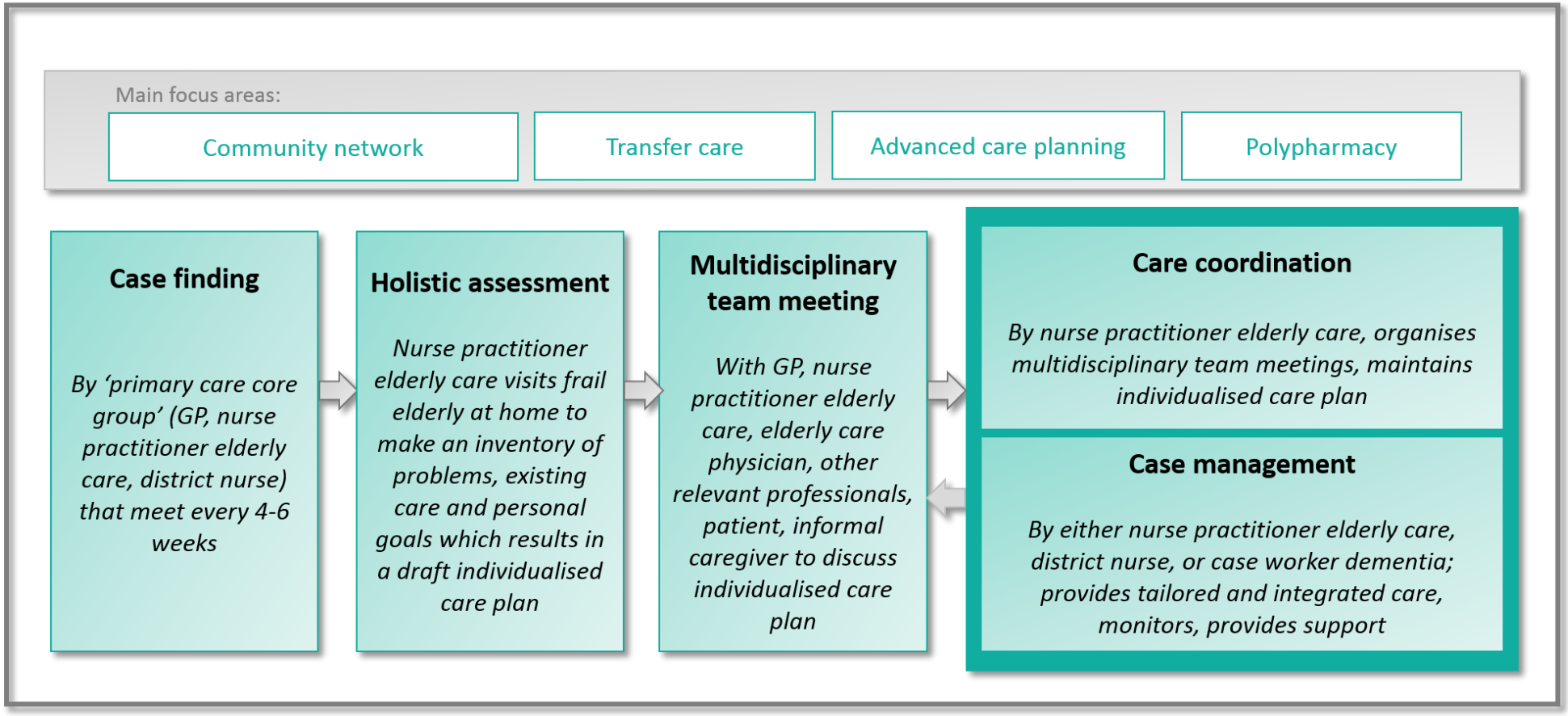
[viii] The health insurer VGZ has coined these aims as the 'Geriatrics Model' (*Dutch: Geriatrie Model*).

4.2. Service delivery

4.2.1. Design of delivery of care

The care process in the Care Chain Frail Elderly (CCFE) consists of four phases: (1) case finding, (2) holistic assessment, (3) multidisciplinary team meeting(s), and (4a&b) care coordination & case management. A key element to the CCFE-care process is setting up the community network, and main overarching focus areas include transfer care, advanced care planning, and polypharmacy. See **Figure 4.1** for an overview of the CCFE-care process. Each phase, element, and area is described below the figure. Next, aspects of self-management in the care process are described. These descriptions are primarily based on the documentation and represent the planned care process. Hereafter reflections on the care process are described, these are based on both the documentation and interviews with stakeholders.

Figure 4.1: Care process of the CCFE



1. Case finding

The GP and professionals working in close collaboration with the GP and in regular contact with elderly signal and identify frail elderly in the community, i.e. the nurse practitioner specialised in elderly care (hereafter referred to as nurse practitioner), the district nurse, caseworker dementia, and the GP-practice assistant. These professionals should be aware of signals of frailty in daily practice and of signals from other sources, such as the pharmacy, physical therapists, social workers, informal caregivers, and the hospital. Professionals are working proactively to identify frailty among elderly. Several specific risk factors to [colloquially] signal the presumption of frailty are: falls, functional decline, ≥5 different medications used, low BMI or weight-loss, delirium, fear/anxiety, depression (possibly self-reported as inertia/slowness or lack of energy), compulsive behaviour, increased contact frequency with primary care, multi-morbidity, reduced lung functioning, physical inactivity, poor vision, hearing loss, incontinence, no informal caregiver, feeling little control over one's own life, single and no or only incidental contact with the GP, loss of a partner or child within the past year, low socio-economic status, immigrant background (especially Turkish, Moroccan, or Surinamese).

Possible frail elderly that these professionals identify are then discussed in the so-called 'primary care core team' (*Dutch: Eerstelijns KernTeam*). These teams consist of a GP, a nurse practitioner specialised in elderly care, and district nurse. In this meeting it is decided which frail elderly will be approached for a home visit and possible further inclusion in the CCFE. For the purpose of this decision, a pragmatic definition of 'frail' has been set, namely a "*loss of control that is due to a lack of functioning*. *This is the result of case- and care complexity which requires multidisciplinary care and case management.*" In the programme case- and care complexity are defined as:

- Case complexity: complicated problems, diseases, disabilities and frailty – often occurring simultaneously and difficult to diagnose. For case complexity the focus is on collaboration between GP care and medical specialists, elderly care physician, physical therapists, occupational therapists, and psychologists, in order to optimise diagnosis and to maximise rehabilitation possibilities.
- Care complexity: care that a patient needs is complicated, for example due to a combination of needed care and/or no informal caregiver being present. For care complexity the focus is on the collaboration with district nurses and the social domain, but also with elderly care physicians and other professionals specialised in elderly care. The goal is to delay or compensate for functional disabilities.

Case finding, on average, leads to an estimated inclusion of 1% of the GP population. There are three exclusion criteria: 1) elderly refuse participation, 2) elderly are already being treated in secondary care, or are being referred to an inpatient nursing home, and 3) elderly are excluded when they, due to (positive) changes in their situation, are no longer considered frail.

2. Holistic assessment

Once frailty has been signalled, the nurse practitioner conducts a holistic assessment during a home visit.[2] This requires taking a holistic approach and looking at the somatic, psychological, social, and communicative life-domains, as well as general functioning and self-sufficiency. The nurse practitioner identifies problem areas using the 'Geriatric care assessment tool for both in- and outpatient uses' (TraZAG-instrument, *Dutch: TRAnsmuraal, Zorg Assessment Geriatrie*). The TraZAG-instrument consists of a three-stage assessment. The first stage consists of ten yes/no questions, that each represent a problem area: household activities, activities of daily living, weight loss in the past three months and/or problems with eating and drinking, fallen more than two times in the past six months and or trouble getting up/moving/standing, GP visits and/or hospital admissions, incontinence, medication use, sight and/or hearing, memory, depression. There need to be at least three positive answers on the TraZAG to confirm inclusion in the CCFE.[2]

In the second stage of the TraZAG, follow-up information is gathered for questions answered *yes* in the first stage. Related forms are used to get more in-depth information. In the second stage the informal caregiver's burden of care is also assessed. In the third stage, a more extensive follow-up can be conducted. See **Appendix Table A4.2** for the full version of the TraZAG-instrument. Through the identification of problem areas, the nurse practitioner can suggest a referral for further diagnostics, for example by the case worker dementia or an elderly care physician.

During the home visit, the nurse practitioner prioritises the care needs together with the frail elderly and informal caregiver.[2] The Somatic, Functional, Societal, Psychological, and Communicative (SFMPC)-model is used to structure and prioritise the frail elderly person's problems. The domains help to see the problems from a broader perspective and can, thereby, guide the prioritisation. The model also acts as a toolbox that provides possible interventions for problem-areas and indicates which professional should be in charge of each.[2 3] The SFMPC-model includes a domain 'Informal caregiving' that describes the burden for the informal caregiver(s) and helps the nurse to determine what is possible for this person/these persons. **Table 4.2** provides an example within the somatic domain of two possible problems, interventions, and professionals.

Table 4.2: Example from the Somatic domain of the SFMPC-model toolbox

Problem	Possible interventions	Involved disciplines
Incontinence	Bladder training Pelvic floor muscle training Advice on incontinence pads Pessary or medication	Physiotherapist, pharmacist (-assistant), GP, GP-practice nurse
Dizziness	Analysis of causes Rule out cardiovascular diseases	GP-practice nurse, GP, medical specialist

The nurse practitioner discusses the findings from the home visit with the GP and the elderly care physician. Based on the prioritisation (defined by the frail elderly and the informal caregiver) the nurse practitioner creates a draft individualised care plan. [2] The care plan consists of the main goal: is the purpose of care 'maintenance' or 'rehabilitation' of functioning, or is decline unavoidable (i.e. symptom-treatment)? Problems are prioritised on the basis of urgency, per problem realistic goals are set, with a specific intervention and evaluation date. Who will do what and who will be the case manager is also noted in the plan.[2] The draft individualised care plan is shared with all involved professionals via the ICT-programme 'Care2U' by the nurse practitioner (see *4.5 Technologies & medical projects*). Subsequently, the nurse practitioner schedules a multidisciplinary team meeting to discuss the plan.[2]

3. Multidisciplinary team meeting

The multidisciplinary team meeting is organised by the nurse practitioner, after the home visit and holistic assessment has taken place and a draft individualised care plan has been made in collaboration with the GP and elderly care physician. The meeting is tailored to the care the patient requires and/or already receives, for example by the professionals that participate in the meeting. Attendees are the nurse practitioner specialised in elderly care, the GP, the district nurse, the elderly care physician, and, when necessary, a case worker dementia. Other professionals that were already involved in the care process (e.g., the physiotherapist) can also be invited to these meetings. Thus, during a multidisciplinary team meeting, only *one* frail elderly and his or her individualised care plan is discussed. In the first 15 minutes of the multidisciplinary team meeting, the professionals discuss the first draft of the individualised care plan. Subsequently, the patient and the informal caregiver join the meeting for another 30 minutes (on average). Sometimes, the frail elderly is not able to attend the multidisciplinary, e.g., in case of severe dementia. In that case only the informal caregiver will participate. When both the frail elderly and the informal caregiver are not able to attend the meeting, comprehensive consultations are held upfront and after the multidisciplinary team

meeting. The frail elderly then gives written consent for having the meeting. However, this only happens exceptionally. The meeting takes place in the GP-office or, if necessary, at the frail elderly person's home. Professionals prepare this meeting by reading the draft individualised care plan and may begin to think of possible interventions.

During the multidisciplinary team meetings information is exchanged, care goals are formulated, and interventions are agreed upon. The meeting allows care providers to get to know one-another and improves overall communication and collaboration. This ensures that they are all working towards the same goal in a proactive manner. Proactive care is thereby defined as mapping health risks and offering interventions to prevent further problems in functioning or well-being. As previously described, the frail elderly and his/her informal caregiver are actively involved, the care is 'demand-driven' and both are present at the multidisciplinary team meetings whenever possible[2]. Multidisciplinary team meetings are, thus, used to stimulate self-sufficiency and self-management. The overall goal is to reach consensus on the goals and care delivery between the frail elderly, informal caregiver, and the professionals.

The multidisciplinary team meetings take place as often as needed. This is on average twice in the first year, and 1.5 meeting in the second year per patient. The first meeting differs from follow-up meetings and takes longer. At follow-up multidisciplinary team meetings not all professionals are always present, but the frail elderly, informal caregiver, GP, and nurse practitioner are always present. Most of the time the district nurse and the elderly care physician are present as well. As time progresses, the participation of the elderly care physician becomes less essential. The goal of the follow-up meetings is to evaluate the progress of the goal-achievements and to actualise the individualised care plan, possibly with new personal goals for the frail elderly.

4. Care coordination/case management

The care programme makes a distinction between two roles: *care coordination* and *case management*. The role of care coordinator is always assigned to the nurse practitioner, as this professional is in close contact with the GP and is thereby able to easily consult the GP for questions and to schedule meetings. Which professional will take on the role of case manager is decided at the first multidisciplinary team meeting and is either the nurse practitioner, district nurse, or case worker dementia, depending on what is best for the specific frail elderly at hand. It is thus possible that the nurse practitioner takes on both the tasks of care coordination and case management, but it is also possible that this is done by two different professionals. In any case, the GP remains the professional that is medically responsible for the frail elderly, and is guiding, whereas the case manager and care coordinator focus on supporting the frail elderly and on the coordination of multiple professionals, respectively.

The care coordinator is responsible for tasks related to coordination, such as conducting the first home visit and holistic assessment, writing up the first draft of the individualised care plan, and organising the multidisciplinary team meetings. The case manager is responsible for different tasks, namely monitoring the individualised care plan, the situation of the frail elderly and his or her informal caregiver(s), and the demands for living arrangements, health care and well-being activities. The case manager should do so in cooperation with other care providers within primary health care, home-care, and the municipality (e.g., social district teams) for example. Furthermore, the case manager is the point of contact for the frail elderly and the informal caregiver. A more in-depth analysis of these new professional roles, the distinction between the care coordinator and case manager, and a reflection on these roles can be found in the below *4.4 Workforce-*section.

Other key elements and focus areas of the care programme

Community network

An integral part of successful service delivery in this approach is that the GP and nurse practitioner set up a community network. The purpose of the network is that professionals can support the case finding process, the organisation of multidisciplinary team meetings is optimised, and that

professionals can collaborate and learn (and benefit) from one-another's expertise. In *Leadership & governance* the dynamics of the community network will be further expanded upon.

Project Transfer Care

One of the projects executed by the care groups that links to the CCFE is the optimisation of the transfer care from and to hospitals.[2] It is one of the key elements that is currently in development in the Project Transfer Care (2016-2018). The reasoning for improving transfer care is that at this moment, there are parallel care pathways for primary and secondary care, which are not integrated. The aim is to improve the experience with (transfer) care by improving the transition from primary care to secondary care (and back), so that all necessary information for patient, informal caregiver, and professionals remains available, discontinuity in care is avoided, and medication is continued in the right manner. A secondary aim is to avoid duplication of diagnostics, conflicting treatments and care plans, and thus avoid an unnecessarily high burden of care for the frail elderly. Furthermore, this should lead to at least a stabilisation (or decrease) in health care costs per frail elderly.[1]

At this moment, all hospitals are already required to screen all patients ≥70 year old for frailty, using the criteria of the Dutch Safety programme for Frail Elderly (*Dutch: VMS Veiligsheidsprogramma Kwetsbare ouderen*): delirium, increased fall risk, malnutrition, and functional decline. Transfer care focuses on improving the collaboration between primary and secondary care by a structural exchange of information when the frail elderly is hospitalised. Furthermore, primary and secondary care should be in line with one-another; all physicians should have access to the same electronic medical record (i.e. Care2U). Whenever possible, professionals work according to the same assessment methods, definitions and delivery of care (e.g., individualised care plan, multidisciplinary team meetings) as in the main CCFE approach. This can ensure successful continuation of care after discharge. After discharge, the case manager visits the frail elderly when he or she returns home and checks whether treatment- and medication interventions are truly understood and being executed in a proper way; consultation by telephone will not suffice. The project measures the effect of (improved) transfer care. See **Appendix Table A.3** for the indicators and aims.

The project started a pilot-phase in autumn 2016, with 21 GP-practices of the three care groups and three hospitals (i.e. Catharina Ziekenhuis, St Anna Ziekenhuis, St Jans Gasthuis Weert) in South-East Brabant and North-Limburg participating.[1] During 2017 and 2018 the remaining GP-practices and two other hospitals (i.e. Maxima Medisch Centrum and Elkerliek) will gradually join.

Polypharmacy

Polypharmacy, defined in the CCFE as the use of five or more medications, forms an important part of the programme. In the draft individualised care plan this is always a topic. The choice of medication as described in the individualised care plan is made by the GP, elderly care physician, and the frail elderly. The first medication review is performed at the beginning of the care programme by the pharmacist or his assistant and repeated on a yearly basis.[4] A supportive ICT-structure is essential for the pharmacist, namely all relevant data should be available to give a well-founded advice. Therefore, the pharmacist has access to the care chain information system (Care2U). Furthermore, it is important to check whether the reviews are being adhered to properly. Earlier experience shows that sometime after the review former choices of medication are being reintroduced. Therefore, results are reported in the care chain information system to maximise the use of gained knowledge by the first prescriber of the drugs.[2]

Advanced care planning

Another important part of the CCFE approach is advanced care planning. The aim is to encourage timely communication between physicians, patients and relatives on end of life care, offering guidance to define concepts as 'timely' and 'end of life'. Because decisions on treatment limitations are sensitive to change, these are evaluated on a continuous basis in the CCFE.

To identify patients for which advanced care planning-conversations can be useful, the *surprise question* can offer support: "Would you be surprised if this patient were to die in the next year?" This question should be discussed between the nurse practitioner, GP, and elderly care physician. Furthermore, the nurse practitioner can hear about end-of-life wishes from the frail elderly or informal caregiver and share these with the GP (if given permission) or stimulate that these are discussed with the GP. The elderly care physicians also play an important role here, due to their experience in advanced care planning, and can assist the GP and nurse practitioner.[2]

Other indications to identify patients where advanced care planning-conversations might be appropriate, are:

- Decreasing performance status with limited reversibility;
- Help needed with personal care, for over 50% per day;
- Two or more non-scheduled hospitalisations in the past 6 months;
- Significant weight loss (5-10%) in the past 3-6 months and/or low BMI;
- Persistent refractory (untreatable) symptoms;
- Admission to nursing home or in need of intensive home care.

4.2.2. Self-management in the care programme

The CCFE aims to strengthen the control that frail elderly have over their own health.[2] Therefore, the care programme offers an integrated, multidisciplinary approach of healthcare and social care that is tailored to each individual. The individualised care plan is developed in collaboration with the frail elderly and his or her partner or informal caregiver, focusing on *maintaining* control, instead of [professional's] taking over. This is exemplified by including the frail elderly and their informal caregiver in the multidisciplinary team meetings.[2]

The CCFE does not set out to 'take-over' the care of the frail elderly but to support self-sufficiency.[2] An example is that the individualised care plan is based on the personal goals of the frail elderly and is not focused on reaching clinical goals (e.g., lowering blood pressure). An example given during an interview is that one of the goals can be to be able to walk the dog again. (*IP04_2*)

The individual care plan is filed in the ICT-software Care2U (see section *4.5 Technologies & medical projects*, which in the future will be available for the frail elderly and informal caregiver as well which could enhance their self-management.

4.2.3. Reflections on service delivery

During the interviews several variations in the care process among the care groups were mentioned. These variations and their reflections are listed below.

- **Case-finding and inclusion**

The rationale for using case finding instead of screening is that due to the existing care chains (e.g., COPD/Asthma, Diabetes Mellitus, cardiovascular risk management, mental health), 85% of the frail elderly are already known and identified by the GP or nurse practitioner.[4] Furthermore, in the pilot-phase (KOMPLEET), 70% of the frail elderly appeared to receive home care. Screening itself requires a large time investment and could lead to problems if due to high workload the follow-up of screened frailty could not be accomplished in a timely fashion.[4]

Case finding led to a prevalence (in 2015) ranging from 0.5% of the total patient population in care group 1, 0.7% in care group 2 and 1.6% in care group 3. Care group 3 may have a higher prevalence because they started implementation later and when they did start, they immediately did so using the bundled payment (the diagnosis-treatment-combination (DTC)) (see section *4.7 Financing*). This could have led to a large sudden influx. Further, the high prevalence could also be

due to differences in their patient population or because their case finding has been more inclusive and slightly more prevention focused. (*IP06_2*)

Because of the intensity of the care programme and the professional's time investment, the care programme focuses, at first, on the frailest elderly in primary care.[4] When this new method of working and the network around the GP practice are fully implemented, it may become possible to focus on early diagnosis of less frail elderly, which broadens the inclusion criteria and could also enhance the prevalence.[4]

Variations in the inclusion criteria have been observed, for example concerning the use of the TraZAG-instrument. For some it is a guiding tool, for other care groups a certain score on this instrument (i.e. 3 or higher) is a prerequisite. In favour of using the TraZAG-instrument in a guiding way, one of the professionals gave the example that an elderly can score high on the TraZAG-instrument, but that it does not by definition mean that he/she is frail. This professional argued that scoring is one thing, but the conversation between the professional and patient can lead to another conclusion:

> "*The instrument provides an indication of a situation, not necessarily an indication of problems. We should avoid being paternalistic in our approach.*" (*IP01_2) [1]*

This highlights the role of professional discretion in inclusion. Some of the professionals argue that inclusion should only take place if there is *loss of control* and that prevention is not part of the care programme. However, less frail elderly sometimes are included, as they will be identified as 'possibly' frail by the professionals. One of the initiators mentions:

> *"[…] because we included him [the elderly person] in the care programme, the network of the elderly is fully supported and the patient does not have to be institutionalised.*" (*IP02_2*) *[2]*

One of the professionals also mentioned that sometimes frail elderly cases are found and approached for a home visit directly, without having been discussed in the primary care core team (*IP09_2*).

- **Holistic assessment and individual care plan**

For the frail elderly person that was interviewed, the process of entering the programme was characterised by an additional assessment (conducted by the nurse practitioner) to look at care possibilities, and having a geriatrician come by for additional diagnostics. (*IP11_2*)

Although in theory possible, in practice it rarely occurs that an elderly is excluded after the home visit. In the case that this does happen, the nurse practitioner will still keep an eye on the elderly to see if the situation worsens. (*IP09_2*)

The personal goals in the individualised care plan can vary from being able to do groceries at one's favourite supermarket, to offering adequate care for frail elderly with incontinence problems that are homebound.

> "*The care plan should include: What is bothering the patient the most, and what can we do to help?*" (*IP09_2) [3]*

- **Multi-disciplinary team meeting**

When asked for the most innovative parts of the approach, the multidisciplinary team meeting was mentioned several times. (*IP02_2, IP03_2*) Initiators, professionals and the patient and informal caregiver, stress the importance of the involvement of the patient in the multidisciplinary team meeting. (*IP09_2, IP10_2, IP01_2, IP08_2, and IP11_2*) The patient can prepare for the multidisciplinary team meeting by filling in questions that have been sent upfront. Except for the elderly care physician, the frail elderly has already met all participants of the multidisciplinary team

meeting, since these are his or her care providers. (*IP09_2*) The patient interviewed mentioned that he appreciates and sees that all the professionals are collaborating with one-another (*IP10_2*). An informal caregiver that was interviewed stated that as a result of the multidisciplinary meeting:

> "*people at least communicated with one-another and looked at what was […] really necessary for us*". *(IP10_2) [4]*

The frail elderly and informal caregiver interviewed, experienced being involved in the meeting positively. The frail elderly stated that if anything was incorrect he could "jump in, and everyone listened to you." (*IP11_2*) They further felt that they could be involved in the goal setting process. One of the initiators, who in daily practice is also a care provider, states that the added value of the patient's presence at the multidisciplinary meeting is inconclusive. If the patient wishes to participate in the multidisciplinary team meeting, then it will always be useful. However, it is not necessary for the patient to hear about technical details. (*IP05_2*)

Counter arguments for patient and informal caregiver involvement in the multidisciplinary team meetings were also given during the stakeholder interviews. For example, for a patient it could be overwhelming to attend a meeting with all his (professional) caregivers at once. (*IP01_2, IP08_2*) Furthermore, the professionals need to adjust their professional language to the level of the patient, which could make the meeting take longer. Given the wide range of professionals that attend the meeting, it is already difficult to schedule the meeting as it is 'custom made' to the patient's need. It is considered even more difficult to include the schedule of the patient, since they are often dependent on their informal caregiver and/or have difficulties in physically attending the meeting. Sometimes, the multidisciplinary team meeting even takes place at the home of the frail elderly. (*IP06_2*) Another professional mentions that the frail elderly is almost always present at the meeting, except for when the professionals assume that participation will lead to stress and anxiety (*IP09_2*).

Health insurer employees that were interviewed, mentioned that there is no evidence for the benefit of the patient's involvement at the team meeting (*IP06_2*). They argue that if the patient is in good contact with their case manager, this should be sufficient because the case manager should represent the interest of the patient (*IP07_2*).

- **Care coordination and case management**

In theory, the role of case manager should mainly be fulfilled by the nurse practitioner (60%) and less often by the district nurse (20%) or case worker dementia (20%).[2 4] However, in several interviews it was mentioned that the nurse practitioner is in much more than 60% of the frail elderly the case manager. (*IP01_2, IP08_2, IP09_2*) In practice it shows that the distribution is as follows: in care group 1 and 2 the nurse practitioner is in circa 95% the case manager, and in care group 3 in circa 70-80% of the cases. More reflections on these new professional roles can be found in the section *4.4 Workforce.*

4.3. Leadership & governance

Below, the organisational structure of the CCFE will be explained, focusing on governance of relationships and partnership between health insurer, care groups and primary care. First the organisational structure of the care groups and health insurer are described. Next the three levels of collaboration between health- and social care in the context of the CCFE is, the collaboration between the care groups, and the micro-level of collaboration in daily practice are described. These descriptions are based predominantly on the document analysis. Lastly, reflections on leadership and governance are described, mostly based on the stakeholder interviews.

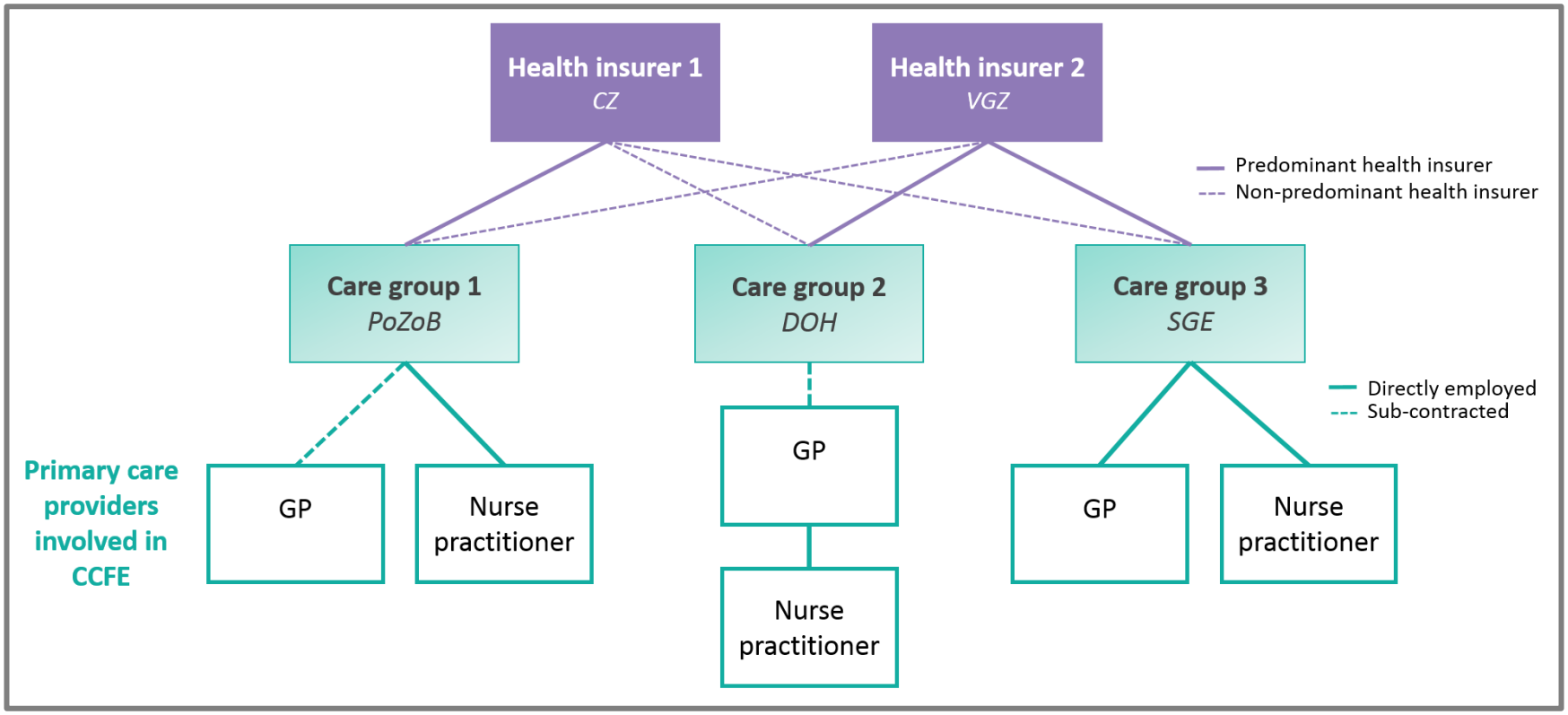
4.3.1. Organisational structure of the care groups

Three care groups in the south of the Netherlands are implementing and optimising the CCFE: PoZoB (care group 1), DOH (care group 2) and SGE (care group 3).[5] A care group is a group of primarily primary care providers (mostly GPs, but sometimes also paramedical care providers) who cooperate in the provision of (chronic) care. Their cooperation is legally formalised. Health insurers negotiate with the care groups (instead of the individual care providers) about the price and quality of care and the care group either employs the care providers directly, or sub-contracts providers (*Dutch: onderaannemer*). The three care groups implementing the CCFE differ in employing and sub-contracting the care providers. Care group 1 employs the nurse practitioner and sub-contracts the GP. Care group 2 sub-contracts the GP, who in turn employs the nurse practitioner. Care group 3 employs both the GP and the nurse practitioner. The three care groups differ in size; 1 has 170 connected GP-practices, 2 has 17, and 3 has 13.

There are two large health insurers operating in this region: VGZ and CZ. VGZ is the predominant provider for care group 2 and 3, CZ is the predominant provider of health insurance for patients in care group 1. The role of being a predominant or non-predominant health insurer for a care group is important for negotiations in the Netherlands, and will be described in the section on *4.7 Financing*.

The relationships [between health insurer – care group – care providers], as described above, are presented in **Figure 4.2**.

Figure 4.2: Structure health insurer, care group, primary care



4.3.2. Health- and social care collaborations

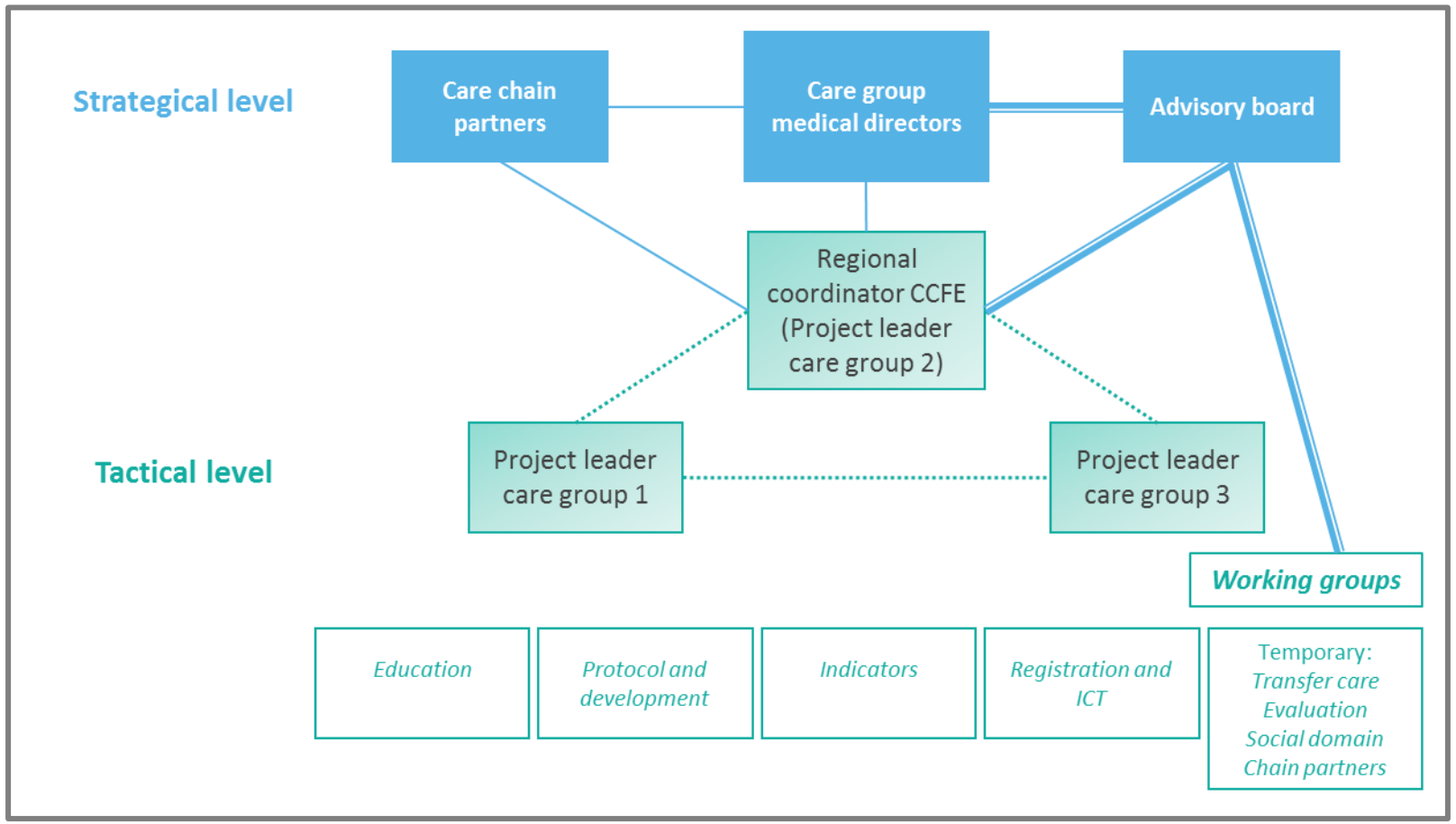
The three care groups collaborate in three different areas: mental health services, child care, and frail elderly (i.e., CCFE). Each of the care groups is the project leader for one of these areas. Care group 2 is in charge of the frail elderly care area (CCFE) – the project leader of care group 2, DOH, is therefore referred to as the regional coordinator of the CCFE.[5] Within each of the areas, the collaboration between the care groups takes place at three different levels: the strategic, tactical and operational level.

4.3.2.1. Strategic level

On the strategic level (1) the parties of interest are the various partners in the care chain (i.e. municipality, nursing homes and social care), the medical directors of the care groups, and the advisory board (*Dutch: Adviesraad*) (see **Figure 4.3**). The directors of the various partners in the care chain, the care group medical directors, and the regional coordinator of CCFE meet three times a year to discuss strategic collaboration (*Dutch: Bestuurlijk overleg*). Aside from the care groups, partners in the care chain that are present include, for example, directors of nursing homes, directors of community care groups, the chair of the Care chain for dementia, and two municipal executive board members.

The medical directors also form the medical director's board, which meets separately every six weeks (*Dutch: Medisch directeuren overleg*). This board is responsible for decisions regarding the development and content of the care programme. Lastly, the advisory board comes together four times a year. They can give [un-]requested advice – without mandate – to the medical directors and the working groups described in the next section. Members of the advisory board are: GPs specialised in elderly care – one from every care group -, nurse practitioners specialised in elderly care – one from every care group-, two elderly care physicians, two geriatricians, two community care nurses, and a case worker dementia. Initially, the advisory board was set up by care group 1, and had influence on the further development and decisions regarding the care programme. Throughout the further development and implementation of the CCFE, however, the composition of the advisory board changed, and the board has no mandate anymore. Now, strategic decisions on the development of the care programme are the responsibility of the medical directors of the care group. The regional coordinator CCFE functions as a link between various actors at the strategic level, and between the strategic and tactical levels. The structure of the collaboration, from 2016 onwards, is shown in **Figure 4.3.**[5]

Figure 4.3: Collaboration at strategic and tactical level



Note: Care group 1 = PoZoB, care group 2 = DOH, care group 3 = SGE.

4.3.2.2. Tactical level

On the tactical level (2) the three project leaders are responsible for development and implementation of the care programme within their care group. There are eight elements, established by the medical directors that are key in the collaboration of the care groups in 2016, and will be further developed in structural and temporary working groups, or in case of *Financing,* is developed by the medical directors in collaboration with the directors of operations and the regional coordinator. All working groups consist of a professional from each care group (except for working group *Indicators*, which consists of participants of care group 2 and care chain partners). The regional coordinator monitors the process of the working groups and is available for support. The eight elements to collaborate on are:

1. Financing (contracting diagnosis-treatment combinations (DTCs) (*Dutch: diagnose-behandelcombinatie (DBC)*));
    - Responsibility: the medical directors in collaboration with the directors of operations and the regional coordinator;
2. Collaborative training and education;
    - Responsibility: working group *Education*;
3. Further development of the care programme;
    - Responsibility: working group *Protocol and development;*
4. Development of indicators to monitor the quality and outcomes of the care programme;
    - Responsibility: working group *Indicators;*
5. Exploring the roles of chain partners in the care programme;
    - Responsibility: temporary working group *Chain partners* and work groups *Registration and ICT* and *Protocol and development* for a translation into the protocol;
6. Implementation of transfer care;
    - Responsibility of the content: temporary working group *Transfer care,* in collaboration with the Project "Smarter with care" (*Dutch: Slimmer met Zorg*);
    - Responsibility of the implementation within the care groups: project leaders of the three care groups;
7. Integration of the dementia care chain;
    - Responsibility to reach consensus, on a strategic level, on the integration and collaboration between the CCFE and Network Dementia care chain: medical director of care group 2;
    - Responsibility to reach consensus on the involvement of the case worker dementia and implementation in the protocol: working group *Protocol and development;*
8. Connection with the social care domain and community networks;
    - Responsibility: temporary working group *Social domain.*

4.3.2.3. Operational level

Although the care is organised via the GP-practices, a precondition for the success of the CCFE is a community network, as also described in the *4.2 Service delivery*-section.[2] Making a connection with the social domain is important in the care for frail elderly, since social issues are just as often present as medical issues. The community network has to be established by the GP and the nurse practitioner to ascertain the collaboration in the community on the operational level. The GP is free to choose which district nurse or elderly care physician he/she wants to collaborate with.[2] In the CCFE project phase (2011-2014) the focus was on setting up an administrative network. The community network was not yet fully set up in 2014. Therefore, the care groups applied for an extra

financing option 'VIMP' (*Dutch: Verspreidings- en implementatie impuls*) via the Netherlands Organisation for Health Research and Development (*Dutch: ZonMw*).[6] The goal of the VIMP was to organise network meetings to give the development of community networks a boost and to facilitate collaboration. In addition, in 2015 a financing Module for Community-Centred Work[ix] was developed by the care groups, GPs, health insurers, municipality, and home care organisations.[6] This Module was offered to stimulate the GP to strengthen the collaboration within 'the triangle' of GP-practice, district nurse, and the social domain. This all led to the organisation of community network meetings that aimed to improve the collaboration with the municipality, intensified the collaboration with the district nurses and secondary care, and stimulated knowledge sharing. The community network can in theory be seen as consisting of two layers:

1. **Inner**: district nurse, elderly care physician, case worker dementias, pharmacist;
2. **Outer**: geriatrician, geriatrics physical therapist, occupational therapist, general social worker or elderly advisor, social district team, Social Security Act 'window', informal caregiver support, volunteer support, dietician, speech therapist, spiritual care, [geriatrics] psychologist.

It is the responsibility of the GP-practice to set up and maintain this network. The GP practice should also share the goals of the frail elderly care with these professionals and organisations in this network and make practical agreements about the 'primary care core team' and multidisciplinary team meetings (see section *4.2 Service delivery*).[2] In daily practice, setting up a community network is governed by the nurse practitioner, and includes:

- Determining to what extent there is a good community network in place, and adding what is necessary to develop the network further;
- Being the contact point within the GP practice for the community network;
- Keeping up-to-date information for the frail elderly and informal caregiver; this includes both general community information as well as disease-specific information;
- Setting up a network event at least once a year.

The nurse practitioner and the GP annually evaluate the progress of setting up the community network.

4.3.3. Collaboration care groups and health insurer

Aside from the collaborations between the care groups, and with health- and social care, another important collaboration is with the health insurer. The care groups aim to provide care chains in chronic care and an issue is the financing of such care chains. The collaboration with the health insurer is thus important to understand and describe. As this is a novel care chain, developing a bundled payment is still a work-in-progress. In the *4.7 Financing*-section the bundled payment and other payment schemes will be described further.

As described above, the care groups (on behalf of the primary care providers) negotiate with the insurer about the bundled payment and accordingly, the pricing arrangements. Thereby, the insurer can use the care group as an instrument to steer on quality and cost control of individual GPs.[7] The health insurer composed the following prerequisites for 2017 for all care groups implementing the bundled payment for frail elderly (this includes care groups beside the three care groups mentioned in this report)[7]:

[ix] A so-called *Module* is an 'extra' form of financing a GP can claim for efforts outside the daily (routine) care for his patient. See *Macro level* description.

- A minimum of 70% of the GPs is willing to participate in the care programme. At this moment, this is not feasible for care group 1. Arrangements between the care group and the insurer are made to ensure implementation;
- The three care chains for Diabetes Mellitus, COPD and CVRM are also being implemented by the participating GPs;
- The nurse involved in the care programme (either the district nurse or the nurse practitioner) has received higher vocational training (*Dutch: HBO-niveau 5*). The insurer and care groups are to make arrangements on this topic (including the timeline of implementation) for the nurse practitioners that do not meet this requirement;
- Existence of a care programme, protocol and implementation trajectory;
- Existence of a quality cycle on the execution of the programme an protocols, administered by the care group (described in the next section);
- Education of GPs and nurse practitioner (part of the quality cycle, see below);
- Existence of a regional team of experts to support the GPs. In the CCFE this is the advisory board, as mentioned in **Figure 4.3** above;
- Action plan (including the timeline of implementation) for the integration of the care chain dementia, for the elderly that are both frail and with dementia. This is still a work in progress;
- Collaboration between the care group and the GP-practice for the monitoring of costs, quality and experience of care;
- Action plan (including the timeline of implementation) for advanced care planning;
- Action plan (including the timeline of implementation) for transfer care;
- The care groups meet the general requirements as described in the 'Procurement framework for care pathways' (*Dutch: inkoopkader zorgpaden*).

Quality cycle

One of the prerequisites of the health insurer for the bundled payment is the existence of a quality cycle. The care groups have developed a quality system for the care programme that consists of[4]:

1. GP-practice meetings to evaluate the implementation of the care programme: barriers as well as facilitators;
2. Evaluation meetings: Every unit of cooperation (e.g., primary care centre or a GP-practice with multiple GPs) evaluates the care process and developments. Present at this evaluation are: the GP, nurse practitioner, and the project leader of the care group. Depending on the care group, also other professionals can participate (e.g., elderly care physician, district nurse). The improvements, arrangements, and solutions agreed upon in these evaluation meetings are distributed to other practices. These meetings take place once or twice a year;
3. Local meetings with all care chain partners, the following professionals should attend: GP, nurse practitioner, elderly care physician, district nurse, dementia care case manager, geriatrician, pharmacist, social worker, occupational- and physiotherapist, psychologist, and a 'Social Security Act-Window'-employee. The care group supports the organisation of these meetings. Topics to be discussed during this meeting are: evaluation, new developments, collaboration within the care chain, and possible improvements. In the first year often two meetings take place, hereafter the meeting takes place annually;
4. Basic education: there is an annual schooling of at least 2 hours on specific care programme- and logistic changes. Attendees are the GP and nurse practitioner, sometimes other professionals participate.

4.3.4. Micro-level elements of leadership and governance

Shared decision making
As previously described, the frail elderly and his/her informal caregiver are actively involved in the care programme, the care is 'demand-driven' and both are involved in the multidisciplinary team meetings.[2] Multidisciplinary team meetings are used to ensure demand-driven care and to stimulate shared decision making.

Individualised care planning
As described in *4.2 Service delivery*, for each frail elderly an individual care plan is drafted, based on a prioritisation of problems and the personal goals of the elderly. The individual care plan will be evaluated throughout the care programme and adjusted to changes in situation of the frail elderly.

Coordination tailored to complexity
The care programme can be adapted to an individual's needs. For example, the number of multidisciplinary team meetings can vary between frail elderly and other professionals can participate in this multidisciplinary meeting and/or be involved during the care process according to the needs of the frail elderly.

4.3.5. Reflections on leadership and governance

During the interviews reflections were given on all three levels. These are described below.

- **Strategic level**

One of the initiators mentioned that the care programme currently has become more formal than it was in the beginning. The interviewee described that at the start of the project more care disciplines (e.g., mental health services, nursing homes) were involved, that care was always delivered in collaboration with more professionals, and that the role of the network was more important than it is now. In the past the development of the care programme was also a point of attention for the advisory board (*Dutch: Adviesraad*). With the formalisation of the care programme, 'ownership' was shifted to the GPs who now only consult the advisory board occasionally. Decisions regarding the development of the care programme are now settled by the medical directors. (*IP05_2*) A project leader, on the other hand, explains that this difference is a consequence of the renewed collaboration between the care groups since 2016 (*IP03_2*). There are several working groups, as described above, with a clear task to inform the medical directors on decisions. However, the working groups do not have a mandate (anymore). The structure of advisory board and medical director's board is positioned differently, so that the care groups are in control of the care programme. (*IP03_2*)

- **Tactical level**

At a tactical level two points are of main interest: the differences in governance structure between the three care groups and the collaboration between project leaders.

The difference between the three care groups in the governance of the CCFE is related to the employment status of the providers, which in turn impacts the ease at which the programme has been implemented. Namely, it is said that for care group 3 it was easier to carry out the care programme because all GPs and nurse practitioners are directly employed by the care group. As the interviewee below states, the care group could implement the approach relatively easily from 'top-down':

> "*For us, it was easy to say: we made a decision, [to implement the care programme] and everyone has to commit to it.*" *(IP02_2) [5]*

Another factor at the tactical level that influenced the collaboration between the project leaders, is that in 2015 there was a switch in which care group led the overall coordination of the care programme:

"*The coordination of the project shifted from care group 1 to care group 2. So what has changed, I think, we are still implementing the care programme together, and are trying to organise it together.*" *(IP01_2) [6]*

Lastly, the project leaders mention that there are differences in organisational culture between the care groups. This can sometimes be a challenge. (*IP01_2, IP02_2*)

- **Operational level**

Related to the reforms in health- and social care in the Netherlands in 2015, there is an ongoing debate about who is responsible for the development of community networks. So far professionals in the network had primarily been working *alongside* one-another without actually collaborating.[6] Two factors accelerated the collaboration between the health- and social domains, namely 1) due to the implementation of the CCFE GPs had to ensure that they worked together with other professionals at a patient level, and 2) the extra financing in the form of the 'VIMP' grant (as described above) also stimulated GPs to set up such networks.[6]

Professionals recognise the importance of a close collaboration between the different sectors. One of the professionals describes the benefits:

"*The good thing about our collaboration is that we know each other very well. When I'm with a client and I notice anything special, I can call the GP and I know that I will be heard, because we know each other. It can be harder to communicate with GPs outside of our district." (IP08_2) [7]*

It appears that the ease and effectiveness of collaboration between GP practices and district nurses differs between GP practices. (*IP08_2, IP10_2, IP11_2*) A professional who is responsible for setting up a community network, mentions that it may be easier to work in a small town, in a smaller setting, because it is easy to identify possible chain partners to collaborate with. (*IP09_2*) Also, for some GP-practices, the collaboration with home care organisations was already established before the start of the CCFE, making it easier to reach out to these organisations once the care programme was implemented (*IP08_2*). However, since the CCFE the collaboration developed further and became more structural with meetings being held on a regular basis (*IP08_2*).

As the target population consists of very frail older persons, still living at home, a great amount of cross-sector collaboration from different formal and informal care providers is required. A frail elderly interviewed described that his informal caregiver, his wife, has a large responsibility, and that a close friend helps them to do groceries once a week. A district nurse comes to provide personal care twice a day, he spends several days a week at a nursing home for daytime activities and to see a physical therapist there. Furthermore, his case manager (also a district nurse) visits weekly, domestic help comes twice a week, and when necessary there is contact with the GP. Thus the severity of this clientele requires that the case manager keeps a good overview. For the interviewed frail elderly and informal caregiver, this includes arranging care from different home-care organisations, the nursing home, and the GP practice. (*IP10_2, IP11_2*)

Up until now the collaboration with the well-being organisations, e.g., to provide for volunteer for the frail elderly, is not fully implemented yet. Even though collaboration is improving, the wellbeing employees are not always present at the multidisciplinary team meetings due to privacy reasons. In this meeting, medical problems are discussed, and professionals do not feel comfortable sharing this with wellbeing-organisations. However, after the multidisciplinary team meeting persons from wellbeing-organisations are often invited for a separate consult to discuss possible options from the wellbeing-perspective. (*IP09_2*) According to the protocol, however, it is possible to invite employees of the wellbeing-organisations.

4.4. Workforce

Below the teams and professionals in the CCFE, the role of informal caregiver support, and education and development in the programme are described primarily on the basis of the document analysis. Thereafter reflections on these aspects related to workforce are described, predominantly on the basis of the interviews.

4.4.1. Novel teams and professional roles in the care programme

In the individual care process three teams of professionals can be distinguished[2]:

1. **Primary care core team**
   - *Participants*: GP, nurse practitioner, district nurse, and possibly elderly care physician and case worker dementia. *(Dutch: EerstelijnsKernTeam (EKT));*
   - *Purpose*: responsible for integrated and coordinated care. This team should signal frailty and match care to this accordingly. The team meets regularly (once every 4-6 weeks) to discuss already included or not yet included patients. Each GP practice can decide how to implement these primary care core team meetings, as it is possible that in one community multiple home-care organisations are involved and separate meetings (with different district nurses) should be organised. It is the nurse practitioner's responsibility to organise these meetings.
2. **Individualised care plan developers:**
   - *Participants*: GP, nurse practitioner (or sometimes the district nurse), elderly care physician (for advice);
   - *Purpose*: after the holistic assessment an individualised care plan is drafted by the nurse practitioner in collaboration with the GP. When necessary, the elderly care physician is consulted for advice.
3. **Multidisciplinary team** (meeting)**:**
   - *Participants*: GP, nurse practitioner, elderly care physician, frail elderly, informal caregiver, and possibly other professionals *(Dutch: Multidisciplinair Overleg (MDO));*
   - *Purpose*: Multidisciplinary team meetings take place, whenever possible including the frail elderly person him- or herself and his/her informal caregiver.[2] Possible professionals/disciplines involved: nurse practitioner, GP, district nurse, specialised nurse, elderly care physician, (geriatric) physical therapist and psychologist, case worker dementia, pharmacist, speech therapist, occupational therapist, geriatrician, internist elderly care.[2]

Novel professional roles in the CCFE

The CCFE has created two new professionals roles: case manager and care coordinator. The role of case manager can be taken up by the nurse practitioner, the district nurse or the case worker dementia – this is determined on the basis of the specific elderly's care need.[2] The role of care coordinator is always appointed to the nurse practitioner.

- **Case management** (performed by nurse practitioner, district nurse or case worker dementia): the case manager is the personal coach that advises and supports the frail elderly. The following tasks belong to the case manager:
  - Monitoring the individualised care plan, including action-points and results;
  - Monitoring the frail elderly and informal caregivers' situation;
  - Monitoring the needs with regard to the living situation, care and well-being, together with the municipality and well-being organisations;
  - Coordinating daily activities at home-care organisations and informal care

Case management is considered an intensive and long term time investment. During the multidisciplinary team meeting, it is determined who will fulfil the role of case manager. The professional who should take on the role of case manager depends on the (care) needs of the patient. In case the care needs are a combination of medical and the social domain, the district nurse should be the case manager. If the frail elderly has dementia, the case worker dementia should act as a case manager. In other cases, the nurse practitioner can take on the role as case manager. When the nurse practitioner is not the case manager, he or she can act as a link between the case manager and the GP practice.

- **Care coordination** (nurse practitioner): the care coordinator is responsible for the holistic assessment at the start of the care programme, organising the primary care core team meetings for case finding, setting up the first draft of the individualised care plan, and organising the multidisciplinary team meetings. Care coordination is desirable if the patient needs care from three or more organisations and/or professionals.

Complex care consists, by definition, of multiple professionals which enhances the care burden for that patient. This requires good collaboration and communication. Care coordination, as well as case management support the patient and its informal caregiver in keeping an overview, and on adapting the care to the patient's wishes and needs.

4.4.2. Professionals in the care programme

The three professionals that may take the role of case manager upon themselves, i.e., the nurse practitioner, district nurse, and case worker dementia, are described in detail below. The GP, elderly care physician, and geriatrician are also important professionals in the CCFE and described thereafter.

1. Nurse practitioner specialised in elderly care

The nurse practitioner is stationed at the GP-practice. Most of the nurse practitioners hold a nursing-degree, but some are educated as physician assistants. Regardless of their educational background, it is necessary that he/she follows an additional educational programme to become a nurse practitioner, which takes one or two years (for nurses and assistants, respectively). During this educational programme, there are several specialisations possible including somatic, mental health, and elderly care. Most nurse practitioners in the CCFE are educated as nurse practitioner-somatic, and followed additional education to specialise in elderly care. Related to the CCFE, the nurse practitioner follows a basic education on the care programme and registration in the ICT-tool Care2U.

Tasks that may be appointed to the nurse practitioner in the CCFE programme are: case management, care coordination, setting up a community network (in collaboration with the GP), and process monitoring of transfer care, polypharmacy and data collection of indicators on the patient level.[2]

2. District nurse

The district nurse always holds a nursing-degree and is employed at a home care organisation. One of the tasks in their professional role is to signal frailty. Therefore, it is important that they participate in the primary care core team. Especially when the patient already receives home care, it is logical that this nurse takes on the role of case manager, since this will be the contact

point for the frail elderly. Furthermore, the district nurse can assist in setting up a community network, since they already have experience in working with a network within the social domain.

3. Case worker dementia

The case worker dementia takes care of delivering integrated and continued care for patients with dementia and their informal caregivers. They are employed at nursing homes, home care organisations, or care groups (in this case, they are not employed at any of the care groups in charge of the CCFE). The case workers dementia can rely on a broad network of professionals with experience in dementia. In the CCFE, on average 30% of the included frail elderly have dementia. Therefore, it is important to work in collaboration with the Care Chain Dementia, to exchange knowledge and experience, and to refer to one-another. This collaboration is evaluated on a regular basis. As described above, the case worker dementia can act as case manager in the CCFE.

Other professionals that play an important role in the care programme are:

4. GP

Throughout the entire care programme the GP has an important role;

- Active signalling and case finding;
- Early diagnosis of frailty (by signals such as insufficient treatment, dementia or other diseases, polypharmacy, loneliness);
- Aiding the care coordinator (i.e., practice nurse) in the development of the individualised care plan and coordination of care;
- Preparation and participation of the multidisciplinary team meeting;
- Structural medication review, in collaboration with the elderly care physician and/or pharmacist;
- Oversee transfer care;
    - Adequate information transferral from primary care to secondary care;
    - Adequate follow-up of care during (temporary) hospitalisation;
- Final responsibility.

The GP is responsible for all of these tasks either as an executive, or as supervisor of the nurse practitioner.[2 4]

5. Elderly care physician

The elderly care physician is mostly employed at a nursing home, home care organisation or a primary care practice for elderly care. The elderly care physician is specialised in caring for chronically ill and/or long term care provision. In the CCFE the elderly care physician fulfils two roles:

- Coach and source of information: the elderly care physician reviews the holistic assessment and individualised care plan. In the future, experience with these tasks and additional education will improve the knowledge and skills that the GP and nurse practitioner have in doing these tasks. This may make the role of the elderly care physician;
- Consultant and practitioner: the elderly care physician participates in the multidisciplinary team meetings, and is available for home visits to the patients and consultations with other professionals. Furthermore, the elderly care physician is involved in the training/education of the GP and nurse practitioner. The distribution of tasks between the GP and the elderly care physician is determined by complexity of care, and not whether the care takes place in- or outside a nursing home.[2 4]

It is important to stress that the role of the elderly care physician is that of an advisor/consultant. The GP remains the main practitioner and carries the final responsibility.[2]

6. Geriatrician / internist elderly care

The geriatrician delivers care in secondary care. In the CCFE the geriatrician is consulted for diagnostic and analytical reasons. In this network the geriatricians are accessible for consultation and they participate in education. However, for most patients, the involvement of the geriatrician remains limited due to the role of the elderly care physician in primary care. [2 4]

For the following professionals agreements are being made on their possible further involvement in the care process, however they are not included in the financing schemes of the care programme: dietician, physical therapist, psychologist, speech therapist, occupational therapist, and spiritual caregiver.[2]

4.4.3. Informal caregiver support

The informal caregiver is actively involved in the programme, for example by being present in the multidisciplinary team meetings. It is recognized that attention for the burden of care experienced by the informal caregiver and adequate support is important. For this reason the case manager offers support and/or refers to a point of [peer] support (*Dutch: Steunpunt Mantelzorg*, *lotgenotencontact*). It is also possible to unburden the informal caregiver by offering daytime activities at a nursing home to the frail elderly. One of the goals of informal caregiver support is that thereby the positive aspects of informal caregiving (satisfaction) can outweigh the burden. The idea behind this is that this may prevent drop out of informal caregivers, which in turn can lead to hospitalisation of the frail elderly.[2]

4.4.4. Education and development

Education and training in the CCFE has been made uniform across the care groups. There are three types of education: education pertaining to the care programme for GPs, and separately for nurse practitioners, and an annual, themed schooling. The annual education of at least two hours is to discuss specific content-related issues and logistic issues and changes. In any case the GP and the nurse practitioner participate. Depending on the topic of the training, other professionals will join.[4]

4.4.5. Reflections on workforce

During the interviews several topics regarding workforce were discussed, e.g., the rationale for the separation of care coordination and case management and the involvement of the informal caregivers. These reflections are described in this section.

- **Dedication of professionals to the care programme**

The devoted professionals working in the care programme can be described as dedicated professionals that spend much time outside of their working hours to develop and implement the care programme. (*IP02_2, IP05_2*)

- **Separation of care coordination and case management**

There are arguments in favour of keeping the roles of care coordinator and case manager separate and arguments against having these two roles. The professional that acts as a case manager should be educated on the Dutch HBO-5 level, which can be seen as quite high (*IP05_2*). Therefore, it can be considered wasteful to make this person responsible for administrative tasks that can also be

fulfilled by a GP-practice assistant (*IP05_2*). For example, tasks such as organising the multidisciplinary team meeting can be delegated to the GP-practice assistant. This underlines the need for a separation in case management and care coordination. (*IP03_2, IP05_2*) When the district nurse or case worker dementia is the case manager, it is important for the case manager to be in close contact with the care coordinator, to update the GP and the nurse practitioner on the progress of the frail elderly (*IP09_2*). The care coordinator can act as the link between the case manager [if not the nurse practitioner] and the GP (*IP08_2*). An argument against this separation is that fragmentation of these professions might not be desirable. For example, when the GP has to collaborate with several district nurses from different home care organisations, it could be hard for the GP [or nurse practitioner] to maintain all collaborations (*IP08_2*).

Interesting to note is that it is very likely that the included frail elderly do not even notice the role of care coordinator, since their contact point is the case manager (*IP10_2, IP11_2*). Moreover, even when the nurse practitioner is the case manager, the district nurse sometimes remains the contact point, since the frail elderly sees this professional on a daily basis. In that case, the frail elderly is not always aware of the underlying care programme and the consistent communication between all professionals. (*IP09_2*)

- **General experiences with the case manager [and care coordinator] role**

Because the primary contact point for the frail elderly [and informal caregiver] is the case manager, and next the care coordinator, tasks shift from the GP to these professionals (*IP10_2, IP11_2*). Furthermore, both the informal caregiver and frail elderly interviewed were quite positive about the case manager (in this specific case, the district nurse). They felt that if they needed anything, they could get in touch with her and that she would then contact the GP for them (*IP10_2, IP11_2*).

- **Involvement of informal caregiver**

For frail older persons included in the CCFE, the role of the informal caregiver is often large, and they carry a great amount of responsibility (*IP08_2, IP09_2, IP10_2, and IP11_2*). The care programme tries to look at the informal caregiver's possibilities, but just as much at his or her limitations. It is considered important to create an open atmosphere where an informal caregiver can raise concerns and doubts. According to one of the professionals, elderly are not always aware of the severity of their own frailty. (IP09_2) Although the professionals and the informal caregivers are aware of the situation, the frail elderly does not always recognise the burden for the informal caregiver. The role of the nurse practitioner is then to convince the frail elderly to accept care:

"*We are trying to meet the needs of the patient, yet also to unburden the informal caregiver and increase the safety of the patient.*" *(IP09_2) [8]*

4.5. Technologies & medical projects

4.5.1. Shared information system: professionals

Care2u is a care chain information (*Dutch: keteninformatiesysteem (KIS)*) and support system that serves the CCFE, and secures the logistic processes. It is an additional software programme that is used on top of the existing information systems used by the GP and hospital (*Dutch: huisartsinformatiesysteem (HIS), ziekenhuisinformatiesysteem (ZIS)*), and other care providers. Care2u aims to integrate the entire chain in one ICT-programme with secured and limited accessibility for the several partners. Care2U is used in several fields of health care, e.g. Asthma, COPD, Diabetes Mellitus, and also Elderly care. The existing GP information system remains leading and is linked to Care2U. Thus information inserted in the GP information system can be automatically transferred to Care2U and vice versa. This ensures that care providers who have access to both systems do not have to report twice.

Each frail elderly person has an individualised care plan that is posted in Care2U and is accessible for all involved care professionals. The frail elderly gives permission for each professional that has access to Care2U. Furthermore, every professional can have a different degree of access, e.g., some professionals only have access to the information they need for referral, such as a dietician, whereas other professionals can also access the individualised care plan. The nurse practitioner reports the individualised care plan in Care2U and is the only professional who can check off accomplished tasks. Care2U enables the nurse to transfer tasks to partners in the chain. Care2U monitors appointments and tasks of partners in the chain, to see if these professionals have met the deadline (e.g., for lab results).

4.5.2. Shared information system: frail elderly

For the frail elderly there is a patient portal 'My Health Portal' (*Dutch: Mijn Gezondheids Portaal (MGP)*) that helps to improve self-management. This is not part of the care programme or specific for frail elderly. It is not yet possible to link My Health Portal to the Care2U-software to give the frail elderly access to their individual care plan. One of the key elements of collaboration in 2016 is ICT (see *4.3 Leadership & governance*). In 2017 it should be made possible for the frail elderly to access the individualised care plan as described in Care2U, via their patient health portal. Care group 1 will start a pilot to link the patient's health portal to Care2U, so that the patient can also report his experience in his individualised care plan directly (*IP01_2*).

4.5.3. Reflections on Care2U

Currently, the GP information system used by the GP and the nurse practitioner is linked to Care2U. Other professionals, such as the district nurse, have access to Care2U on patient level, but have to log their proceedings in their own information system separately. Sometimes, this is seen as a challenge.

"*It is possible for the several chain partners to use Care2U, but to make it work on an organisational level, there should be financial incentives. For example, that registration for reimbursement is done in Care2U*." (*IP01_2) [9]*

A professional that works with Care2U mentioned that the programme is not quite user-friendly (*IP08_2*). How often the programme is used is unclear, and information can sometimes not be

retrieved easily by the professionals. Furthermore, it is not possible to insert text to communicate (or 'chat') with the other professionals outside the individualised care plan. For this reason it is sometimes perceived as easier to use informal communication, e.g. to make a phone call (it is not allowed to communicate via e-mail with patient specific information), or to quickly check in with- or consult one-another. (*IP09_2*)

4.6. Information & research

Because the CCFE is such an innovative care programme, information and research have played an important role. Below we describe the current past indicators measured in the CCFE, the evaluation of the CCFE that has been and is being conducted by one of the health insurers (i.e. VGZ), and provide reflections on the role of research in the programme.

4.6.1. Current and past indicators

Structure and process indicators are used to measure the progress of the implementation of the CCFE and to describe the patient characteristics. Data collection started during the project phase and was continued thereafter. **Appendix Table A.4** presents these indicators.

In March 2014 results of a small-scale evaluation of the CCFE programme in care groups 1 and 2 were presented. This evaluation focused on: care burden of informal caregivers, quality of life, and health.[8] The indicators were derived from the questionnaire 'Topics-MDS', which was developed in the context of the National Programme Elderly care (*Dutch: Nationaal Programma Ouderenzorg (NPO)).* Both patients and informal caregivers filled in this questionnaire at baseline and follow-up. At baseline a relatively large group of respondents filled in the questionnaire, however, at follow-up only very few persons did so. It is also important to note that there was no adequate control or comparator group. The main results:

- **Care burden of informal caregivers:**

Informal caregivers were asked to indicate on a scale from 0-10 how they experience care giving to their loved one. The 0-score represents a low care burden. At baseline (n=346) the mean care burden was 4.36 and at follow up (n=20) the mean care burden was 5.15. In the lower ranges the care burden decreased at follow-up. However, when the care burden was at a high level (6-10) at baseline, the care burden was increased during follow-up.

- **Quality of life of patient**

The EQ5D was used to describe the quality of life of included frail elderly (range 0-1). The mean score at baseline was 0.578 (n=418), at follow-up the mean was 0.582 (n=29).

- **Quality of life of patient and informal caregiver**

Quality of life, in both patient (n=360 (baseline), n=29 (follow-up)) and informal caregiver (n=349 (baseline), n=20 (follow-up)), was also assessed by one generic item to value their quality of life in general (poor, fair, good, very good, excellent). There were no convincing results reported.

4.6.2. Evaluation by health insurance company VGZ

In 2013, health insurer VGZ developed a bundled payment for frail elderly care (see section *4.7 Financing*). The development of this bundled payment took place in the so-called 'Trajectory of Leading Care Programmes for Frail Elderly' (*Dutch: Koploperstraject*). The health insurer is also evaluating the care programmes in this trajectory. The Leading Care Programmes take place in four regions, with in total six care groups: the CCFE in care groups DOH, PoZoB, and SGE, in region South-East Brabant. The other three care groups are care group (1) Cohesie in Venlo, (2) HZNK in Alkmaar, and (3) ZIO in Maastricht.[8 9] What these leading care programmes have in common is the integrated financing; the health insurer pays care groups a set tariff per patient each quarter. The care programmes in the bundled payment are working with a pilot-DTC (see section *4.7 Financing*) and they received the same procurement from the health insurer for 2017. The idea is to first focus on what someone can do him- or herself, next what their surroundings can do, then what social care

can do, and lastly what health care can do. All programmes in principle follow a 'Geriatric Model' that consists of 1) multi-domain analysis, 2) integrated care plan, and 3) multidisciplinary team meetings and case management.[7] Overarching key elements in all four regions and care programmes are person-centeredness and integration across care providers. (*IP06_2*)

Each region, however, also differs slightly from the others. In CCFE the care trajectory is the most intense and requires the greatest time-investment and thus has the highest tariff. (*IP06_2*) Namely, the criteria for including patients by HZNK and ZIO are much broader – all elderly (75 and older) with looming frailty as detected via screening are proactively reached out to, also for prevention purposes. The approach in COHESIE lies in between that of CCFE and HZNK/ZIO, namely broad case finding is used to detect frail elderly. The target population in CCFE is the frailest. Another key difference in CCFE as compared to the other three programmes is that only in CCFE the frail elderly and informal caregivers are included in the multidisciplinary team meetings – which relates back to their highest tariff (*IP06_2*).

In 2015 health insurer VGZ evaluated these Leading Care Programmes. The results of the evaluation are largely confidential. An overview of what is available is presented in **Table 4.3** below.[7,9] It is important to note that the health insurer stresses the need to cautiously interpret the findings, as this was a pilot bundled payment, and not set up as a research programme – thus there is no adequate control group.

Table 4.3: Preliminary results of the health insurer VGZ's evaluation of the Leading Care Programmes Frail Elderly (CCFE, HZNK, ZIO, COHESIE)[7,9]

Methods: There are three main focus areas in the evaluation: 1) quality of life of the frail elderly and his/her surrounding (e.g., informal caregiver), 2) appropriateness of care, in terms of efficiency (*Dutch: zinnige zorg*), and 3) the care programme itself. For each focus area three hypotheses were developed by the care groups and a regional working group 'Committee Elderly Care'. These hypotheses were discussed in focus groups and used to examine data. The committee consisted of patient representatives and professionals in health- and social care (this committee is further described in section *Implementation process*). Data for the evaluation was collected via focus groups with frail elderly and informal caregivers, a survey amongst professionals and care groups (n=193), and interviews with the care groups and several health insurer employees. The purpose of the latter was to determine barriers and facilitators of the various care programmes in practice.
Hypotheses on Quality 1. *The care programme enables frail elderly to (continue to) live in their preferred surroundings*. **Conclusion**: The care programme supports the frail elderly and informal caregiver in the elements that are important to live at home for as long as possible. Especially the case manager is important for the patient and informal caregiver. 75% of professionals that participated in the survey agree with the hypothesis; 20% report they are not able to confirm that the care programme contributes to this. 2. *The care programme enhances/strengthens the control over one's life. People are thereby able to attain their goals and experience a quality of life that is as high as possible.* **Conclusion:** Case management and the individualised care planning are the foundation for remaining in control over one's life and attaining goals. All parties feel that the role of the case manager is valuable. 3. *The care programme offers optimal support to the informal caregiver.* **Conclusion:** 82% of the surveyed professionals believe that the care programme improves informal caregiver support. However, informal caregivers mention that sometimes they do not feel unburdened.

Hypotheses on Appropriateness (efficiency)

1. *Due to the 'Geriatric Model' frail elderly are enabled to live longer in their preferred surroundings.*
   Conclusion: VGZ concluded that it was not possible to draw a conclusion about this hypothesis, due to unavailability of patient level data and due to parallel reforms in the health care system interfering with the implementation of the CCFE programme.
2. *The elderly care programme is a means to improve efficiency.*
   Conclusion: VGZ concluded that it was not possible to draw a convincing conclusion on the effect of the intervention on the health care costs, due to the absence of a control group. However, when looking at the health care expenditures for 2015, a large proportion of the total healthcare consumption of the frail elderly can be attributed to contacts with the district nurse.
3. *The strong growth in health care costs for frail elderly flattens in the intervention groups.*
   Conclusion: The consumption of health care in 75+ year with an increased care complexity is higher than the health care consumption of 75+ year without increased care complexity.

It was mentioned that the other three care programmes (HZNK, ZIO, COHESIE) experience a stabilisation of care costs after the first intervention year. However, CCFE was still in its first year, therefore such a stabilisation was not [yet] observed. The cost analysis conducted for the third hypothesis only includes costs that are covered by the Health Insurance Act (*Dutch: Zvw*), reimbursed by insurer VGZ in 2014. In the future the costs for frail elderly in secondary care will also be available.

Care programme

1. *The 'Geriatric Model', as well as other elements of the care programmes (e.g., the elderly care physician, ICT, and the connection to the social domain), lead to structured multidisciplinary elderly care.*
   Conclusion: Three care elements of the model are: multi-domain analysis, individual care plan, and performing multidisciplinary team meetings and case management. Elements that require further development: ICT and making the connection to the social domain.
2. *The 'Geriatric Model' can be used an instrument to measure the frail elderly's care and support needs.*
   Conclusion: The GP has a better overview of the frail elderly's needs. Care groups are also positive, even though the intervention is time consuming. The frail elderly and informal caregivers are positive, as they experience that the nurse practitioner can respond to problems in both health- and social care.
3. *Due to the 'Geriatric Model', health care providers are capable of making a connection (and using that connection) with social care.*
   Conclusion: Currently there are only few structured connections to the social domain.

4.6.3. Reflections on information and research

- **Effect of the health insurer's evaluation on continuation and expansion of the frail elderly programmes and DTC**

It is important to realise that such an evaluation, however complex, plays an inextricable and inherent role in the future of the pilot-DTC and discussions between the health insurer and care groups (*IP06_2*). Because it is not yet possible to draw conclusions on the cost-effectiveness of the frail elderly programmes, the health insurer will not quite yet expand the programme or bundled payment possibility across the country and/or to other care groups. For now the current Leading

Care Programmes Frail Elderly will continue working with and optimising the programme in 2017. Thus the research has neither halted the programme, nor allowed for broader implementation – it is still seen as a work-in-progress that requires more analysis before definite decisions can be made. (*IP06_2*)

- **Complexity of assessing the Leading Care Programmes for Frail Elderly**

The health insurer acknowledges that the four Leading Care Programmes for Frail Elderly cannot be directly compared to one-another as their approach differs slightly. This makes interpreting the evaluation findings difficult and highlights the fact that this needs to be done carefully. (*IP06_2*) As described above, the CCFE has the frailest target population that is also included in the multidisciplinary team meetings which makes the care demand (i.e., time needed in the DTC and thus tariffs) higher (*IP06_2*).

4.7. Financing

There are two predominant health insurers (CZ and VGZ) in the region that are involved in the financing of health care within the CCFE. Furthermore, the social care that is provided for in the programme is funded by the municipality, via the Social Support Act (SSA) (see *2. Macro level*). Below, an overview of financing throughout the different CCFE-phases is depicted and reflections hereon are given.

4.7.1. Payment schemes

Throughout different phases there have been different main sources of financing for frail elderly care in the three care groups, namely the 'Elderly Care Modules' by CZ and VGZ and the diagnosis-treatment combination '(pilot-) DTC Frail Elderly' by VGZ.

4.7.1.1. Payment scheme 1: Elderly Care Module

Throughout the different phases of implementation of the care programme, both insurers have offered Elderly Care Modules that gives GPs the opportunity of extra financing in order to stimulate multidisciplinary and proactive elderly care. These modules are currently financed via the second and third tier of GP-care payments, see *2. Macro level*. Both insurers offer similar modules that pertain to both patient-related and non-patient-related budgets. Non-patient-related budgets include additional education or time to set up new collaborations with the community. Patient-related budgets can for example include holistic assessments, individualised care planning, and case management. The modules consist of a fixed quarterly or annual price either per insured person registered with a GP practice or per included elderly in an additional care programme (e.g., case management). All additional consultations with the GP or nurse practitioner are separately reimbursed via base insurance financing (first tier of GP-care payments). This may be a disadvantage of this payment scheme because it requires more administration compared to the pilot-DTC described in the section. The budget for the modules are paid directly to GP-practices, and not to the care groups as is the case for the pilot-DTC described below. Thus these modules do not incorporate an overhead cost for the care group, which implies that the care groups cannot provide organisational or administrative support. Because the modules are part of the 'Pay-for-performance & innovation'-tier, these can change annually on the basis of what is important, relevant, and innovative at that moment in time. For example, the macro level changes in the Netherlands made it more important that GPs set up community networks to collaborate with home-care organisations, and thus specific collaborative care modules were set up for this purpose. However, that the modules for elderly care are almost always annually [slightly] adapted by the health insurers, can be viewed as a disadvantage by GPs as this is not a stable source of funding.

4.7.1.2. Payment scheme 2: Pilot-DTC Frail Elderly

The pilot-DTC reimburses a fixed amount of money for every frail elderly included in the care programme and is a bundled payment to the care group as a whole. It follows a similar model as the chronic disease-specific DTCs in primary care in the Netherlands, which exist for COPD, Diabetes Mellitus, CVD, and mental health conditions, as described in the *2. Macro level*-description.

Each care group receives a fixed annual budget that should cover all frail elderly DTCs. This total budget is based on the following factors:

(i) an average tariff per frail elderly based on the estimated number of minutes of care, agreed upon between insurer + care group (thus care group specific and confidential)
(ii) overhead costs (care group specific, confidential)
(iii) inclusion volume (N) (The annual proportion of newly included frail elderly in the programme should not exceed 1% of the GP-practice.)

These three factors determine the total budget, that, when divided by the expected number of participating frail elderly, leads to a certain DTC payment per elderly. The exact payment is confidential

information that cannot be shared between care groups. In case the payment is insufficient to cover a care group's overhead costs, then the care groups can choose to invest in the care programme themselves. The care groups are responsible to keep the costs within the limit of the total budget available for frail elderly care.

Included in the pilot-DTC

The average tariff per frail elderly as mentioned in *factor i* above, is based on estimates of the time that is needed for the following care activities: to systematically perform holistic assessments, set up and coordinate the individualised care plan, organise and participate in multidisciplinary team meetings, and organise care coordination, transfer care and an annual medication review. Professionals whose activities are reimbursed via the pilot-DTC are: the GP, nurse practitioner, pharmacist (i.e. medication review), geriatrician (i.e. consultation by phone), and the [GP] physician assistant. Furthermore, the following conditions apply:

- When including frail elderly in the pilot-DTC Frail Elderly, all other existing DTC's in primary care end. Piling chronic care chains is not allowed;
- Existing chronic care chains (e.g. for COPD, type 2 diabetes mellitus, etc.) will be merged and included in the individualised care plan. Time needed for care for these chronic diseases will be accounted for in the overall DTC-calculation by looking at the expected number of frail elderly with these chronic diseases. All overlap in care between the care chains is removed and thus these other care chains can be closed. They can be reopened when the pilot-DTC Frail Elderly ends;
- All consultations with the GP are included in the pilot-DTC and not financed otherwise, with the exception of palliative care;
- In case of palliative care, the pilot-DTC Frail Elderly ends and care will be financed via regular GP funding.

Not included in the pilot-DTC

The pilot-DTC Frail Elderly does not include reimbursement of the:

- Care provided by the district nurse, elderly care physician and the case manager dementia. However, these professionals are explicitly included in the CCFE and must be present during the first multidisciplinary team meeting. The time that these professionals invest in the care of the frail elderly are covered via different forms of structural financing.[4];
- Care provided by the physiotherapist, occupational therapist, social workers, and well-being workers. They are also funded through the regular channels;
- Additional diagnostics outside the GP-practice;
- Community nursing and home care (household activities).

Phases of the pilot-DTC

The pilot-DTC has two phases. Each frail elderly included in the care programme starts in the first phase and moves to the second phase after a year. The two phases of the pilot-DTC describe what, by whom and how care is delivered, and how many minutes are required to do so. 'What' consist of the demand for care, i.e. what should be done, according to what planning, and in what form can it be delivered? 'By whom' describes the professionals executing the tasks. And 'How' a task is executed is described in the protocol of the CCFE, and the professional protocols of each discipline. The time investment per patient is reported. If a specific task is only deemed necessary for a limited group of patients, this will be accounted for in the overall calculation of the expected time spent per patient.

1. **Year 1**
   In the first year, two multidisciplinary meetings on average take place per frail elderly. In this year the elderly care physician is present at the multidisciplinary meetings, and will be involved in the pilot-DTC for consultations and additional diagnostics (funded outside the pilot-DTC).[4] Furthermore, the GP, elderly care physician, and nurse practitioner learn about each other's discipline and expertise and they work to build a good working relationship.
2. **Year 2 - onwards**
   In this year (and possible follow-up years), time is included for on average 1.5 multidisciplinary team meeting per frail elderly per year in a smaller setting of people, and only if necessary. The elderly care physician will only be present on request. However, the case manager, GP, patient and informal caregiver will always be present. The holistic assessment does not have to be repeated, only actualised. The aim is to increase knowledge and improve the efficiency of the professionals by a learning curve.[4]

As described above, the time investment in year 1 is much higher than in year 2-onwards. It is expected that in the first year the GP implements the CCFE, all pilot-DTC efforts will be for 'year 1' activities (100%) and none for 'year 2' activities (0%). Due to a high expected uptake of frail elderly into the programme in the first year of implementation of the CCFE, it is subsequently expected that in the following years the ratio will shift to 20% 'year 1' activities and 80% 'year 2' activities.

The pilot-DTC in relation to the care groups

The pilot-DTC is being developed by the care groups (together with the professionals) and the insurer in question (VGZ). As described in *4.3 Leadership & governance*, the care groups negotiate with the insurer, and thereby receive the financing for the pilot-DTC. It is the task of the care group to, then, reimburse the individual professionals, that are either employed or sub-contracted. In practice the break-down of the total time for a DTC may differ between the care groups, but in principle the amount of minutes for a certain (care) activity is the same – based on an estimate calculated a priori. (*IP06_2*) Thus, there is one care programme that has a predefined amount of time for specific actions/services, but each care group negotiates separately with the health insurer about the time and tariff for each service (*IP06_2*). By law the care groups are not allowed to share these price agreements with one-another.[x] The care groups differ with regard to how high their tariffs are, which may for example be linked to overhead costs based on how large their organisation is, or related to whether they hire nurses directly or sub-contract these (see **Figure 4.2** in *4.3 Leadership & governance*). (*IP06_2*)

4.7.2. Timeline financing

As previously described, every region has its own predominant health insurer. Care group 1 operates in a region where health insurer CZ is the predominant insurer, with a relatively small market share of health insurer VGZ. Care group 2 in a region where both VGZ and CZ are large providers of insurance and care group 3 operates in a region where insurer VGZ is the predominant provider of insurance. In general, it is convention that insurers with a smaller market share in the same region 'follow' the predominant insurer, meaning that they implement the same funding agreements with the providers as the predominant insurer. Starting in 2013, VGZ developed a new pilot-DTC for frail elderly, which currently still has a pilot-status. Insurer CZ was not willing to follow the pilot-DTC at

[x] Authority for Consumers and Markets: *"With its oversight on health care markets, ACM wishes to help realise increased cost control, accessibility, and quality improvements in health care. To that end, it is crucial to safeguard competition among suppliers of health care providers, among health care providers and among health insurers. Strengthening competition among suppliers, particularly when buying drugs and medical equipment, can help reduce costs of health care providers"*, Market Outlook, ACM

the start of the pilot-DTC. As of 2014, CZ does follow the pilot-DTC. Below the consequences hereof are described per care group.

Prior to 2016 the entire pilot-DTC was financed via the third tier in GP care, entitled 'Pay-for-performance & innovation' (see *2. Macro level-*description). As of 2016, the Dutch Healthcare Authority decided that the pilot-DTC should fall under the second tier 'Integrated care – bundled payments'. (*IP06_2*)

The pilot-DTC Frail Elderly was developed by the three care groups and health insurer VGZ; it was set up as a three-year pilot (from 2012-2015) with implementation and continuous development based on structural evaluation.[4] Initially, VGZ had planned that the evaluation of the pilot-DTC would determine whether other regions could also start using this pilot-DTC. However, VGZ has extended the evaluation for one more year (into 2017) and plans to make this decision for 2018. Thus, in 2017 only the existing four regions (six care groups) will continue using the pilot-DTC in 2017. (*IP06_2, IP07_2*)

Below, we describe how the financing of the frail elderly programme evolved over time, for each care group.

Care group 1 - PoZoB

During the KOMPLEET project phase (2011 - 2014), which was initiated by care group 1, the CCFE was funded through the Netherlands Organisation for Health Research and Development (ZonMw) and the Elderly Care Modules of CZ and VGZ. The modules were used for another year thereafter. Because health insurer CZ was not yet convinced of the pilot-DTC, a business case was written to show the [potential] benefits of the care programme and the pilot-DTC as compared to the CZ Elderly Care Module (*IP06_2*). This was executed by an independent organisation chosen by CZ. Results show that both the content of care and the costs covered by the Elderly Care Module and the pilot-DTC were similar.

Even though the pilot-DTC was already developed and ready to use in 2013, care group 1 chose to wait with using the pilot-DTC, even for frail elderly insured by VGZ, until CZ would follow VGZ. Care group 1 wanted to avoid that a GP had to deal simultaneously with both the Elderly Care Module (for patients insured by CZ) and the pilot-DTC (for patients insured by VGZ), because then they would also need to implement and learn the administrative tasks. As long as care group 1 was not sure whether CZ would eventually follow VGZ in the pilot-DTC, they did not want to burden GPs. Furthermore, most GPs that were implementing the care programme at that time, were GPs with patients mainly insured by CZ.

As of 2015, CZ followed VGZ in financing the pilot-DTC. Hence, both insurers in the Care group 1-region fund the CCFE through this pilot-DTC, and all GPs have the possibility to implement the care programme and use this financing scheme.

Care group 2 – DOH *(Several GP practices also participated during the KOMPLEET project phase.)*

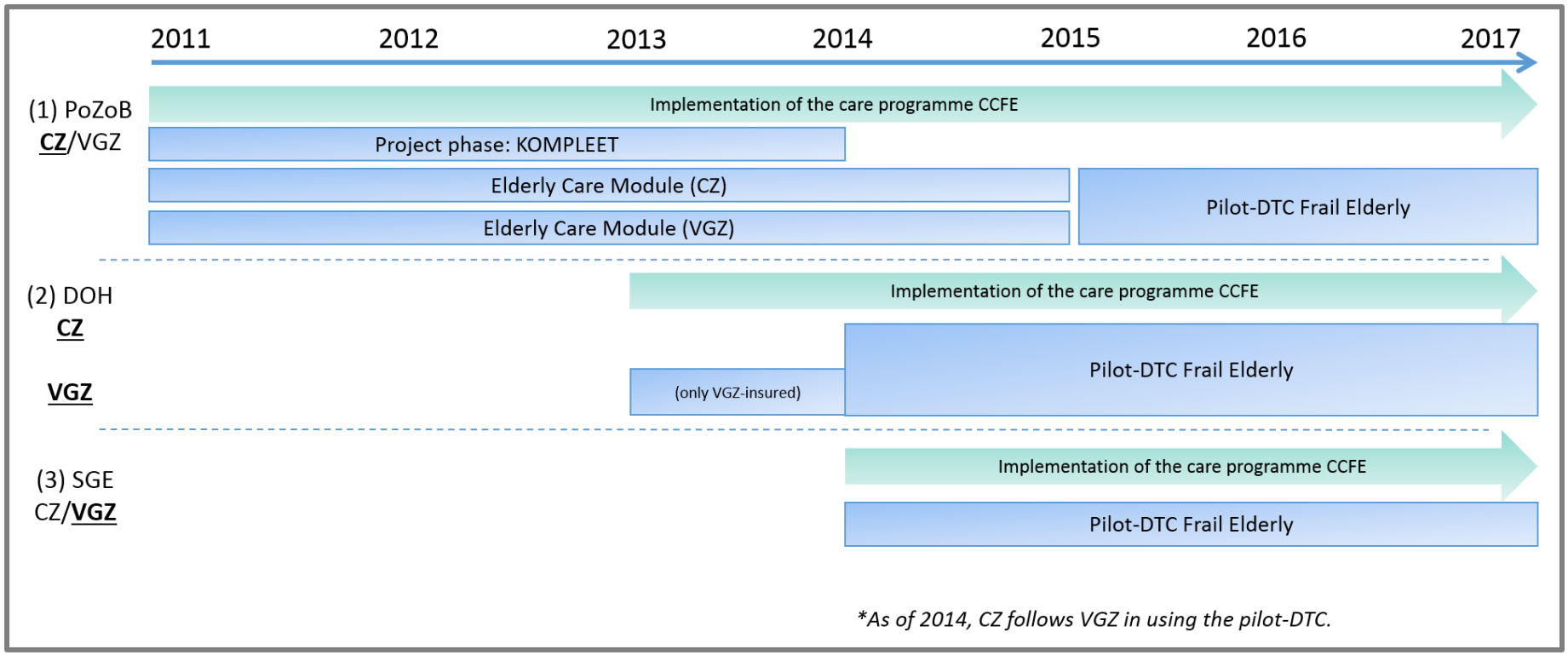
In care group 2, at first, only persons insured by VGZ could enter the care programme and the financing was arranged by the pilot-DTC. For potentially frail elderly insured by CZ, entering the care programme was not possible. As of 2014, CZ does follow VGZ in financing the pilot-DTC in the regions that VGZ is the predominant insurer. Thus, in care group 2, as of 2014 all frail elderly could enter the care programme independent of where they are insured.

Care group 3 - SGE

Care group 3 started with the implementation of the CCFE in 2014, and due to the predominance of insurer VGZ, care group 3 was able to use the pilot-DTC for all frail elderly, independent of where they were insured. They did not make use of the Elderly Care Modules.

See **Figure 4.4** for an overview of the several payment schemes in time

Figure 4.4: Timeline financing



An extra form of financing, besides the two payment schemes mentioned above, is the 'VIMP'-money described in *4.3 Leadership & governance*. An overview of the several payment mechanisms is presented in **Table 4.4**.

Table 4.4: Overview of current payments of payers to providers

Payer(s)	**Mechanism**	**Paid to**	**Details of payment mechanisms**
VGZ	Bundled payment →	Care group 1 Care group 2 Care group 3	Pilot-DTC
	Budget →	Practices in care group 1	Elderly Care Module
CZ	Bundled payment →	Care group 1 Care group 2 Care group 3	Pilot-DTC
	Budget →	Practices in care group 1	Elderly Care Module
ZonMw grant	Budget →	Care group 1	Budget for initial development and implementation (network, uniformity, website, conference) during project phase KOMPLEET.
	Budget →	Care group 1 Care group 2 Care group 3	Budget (VIMP) to stimulate working in a community network.

4.7.3. Reflections on financing

4.7.3.1. Insurer's financing preferences

As described above the two health insurers have a difference of opinion. Insurer CZ initially believed the reimbursement via the Elderly Care Module is sufficient to cover the multidisciplinary care for frail elderly. VGZ, on the other hand, was willing to experiment with the pilot-DTC. The care groups clearly prefer the pilot-DTC Frail Elderly. The advantage of the DTC over the Elderly Care Module for an insurer is that it allows them to contract the care group as a whole, instead of reimbursing all individual GPs separately (*IP07_2*). Not only does this result in a lower administration burden for the insurer, they can also delegate the monitoring of the care delivered by the individual GP to the care group From the perspective of the insurer it is easier for a care group to steer and monitor a GP, since a care group consists of professionals that can easily relate to the GPs. (*IP07_2*) Furthermore, the DTC results in predictable costs for the insurer. They cannot be confronted with higher costs than expected, as could be case with the Elderly Care Module where all consultations are reimbursed separately. The insurer encourages the care groups to further differentiate the reimbursement for GPs, based on the case mix of patients with a lower or higher care burden in their practice. This enhances the work load of the care groups. The care groups do not differentiate the reimbursement to GPs, due to the difficulties in administration and, more importantly, the care groups see substantive reasons to do so (*IP03_2*). Therefore, the care groups would rather see that all activities not directly related to the care programme - for example treatment as ear syringing - are reimbursed outside the pilot-DTC. The health insurer, however, does not want to reimburse all the consults separately because in this case it is unclear what falls under elderly care and outside of

this care. Overall, the care groups still prefer the pilot-DTC over the Elderly Care Module since it decreases the administration burden for the GP-practices.

4.7.3.2. Role of predominant insurer in process of arranging DTC financing

As described above, one of the reasons for which health insurer CZ did not 'follow' predominant insurer VGZ is that they were not convinced of the need for the DTC as they felt that funding from existing modules could be used. For this reason a business case was made. However, another reasoning for not following, was that even though CZ wanted to offer an integrated care programme, they believed there were too many unanswered questions to develop an integral tariff for a frail elderly. (*IP07_2*) VGZ, on the other hand, was willing to take the risk to experiment and contract a pilot-DTC. In the end, CZ compared the costs of frail elderly in the care chain to the costs with the Elderly Care Module, and came to the conclusion that these were comparable to one-another. (*IP07_2*) Furthermore, it is seen as an advantage that the care groups can steer the professionals, by means of reimbursement. (*IP07_2*)

Care group 1 on the financing differences:

"*Since the predominant insurer in our region did not offer a DTC, we could not implement the care programme fully, as rapidly as the other two care groups could. We had to invest a lot of money ourselves and are still implementing the care programme at new GP-practices.*" (*IP01_2) [10]*

The fact that care group 1 had some delay with arranging financing, some GPs that were initially enthusiastic about the approach backed out; they were worried about the turbulent financing situation (*IP01_2, IP06_2*). One of the initiators of care group 1 mentioned, with regard to the collaboration and the involvement of CZ concerning the pilot-DTC:

"*We want to involve insurer CZ as much as possible, to prevent that they back out after the pilot phase [of the DTC]. […] We have come so far already, we don't want to start over again. Except for pricing arrangements, we share our information with the insurer CZ.*" (*IP01_2) [11&12]*

4.7.3.3. Content-based – DTC issues

There are several other issues regarding the DTC that are currently being debated. They are related to the presence of the frail elderly at the multidisciplinary team meetings and the inclusion criteria. These issues are further discussed below.

- **Multidisciplinary team meeting and frail elderly – informal caregiver presence**

As described in the *4.2 Service delivery*-section, the presence of frail elderly and informal caregivers at the multidisciplinary team meetings has been a discussion point, with both content-based arguments for and against. This also effects the costs of the pilot-DTC. As compared to the other Leading Care Programmes Frail Elderly in the three other regions, the CCFE is the most costly for the insurer. This is in part related to the time and costs of involving the frail elderly and informal caregivers in the multidisciplinary team meeting (*IP06_2*). It is not only the time and costs of physically coming together, but also a different approach to organising multidisciplinary team meetings with professionals. Namely, these meetings are otherwise often used to discuss the care process in general and the meeting is not devoted entirely to one case. (*IP06_2, IP07_2*)

The health insurer VGZ is of the opinion that the advantage including the frail elderly and informal caregiver in the team meetings has not been 'proven' yet, thus it is difficult for them to provide a lot of funding for this. The insurer does not have an indication of a better quality of and experience care for between elderly in participating in the multidisciplinary team meetings and

those who did not (*IP07_2*). Also, after speaking with frail elderly and informal caregivers in the other regions, they did not get the impression that they are any less satisfied than frail elderly and informal caregivers that were present at the meetings in CCFE (*IP06_2*). In contrast, the professional caregivers interviewed in the context of the current report, expressed a positive attitude towards the presence of frail elderly at the multidisciplinary team meetings (see *4.2 Service delivery*).

- **Consequences of variations in inclusion criteria**

As also described above, several interviewees pointed out that there is considerable variation in the criteria between the care groups used to include elderly into to programme. A potential consequence of high inclusion is that the quality of care may decrease when the case load of a GP-practice is too high. This would be an argument to focus on the frailest elderly in the CCFE first, because then their case load is manageable (*IP01_2, IP07_2*).

Currently the inclusion criteria of the CCFE seem to be stricter than the inclusion criteria of the other Leading Care Programmes Frail Elderly, which may also explain why the CCFE is more costly (IP06_2).

4.8. Implementation process

4.8.1. Past and present

In the period from 2008 to 2010 a regional working group named 'Committee Elderly Care' identified issues in elderly care in the region of South-East Brabant in the Netherlands. Hereafter, a regional network was set up that included patient representatives, the PoZoB care group with GPs and nurse practitioners, home-care organisations, geriatricians from different hospitals, elderly care physicians from nursing homes, welfare and social care departments from the municipality, and a primary care support organisation.[10] The findings from the Committee Elderly Care led in 2011 to the 'KOMPLEET' project phase, which was initiated with funds from ZonMw (programme 'Op één lijn').[11] KOMPLEET was an acronym for chained care for elderly and their partners (i.e., informal caregivers) in accessible primary home-care' (*Dutch: 'Ketenzorg Ouderen Met Partners in Laagdrempelig Eerstelijns Thuiszorg'*)[11]. This project phase lasted from 2011 until 2014[11] and during this project the care programme was developed in care group 1 (PoZoB). Building on the findings from the KOMPLEET project, in 2013, the CCFE was jointly implemented in the region by the three care groups.[11] In care groups 2 and 3 the care chain was financed via the pilot-DTC from the start. Care group 1 was still in the project phase, and therefore the pilot-DTC was only implemented as of 2015.

"*In 2011 we started with 30 GP-practices in care group 1 via the Elderly Care Module-financing. Since 2013 the financing changed, but the content is still the same as in 2011*" (*IP01_2) [13]*

When looking at the key elements of the care programme, these have not changed much since the beginning:

"*In 2010/11 we invented the care programme, and at this moment, the key elements are the same. […] We still think it is best to include the patient in the multi-disciplinary team meeting, and the goals in the individualised care plan are the patient's goals and not the professional's… These elements remain always a topic of discussion, but we keep coming back at the same quality requirements."* (*IP01_2) [14]*

4.8.2. Variations in the care programme

There are several variations across the care groups. One of the initiators mentioned:

"*It was the intention to make a uniform care programme, however one of the care groups (3) made separate arrangements with the insurer VGZ. […] This can lead to problems when a GP-practice of that care group is located near a GP-practice of our care group. For example, if they have other arrangements with the district nurse, which we do not support, that can be confusing. Especially, in this field where everything is already so shredded, it is important to have a uniform way of working*." (*IP01_2) [15]*

However, it has been acknowledged that working in a uniform manner can be difficult, and therefore it is important to discuss and collaborate with one-another:

"*A district nurse has to deal with several GP-practices and the GP-practices have to deal with several home care organisations and different teams. To make it even more complicated, there are just a lot*

of parties. That is why we decided to work in a uniform way. And if some elements are not satisfying, let's discuss the pros and cons together […] It does not work if we make other arrangements; that will lead to chaos. […] We are searching for the 'common denominator' and we find it important to listen to our [network-] partners to make the care programme even better." (*IP01_2) [16]*

The care programmes differ between the three care groups with regard to their implementation timeline and process and with regard to who conducts case management.

- **Implementation timeline and process**

How and when the care programme has been implemented in the GP-practices differs across the care groups. This can be explained by the different payment schemes, as described in the *4.7 Financing-*section, but also by the difference in employment status of the professionals in the care groups (as described in *4.3 Leadership & governance,* see **Figure 4.2**). In care group 1, where the GPs are sub-contracted and nurse practitioners are directly employed by the care group, the care programme is currently being implemented by approximately 50% of the GPs. In care group 2, where the GP is sub-contracted by the care group, 15 of the 17 GP-practices have implemented the care programme. And, as mentioned already, care group 3 implemented the care programme in all GP-practices at the same time, as all GPs and nurse practitioners are directly employed by this care group.

It is noteworthy that these different organisational structures of the care groups may attract different types of GPs (e.g., large GP-groups versus solo GPs). GPs and GP-practices need to meet certain quality requirements when joining a care group; there are stricter quality requirements in place for care groups 2 and 3. For example, a practice might need to meet certain administrative/ organisational structures and already be implementing other care chains successfully. Thus GP-practices in care groups 2 and 3 may have already been better prepared for implementing such a frail elderly care programme than some of the practices that are part of care group 1. This could be another reason why implementation in care group 1 is taking longer. (*IP03_2*)

The implementation of the CCFE also requires a culture change. The progress of implementation across the GP-practices is also dependent on the pro-activity of the GPs (*IP05_2*).

- **Case management**

The care groups had expected to have 60% of case management carried out by a nurse practitioner and they received financing accordingly. However, in care groups 1 and 2 this turned out to be 95% in practice, meaning that the care groups had to reimburse the practices for time invested in case management, while the health insurer did not reimburse the care groups for this gap of 35% (95% in practice – 60% included in the DTC). In care group 3 65% of case management was conducted by the nurse practitioner, thus there were no issues regarding reimbursement.

In care group 1 and 2 the nurse practitioner is the case manager for almost all patients. The project leader of care group 2 (*IP03_2*) stressed that it is not feasible that case management and care coordination are combined, since the care coordination should always take place from the GP-office, which is not the case if the district nurse is the case manager. Another option would be that the district nurse is employed at the GP-office, to fulfil both case management and care coordination.

4.8.3. Future implementation and development

There are several plans for the future of the CCFE. Specifically, there are developments in ICT, transfer care, and with regard to the evaluation of the care programme itself:

- **Evaluation:** In 2017, VGZ will continue with the pilot-DTC in the current care groups. They are awaiting the results of a more extensive evaluation in 2017 before deciding whether the pilot-DTC will become part of their regular financing scheme and before implementing the CCFE in other care groups.

"*We want to improve our product, based on the experience from the pilot. […] We want to do something with the bottlenecks that there are now, and also with the wishes that are expressed*." (*IP01_2) [17]*

Furthermore, the care groups are also looking into evaluating the care programme;

- **ICT:** To develop the patient portal further, so that it will be linked to Care2U or the individualised care plan;
- **Transfer care:** To optimise the transfer care from and to hospitals, in order to improve the transition from primary care to secondary care (and back).

Furthermore, there are developments with regard to the care programme and the pilot-DTC. Namely, while the current report was being written (spring-fall 2016) discussions and negotiations regarding the future of the CCFE were being held between care groups and health insurers. Specifically, new developments for the pilot-DTC in 2017 were being made by the care groups and health insurer VGZ. At the time that this report was completed (October 2016) the pilot-DTC for 2017 was not yet finished. However, some changes are highly likely, these include:

- **Care coordination vs. case management**: As already described throughout the report, discussions pertain to which type of professional should take on the role of case manager. Currently, this is predominantly done by the nurse practitioner. However, in the future this role will more often be taken up by district nurses and case workers dementia. This has consequences for the role division between case management and care coordination. The separate role of care coordinator that is currently conducted solely by the nurse practitioner will become smaller and will be called 'programme coordinator'. The programme coordinator will focus on administrative tasks and monitoring the overall process. The case manager's role will be expanded and he/she has to be appointed at an earlier point in the care process. The case manager, instead of the current care coordinator, will thus conduct the first home visit and holistic assessment and will draft the individualised care plan. This means that a case manager needs to be appointed before the first multidisciplinary team meeting (as is currently done during this meeting). In 2017 the involved parties will also look into whether district nurses or case workers dementia can take on the role of programme coordinator.
- **Multidisciplinary team meetings**: In the future less multidisciplinary team meetings per included frail elderly will be held. One team meeting will be held in the first year, and follow-up meetings will be held as of the second year. Currently, there are usually two meetings already in the first year. However, in the new pilot-DTC a second meeting in the first year may be held in case this is necessary, but this is not the norm. There will be a greater emphasis on only organising these meetings when necessary, and with less professionals (especially in the follow-up years).
- **Greater integration with dementia care:** This will in part be realised by having case workers dementia take on the role of case manager more often. Furthermore, because many

included frail elderly have dementia, it is essential that integration with this field of care is improved upon.

- **Indicator assessment:** Experience with care indicators will be assessed amongst frail elderly in 2017. Furthermore, the care groups are looking into using 'Goal Attainment Scaling' to assess whether personal goals set by frail elderly are achieved.

4.9. Discussion

4.9.1. General discussion

In this report we comprehensively described one of the three most promising integrated care programmes for multi-morbidity in the Netherlands, namely the Care Chain Frail Elderly. The ever changing macro level context in the Netherlands has meant that the care programme has had to make some adaptations, for example by increasing collaboration with the social domain. The programme distinguishes itself from other elderly care programmes in the Netherlands because it is integrated in a bundled payment system, targets the very frailest GP-population, uses a community-based case finding approach, and is being implemented by three different but collaborating care groups. Because the programme is inherently linked to a bundled payment, financing has had a large influence on how and when it has been implemented in the different care groups. This has been a challenge, but is also an immense asset as it provides promise for the sustainability of the programme and facilitates true multidisciplinary and integrated care. The implementation of the pilot-DTC in three care groups with different organisational structures, patient populations, and predominant health insurers allows for a collaborative learning process to take place.

In qualitative research the goal is not to establish a representative population but to explore themes. In the current thick description, information from the interviews was used to gain a better insight into the programme itself and into how stakeholders reflected on the various implementation phases. It should be acknowledged that the persons interviewed were all intrinsically motivated to participate and to share their experiences. Furthermore, it should be noted that the care programme is implemented in and described for three different care groups. Some of the information might not apply to all care groups, or there may be a variety in the care process in practice. The aim was to describe these differences as much as possible, especially in the reflection-sections. Unfortunately, it was not feasible to interview care providers or frail elderly from each of the three care groups.

4.9.2. Discussion of the programme in the context of the conceptual framework

In this section, the CCFE is described in relation to the SELFIE conceptual framework. Interesting similarities or differences are mentioned, starting with the core of the framework, followed by each pie in the same order as the sections of this report.

Holistic understanding of the individual with multi-morbidity and his/her environment
The CCFE takes a holistic approach to frail elderly care. The holistic assessment using the TraZAG-instrument during the first home visit covers most of the topics identified in the core of the SELFIE framework, specifically: health, well-being, capabilities, needs, and preferences are included in the holistic assessment and care planning. Some environmental factors from the SELFIE framework are explicitly included in the holistic assessment and care programme, namely the availability or use of welfare services, the social network, and the community. Other elements of the framework were not addressed during the document analysis or interviews, namely the role of transport, housing, and financing. Due to the focus of the programme on tailored and person-centred care, it is to be expected that in individualised care planning the case manager take these factors into consideration if these factors cause any problems for the frail elderly.

Service delivery

The care programme touches upon many aspects mentioned in the Service delivery-pie of the SELFIE conceptual framework. It is an extensive care programme focused on improving frail elderly's entire care process. However, it seems to focus less on self-management than other integrated care programmes for patients with multiple morbidities, probably because the target population includes the frailest elderly for whom standard self-management interventions are not relevant.

In the future the care programme aims to improve continuity of care, from and to secondary care, by means of the sub-project 'Transfer Care'. From the interviews with primary and secondary care providers, it seems that both are aware of the potential health benefits for the frail elderly of ensuring continuity of care. Their dedication to this theme is also reflected by the fact that the 'Transfer Care' project team consists of both primary and secondary care providers.

The care provision for frail elderly is not solely in the hands of primary care, but has shifted more to social care. One of the aims of the CCFE is setting up a community network. Although the GPs sometimes considered it difficult to make the connection with social care providers, the new legislation makes it necessary to bridge this gap.

Leadership & governance

Also in Leadership and Governance, the focus of the care programme is on the micro level. Shared-decision making predominantly takes place between the nurse practitioner, the GP, the frail elderly, and the informal caregiver, for example during the multidisciplinary team meeting. The care is tailored in the sense that the nurse can determine what is necessary and how much care each elderly needs in the programme.

Because the care programme is being implemented by GPs employed or sub-contracted with care groups, there is a vision at the meso level for what frail elderly care should look like. The care groups can require or at least stimulate GPs to provide such care. This also ensures that the care programme is being implemented in a relatively homogenous fashion across GPs.

The macro level changes in the system in the Netherlands have brought about issues regarding responsibility for frail elderly care at the micro and meso level. Previously the GP was the primary gate keeper into care, nowadays this role being taken up more and more by social care and the municipality. Issues regarding who is the primary responsible care provider for a frail elderly person, or any complex or multi-morbid person for that matter, have become complicated. In CCFE this macro level discussion is reflected in the micro and meso level discussion as to whether the district nurse should play a larger role in the care chain. This professional is often already involved in the care process of the frail elderly. Also, when the frail elderly is included in the care programme, the district nurse is often the professional that visits the elderly the most. Negotiations with the health insurer are still in progress to see whether activities such as case management by the district nurse - employed at the home care organisation - can be reimbursed via the DTC, or that this nurse should then be employed at the care group.

However, it is essential that it remains clear who the primary contact point for the frail elderly person is and who has the final say and final responsibility. In the CCFE this is made clear by appointing a case manager to the frail elderly, who in all cases, remains the first contact point. And, in all cases, the GP is the professional with the final responsibility in primary health care.

Workforce

An essential difference compared to other integrated care programmes is that in the CCFE the patient and informal caregiver are members of the multidisciplinary team. The informal caregiver is supported in the care programme in the sense that the CCFE tries to *unburden* the informal caregiver rather than transferring care to informal care. The tasks of the informal caregiver are taken

into account, and during the multidisciplinary team meeting the informal caregiver can ask for support.

New professional roles have been developed within the care programme, i.e., the case manager and the care coordinator. These roles can be appointed to three professionals (i.e., nurse practitioner, district nurse, case worker dementia). The roles are still being discussed by the care groups and the insurer and decisions have to be made concerning the professional that takes on the role of case manager or care coordinator, and whether these two roles can be combined into one new professional role. Hopefully the ongoing monitoring and the SELFIE evaluation will provide more insight into whether these roles should be combined, and who is the most suitable professional.

Technologies & medical products

Another important development point in the care for frail elderly, as described by the care groups, is an ICT-project where one of the aims is to connect the professional information system to an individual health portal (*Dutch: MijnGezondheidsPortaal (MGP*)). This would allow frail elderly to have digital access to their individualised care plan.

Furthermore, it is interesting to note that the care chain information system Care2U is predominantly used to connect professionals to one-another and to know what the other professionals are up to. Care2U is a system to document patient information. Currently, Care2U can be successfully linked to GP electronic medical records which means that professionals from the GP-practice do not need to register information twice. However, professionals working for other organisations need to register in their own information systems and subsequently update Care2U for the purpose of communication and collaboration with other professionals.

Information & research

The research data in the CCFE are predominantly collected to provide information for the health insurer and the further development and refinement of the DTC. Most of the data consists of process and structure indicators. SELFIE aims to extend the data collection, adding patient reported outcome and experience measures to the existing indicators.

Financing

At the micro level, there are no out of pocket costs for the frail elderly when they are included in the care programme. At the meso level, the care groups and one of the predominant health insurers have been collaborating since the outset to develop a frail elderly care programme that is inherently linked to a bundled payment in the form of a Diagnosis-Treatment Combination (DTC).

Financing and the sustainability thereof is an important issue in the CCFE. At first, one of the insurers was not convinced of the use of the care chain for frail elderly. Furthermore, it was initially expected that the pilot-DTC would become a regular DTC in 2017. However, the pilot was extended for another year because the predominant health insurer wishes to continue evaluating and refining it before making it widely available for care groups across the Netherlands.

This thick description report sheds light on what the Care Chain Frail Elderly is, how it is being implemented in daily practice, and how different stakeholders reflect on it. The insights gained in this report form the basis for setting up an empirical evaluation of the CCFE in the context of further SELFIE research.

4.10. Appendix

Table A.1: Overview of stakeholders interviewed

TD code	Stakeholder category	Stakeholder description
IP01_2	A/B	Programme manager/Initiator
IP02_2	A	Programme manager
IP03_2	A	Programme manager
IP04_2	B	Initiator
IP05_2	B	Initiator / Other stakeholder
IP06_2	C	Representative of the sponsor/payer
IP07_2	C	Representative of the sponsor/payer
IP08_2	D	Non-physician medical staff, social staff, new professional group
IP09_2	D	Non-physician medical staff, social staff, new professional group
IP10_2	E	Informal caregiver
IP11_2	F	Client

Table A.2: TraZAG-instrument

Three stages of TraZAG-instrument:

Stage 1

1. The patient scores 10 areas as being problem areas (yes/no).

    i. Does the patient require assistance with domestic activities (e.g., cooking, cleaning, and groceries)? (form 2)
    ii. Does the patient require assistance with activities of daily living (e.g., washing oneself, clothing, using the toilet)? (form 3)
    iii. a) Has the patient lost weight in the past 3 months? (form 4)
    b) Does the patient have problems with eating or drinking? (form 4)
    iv. a) Has the patient fallen more than two times in the past 6 months? (form 5)
    b) Does the patient have trouble getting up, moving, or standing? (form 5)
    v. Has the patient visited the GP more regularly in the past year, or has he/she been admitted to the hospital?
    vi. Has the patient had incontinence in the past three months? (form 6)
    vii. Does the patient use more than 4 different medications, including self-care medication? (form 7)
    viii. a) Does the patient have problems with his or her sight? (form 8)
    b) Does the patient have problems with his or her hearing? (form 8)
    ix. Does the patient have memory problems? (form 9)
    x. Does the patient experience poor moods, depression? (form 10)

Stage 2

2. **Primary follow-up**: For the questions answered 'yes' in the basis phase, the related forms should be used to get more in-depth information. Furthermore, the standard advice is to assess the burden of care for the informal caregiver in this phase.

Stage 3

3. **In-depth follow-up**: For some areas explored in the primary follow-up, more extensive follow-up may also be needed.

Furthermore, the TraZAG-instrument consists of additional forms with measuring instruments.

Table A.3: Aims and measurement in Project Transfer Care

Triple aim	Indicator	Start (2016)	Aim (2018)
Experience of care	• Experience of transfer - care patient and informal caregiver	• No measurement	• Growth in satisfaction with transfer care
	• Collaboration – professionals	• No measurement	• Better collaboration
	• Implementation of new procedures	• Baseline measurement	• 100% implemented
Health	• Improvement on the health aim has already been demonstrated in former research[12]. For example, there is a significant decrease in mortality within one year after discharge from the hospital (from 39.8% to 33.5%).		
Costs	• Mean healthcare costs (as in Health Insurance Act, see *Macro level*) per frail elderly	• Baseline measurement	• Health care costs remain stable

Table A.4: Overview of indicators measured in the CCFE, currently or in the past[4]

Concept	Instrument	Level	When
# **included frail elderly** on date 12/31 - Age (mean) - Gender - % 75+ - % patients with individual care plan		EMR* Care2U	2016 2011-2015
Inclusion percentage on date 12/31:		EMR Care2U	2016
Discontinuation: # included frail elderly last year that are no longer included on date 12/31		EMR Care2U	2016
Reason of discontinuation: Mortality, moving (e.g. institutionalisation), CCFE no longer indicated	Retrospective extraction from patient files	EMR	2016
Comorbidity on date 12/31: # incl. frail elderly with dementia / total incl. # incl. frail elderly with DM2** / total incl. # incl. frail elderly with Asthma / total incl. # incl. frail elderly with COPD** / total incl. # incl. frail elderly with CVD** / total incl. # incl. frail elderly with ICR** / total incl. # incl. frail elderly with mental health / total incl.	ICPC codes	EMR Care2U	2016 2011-2015
Case management on date 12/31: # nurse practitioner as CM / total incl. frail elderly # district nurse as CM / total incl. frail elderly # case worker dementia as CM / total incl. frail elderly	Retrospective extraction from patient files	Care2U	2016 2011-2015
TraZAG: # TraZAG assessments/ total incl. frail elderly in past 12 months		EMR Care2U	2016 2011-2015
Multidisciplinary team meeting (MDO): # MDO / total incl. frail elderly in past 12 months		EMR Care2U	2016 2011-2015
Individualised Care Plan (ICP): # ICP / total incl. frail elderly in past 12 months		EMR Care2U	2016 2011-2015
Medication review: # medication review / total incl. frail elderly in past 12 months		EMR Care2U	2016 2011-2015
Consultation of geriatrician: # consultations / total incl. frail elderly in past 12 months		EMR Care2U	2016
Presence of disciplines (professionals) at MDO	Retrospective extraction from patient files		2016
Participation of GP practices: % of practices that contracted CCFE			

Problems with ADL (zelfredzaamheid): % frail elderly having problems with ADl/iADL (HDL)		TraZAG Care2U	
Incontinence: % frail elderly with incontinence % frail elderly with bowel incontinence		ICPC Care2U	
Vision problems: % frail elderly with vision problems		ICPC Care2U	
Hearing problems: % frail elderly with hearing problems		ICPC Care2U	
Malnutrition: % frail elderly with malnutrition	% frail elderly with BMI <21	Care2U	
Alcohol problems: % frail elderly with alcohol problems		ICPC Care2U	
(Strong suspicion of) **dementia** % frail elderly		ICPC Care2U	
(Strong suspicion of) **anxiety disorder** % frail elderly	DSM	ICPC Care2U	
(Strong suspicion of) **depression** % frail elderly	DSM	ICPC Care2U	
Mobility and fall risk % frail elderly with get up and go-test % frail elderly with inadequate test results	Get up and go test		
Safety and fall risk % frail elderly with increased fall risk, fall fear, avoidance	% frail elderly that has fallen more than two times in the past 6 months	TraZAG Care2U	
Societal participation/loneliness % frail elderly with loneliness	% frail elderly that score 3 or higher on *'De Jong-Gierveld'*	TraZAG Care2U	
Informal caregiver burden % frail elderly receiving informal care (patient level) & % informal caregivers that are burdened (informal caregiver level)		TraZAG Care2U	

Table A.5: Overview of quotes and translations

Quote #	Dutch	English
[1]	"Het is gewoon inventarisatie van de situatie, niet per se het probleem… het is weer zo probleemdenkend. […] dat je niet moet gaan paternalistisch betuttelend moet gaan zijn."	"*The instrument provides an indication of a situation, not necessarily an indication of problems. We should avoid being paternalistic in our approach.*" (*IP01_2*)
[2]	"Omdat hij in het zorgprogramma zit, is dat netwerk optimaal ondersteund, en kan ik die patiënt ook thuis houden."	"*[…] Because we included him [elderly person] in the care programme, the network of the elderly is fully supported and the patient does not have to be institutionalised.*" (IP02_2)
[3]	"Dus we kijken wel van waar heeft de patiënt het meeste last van en wat zou die willen veranderen en wat kunnen we daar dan mee."	"*The care plan should include: What is bothering the patient the most, and what can we do to help?*" (IP09_2)
[4]	"Maar ja, er werd toen in elk geval […] communiceerden de mensen met elkaar en werd bekeken van wat voor ons, ja, noodzakelijk was."	"*people at least communicated with one-another and looked at what was […] really necessary for us*". (IP10_2)
[5]	"Er is een besluit dat centraal genomen wordt, en iedereen heeft zich daaraan te committeren."	"*For us, it was easy to say: we made a decision, [to implement the care programme] and everyone has to commit to it.*" (IP02_2)
[6]	"En is de regiocoördinatie sinds vorig jaar naar DOH gegaan. […] dus wat dat dan veranderd heeft, ik denk dat we het meer afgestemd, georganiseerd hebben op elkaar."	"*The coordination of the project shifted from care group 1 to care group 2. So what has changed, I think, we are still implementing the care programme together, and are trying to organise it together.*" (IP01_2)
[7]	"Maar het fijne van hier, met de samenwerking die er ook al heel lang is, is dat we elkaar ook al heel lang, heel goed kennen, dus als ik of één van mijn collega's iets merken bij een cliënt thuis, dan bellen we meteen de huisarts en we worden ook meteen gehoord, want we kennen elkaar. En als je dus een huisarts hebt van buiten de wijk, die kennen wij ook niet zo goed, dus dat maakt het gewoon een heel stuk lastiger."	"*The good thing about our collaboration is that we know each other very well. When I'm with a client and I notice anything special, I can call the GP and I know that I will be heard, because we know each other. It can be harder to communicate with GPs outside of our district.*" (IP08_2)
[8]	"Ja, we gaan dan toch kijken van hoe kunnen we aansluiten bij de wensen van de patiënt, maar toch de veiligheid	"*We are trying to meet the needs of the patient, yet also to unburden the informal caregiver and increase the safety of the patient.*" *(IP09_2)*

	vergroten of inderdaad mantelzorg ontlasten."	
[9]	"Ja, op organisatieniveau zijn er nog niet aan en het hoeft ook niet. Het wordt leuk als er een financiering aan komt te hangen. Dus stel dat wij binnen het zorgprogramma bepaalde taken van de wijkverpleegkundige kunnen contracteren, dan op basis van activiteiten in CARE2U gaan we dan nog uitbetalen."	"*It is possible for the several chain partners to use Care2U, but to make it work on an organisational level, there should be financial incentives. For example, that registration for reimbursement is done in Care2U*." *(IP01_2)*
[10]	"Vanwege de zorgverzekering, dus de manier… we hebben natuurlijk CZ en VZ praktijken en VZ deed mee, maar het grootste aandeel van onze deelnemende praktijk was CZ dus wij konden ook niet volop gaan implementeren, zoals SGE en DOH het wel konden doen. Dus wij hebben een achterstand daarin opgelopen. [...] Dus er is een behoorlijke eigen investering van PoZoB in gaan zitten om toch te kunnen starten."	"*Since the predominant insurer in our region did not offer a DTC, we could not implement the care programme fully, as rapidly as the other two care groups could. […] We had to invest a lot of money ourselves and are still implementing the care programme at new GP-practices.*" (*IP01_2*)
[11]	vanaf 2015 hebben wij CZ op kwartaal overleggen ook uitgenodigd en zijn ze ook aanwezig als we de voortgang bespreken met VGZ. […] we hebben ons uiterste best gedaan om CZ aangehaakt te krijgen, dat het toch wel erg onhandig zou zijn als zij vanaf het einde van de pilot, medio 2016, is verlengd tot 2017, als zij dan daarna hun totaal hun eigen pad… ik bedoel we gaan niet weer opnieuw beginnen en ik ben blij dat het uiteindelijk wel werkt. Maar dat is ons wel aangebleven om het bij beide zorgverzekeraars te houden.	"*We want to involve insurer CZ as much as possible, to prevent that they back out after the pilot phase [of the DTC]. […] We have come so far already, we don't want to start over again."* (*IP01_2)*
[12]	Wij willen wel alle rapportages ook met jullie delen. Niet over prijsafspraken…	*"Except for pricing arrangements, we share our information with the insurer CZ." (IP01_2)*
[13]	"we zijn in 2011 begonnen met de implementatie bij 30 huisartsenpraktijken en dat ging dan via de module complexe ouderenzorg van de zorgverzekeraars, dus wat hier is veranderd sinds 2013 is de wijze van financiering, maar de inhoud waar we op zijn gaan sturen, loopt vanaf 2011.	"*In 2011 we started with 30 GP-practices in care group 1 via the Elderly Care Module-financing. Since 2013 the financing changed, but the content is still the same as in 2011*" (*IP01_2*).

	Dus dat zorgprotocol hebben we destijds al"	
[14]	"Tussen 2010, 11 hebben we bedacht zo moeten we het doen en dat we daar niet op zijn afgeweken […] We zeggen nog steeds de patiënt bij het MDO en de mantelzorger bij het MDO. De doelen afgestemd op die van de patiënt en niet op die van de zorgverleners, dat soort dingen die zijn… ja die blijven overeind en die staan telkens ter discussie natuurlijk he, zeker vanuit de implementatie gezien. Maar we blijven uitkomen op dezelfde kwaliteitseisen"	"*In 2010/11 we invented the care programme, and at this moment, the key elements are the same. […] We still think it is best to include the patient in the multi-disciplinary team meeting, and the goals in the individualised care plan are the patient's goals and not the professional's… These elements remain always a topic of discussion, but we keep coming back at the same quality requirements."* (*IP01_2*)
[15]	"we hebben een zorgprogramma, daarin stellen we de inhoud vast, en die gaan we… inhoud blijven hetzelfde. SGE heeft zich daar toch niet helemaal aan gehouden, die heeft […] andere afspraken gemaakt met VGZ." […] "En je merkt wel dat dat in de implementatie knelpunten oplevert, want een SGE praktijk kan zomaar naast een PoZoB praktijk zitten en als er in deze praktijk de wijkverpleegkundigen op een bepaalde manier (??14:26) SGE binnen in de werkwijze dus als daar op een bepaalde manier met een wijkverpleegkundige wordt samengewerkt die wij niet onderstrepen, ja dan kun je je voorstellen, dat het heel vervelend en verwarrend is in de praktijk en dat is ook waarom wij hebben gezegd, wij willen een manier van werken juist omdat het zo versnipperd veld is"	"*It was the intention to make a uniform care programme, however one of the care groups (3) made separate arrangements with the insurer VGZ. […] This can lead to problems when a GP-practice of that care group is located near a GP-practice of our care group. For example, if they have other arrangements with the district nurse, which we do not support, that can be confusing. Especially, in this field where everything is already so shredded, it is important to have a uniform way of working*." (*IP01_2)*
[16]	"De wijkverpleegkundige heeft te maken met verschillende huisartsenpraktijken. De praktijken hebben te maken met verschillende thuiszorgorganisaties dus ook verschillende teams. Om het ingewikkeld te maken, ze hebben allemaal met heel veel partijen te	"*A district nurse has to deal with several GP-practices and the GP-practices have to deal with several home care organisations and different teams. To make it even more complicated, there are just a lot of parties. That is why we decided to work in a uniform way. And if some elements are not satisfying, let's discuss the pros and cons together […] It does not work if we make other*

	maken, dus wij hebben gezegd, laten wij dan in ieder geval een manier van werken afspreken." […] "En als er elementen niet goed van zijn, gaan kijken wat zijn de voors en wat zijn de tegens en […] waar kunnen we het beste mee uit de voeten. […] Het werkt niet als je andere afspraken gaat maken, dan wordt het gewoon een chaos. […] Wij gaan echt voor de gemene delen en wij vinden ook dat je zo een zorgprogramma ter discussie moet stellen en wij zeggen ook tegen het netwerk, als je dingen vindt dat dingen anders moeten, leg het op tafel, want dan gaan we erover verder denken, want dat heb je ook nodig."	*arrangements; that will lead to chaos. […] We are searching for the 'common denominator' and we find it important to listen to our [network-] partners to make the care programme even better*." *(IP01_2)*
[17]	"wat we natuurlijk willen is dat we op basis van de ervaringen uit de pilot een beter product kunnen neerzetten, […] maar dat we wel wat kunnen doen met de knelpunten en de wensen die er zijn."	"*We want to improve our product, based on the experience from the pilot. […] We want to do something with the bottlenecks that there are now, and also with the wishes that are expressed*." (*IP01_2*)

4.11. References

1. Projectplan Transfer care for frail elderly, 'Slimmer met Zorg' Eindhoven [Concept], version 30 March 2016 [*Dutch*]
2. Protocol: Care programme CCFE - Version 3, 2016 [*Dutch]*
3. User manual 'SFMPC intervention toolbox' – no authors mentioned [*Dutch*]
4. Document on the Diagnosis-treatment combination (pilot-DTC) for the Care Chain for frail elderly, July 2016 [*Dutch*]
5. Presentation 'Novel collaboration PoZoB, DOH, SGE' on a proposed collaboration, March 2016 [*Dutch*]
6. Final report for Zonmw concerning the financing VIMP – KOMPLEET 2.0 [*Dutch*]
7. Health insurer VGZ Procurement for 2017 [*Dutch*]
8. Summary of [interim] documentation on qualitative research on the VGZ pilot-DTC for frail elderly VGZ, January 2015 *[Dutch]*
9. Presentation 'Care for frail elderly in the region of South-East Brabant' at the Ministry of Health, Welfare and Sport May 2015 [*Dutch*]
10. ZonMw website on the KOMPLEET project phase: http://www.kompleet.nl/ [*Dutch*]
11. KOMPLEET: Care chain for frail elderly – Kennisplein Chronische Zorg, online article, http://www.kennispleinchronischezorg.nl/eerstelijn/kwetsbare-ouderen-praktijkvoorbeeld-kompleet-ketenzorg.html *[Dutch]*
12. Buurman BM, Parlevliet JL, Allore HG, et al. Comprehensive Geriatric Assessment and Transitional Care in Acutely Hospitalized Patients: The Transitional Care Bridge Randomized Clinical Trial. JAMA Intern Med.2016;176(3):302-309.

5. Programme 3: Better Together in Amsterdam North (BSiN)

5.1. Basic information

5.1.1. Procedure

In this report, documents and interviews were used to obtain information about the BSiN approach. During the process of selecting the most promising integrated care programmes for multi-morbidity in the Netherlands, three authors (MB, FL & MRvM) spoke to the contact point(s) several times about the approach. Phone and face to face meetings were held from October 2015 and continued throughout the process of writing this report (circa October 2016). The main contact point provided most of the documentation used and brought the first author of this report (MB) in contact with different stakeholders that could be interviewed.

Primary documentation used were the (process) evaluations conducted by TNO[xi] of the overall BSiN approach[1,3-5]. Other sources include documents about the Frieslab model[6,7] and several research presentations[8,9]. Furthermore, the website from the Krijtmolenalliantie (KMA) (i.e., an alliance of support organisations from acute and long-term health care, social care, welfare, and youth)[10] and information on the Self-Sufficiency Matrix[11] were used.

In May through August 2016, 13 stakeholders were interviewed to obtain more information on the BSiN approach. For an overview of the persons interviewed see **Appendix Table A5.1**. A distinction is made between the following types of stakeholders: programme manager, initiator of the programme, physicians (e.g., GP.), non-physician medical staff/social staff/new professional groups (e.g., district nurses) representative of sponsor/payer organisation (e.g., health insurer, municipality), clients or their representatives, informal caregivers, other stakeholders (e.g., researchers). It is possible that one interviewed stakeholder falls into multiple categories, only one stakeholder type label is then used throughout the text. The interviews covered the topics presented in this report and explored 'how' and 'why' questions. Eleven interviews were held by one interviewer (MB), and two interviews were held by two interviewers (MB and FL). The interviews were held face-to-face in a private room and took between 20 and 80 minutes (mean = 58 minutes).

Interviews were recorded and transcribed verbatim. One author (MB) analysed these and discussed findings with the co-authors. All interviewees signed an informed consent that made using their results in this report and for future research purposes possible. Information from the interviews is referenced in this report as 'Interviewed Person xx_programme 3' (*IPxx_3*), when this is a direct quote the statement is presented in quotation marks. When a reference is given after punctuation (i.e., ... (*IPxx_3*)), this is the reference for the entire prior section, when the reference is given within the punctuation (i.e., … (*IPxx_3*).), this the reference only for this sentence. When information from the interviews is referenced, the type of stakeholder that made this statement is described in the text. In the case of potentially compromising their anonymity, the stakeholder type is not made explicit directly in the text. Direct quotes from interviews are numbered, in the **Appendix Table A5.2** the original Dutch quotes are shown.

Throughout this report both factual information on the BSiN approach and subjective experiences with the approach are reported on. These two types of information stem from the documents as well as the interviews. Each section below begins with factual information and

[xi] Netherlands Organisation for Applied Scientific Research (TNO) is a research organisation.

subsequently provides reflections and experiences on the approach. Please note that, unless otherwise stated, figures were made by the authors of this report.

5.1.2. Overview basic information

An overview of basic information on BSiN is provided in **Table 5.1.**

Table 5.1: Overview of basic information[1,4,6,7,10]

Programme name	Better Together in Amsterdam North
Contact person	Senior researcher, Netherlands Organisation for Applied Scientific Research (TNO)
Starting date program	The development and implementation of the BSiN approach can be divided into four steps: 4. 2008-2011: start cooperation and exploration of options; 5. 2011-2013: development of the approach and policy preparations; 6. 2013-2015: implementation as a pilot in two neighbourhoods in Amsterdam North; 7. 2016-onwards: up-scaling in entire Amsterdam North.
Geographical scope	The BSiN approach started as a pilot in two neighbourhoods in Amsterdam North. Since 2016, the approach is being implemented in all neighbourhoods in Amsterdam North.
Target group	Persons with multiple complex needs in the health and/or social domain(s). The target group can be split into four populations: • Adults with multiple (mental) problems; • Frail elderly (with a focus on dementia) (since 2016); • Low income / vulnerable households / dysfunctional families (since 2016); • Youth with obesity (since 2016). The focus of the SELFIE research is on adults with multiple problems. This is judged on the basis of the Self-Sufficiency Matrix (SSM). A score of 3 or lower on at least 3 of the 11 life domains of the SSM indicates multiple problems and subsequently means that the individual is triaged into the case management quadrant.
Number of persons treated	Triaged (2013 – present) = 1.181 (45 in 2016 until August) Case management quadrant (2013 – present) = 89 (33 in 2016 until August) Control group (2013 – present) = 150 Questionnaires: T0 (CM= 70, control= 150), T1 (CM= 32, control= 54), T2 (CM= 33, control= 50). (*September 2016*)
Aim	The goal of the BSiN approach is to develop and apply a well-aligned approach in caring for people with complex needs, by professionals across different sectors. This should lead to an improvement in the quality of the provided care and services, and in turn to a healthier, more self-sufficient, population with reduced care costs (i.e., triple aim).

Definition of integrated care	In the BSiN approach, care and services from health care, social care, welfare, social security, and youth care are integrated for people with multiple and/or complex problems. The integration takes place at four levels: • *Individual*: Focus on increasing self-sufficiency in order to simultaneously improve health, societal participation, employment (if possible) and financial situation (by debt restructuring). • *Professional:* Holistic view of the problems and integrated approach. Coordination of care and use of case management tailored to the complexity of the problems. • *Organisational:* Cooperation of acute and long-term health care, social care, and welfare providers to realise integration between welfare and care, continuity of care, innovation, substitution, and adequate use of professionals and informal caregivers. • *Financing:* Population based funding and shared savings. Note: These levels of integration can be linked to the SELFIE framework core, micro, meso, and macro, respectively.
Definition of multi-morbidity	The BSiN approach has a broad focus on multiple problems across different domains. Not only does this include physical and mental health, but it also incorporates well-being, social and societal functioning, and participation. Overall, 11 life domains are looked at – that correspond to the SSM. Of the case management population, who score ≤3 on at least 3 domains of the SSM, 77% reported multiple chronic conditions (see *5.6 Information & research*).
Definition of person-centeredness	The BSiN approach focuses on what persons can and want to work on themselves; their own active role is placed centrally. The person him- or herself is in charge of the individual plan, but the person is not involved in the decision as to which level of support they need. The latter is guided by a cut-off point of the SSM and the multidisciplinary team meeting in triage.
Definition of self-management	There is no specific definition of self-management. However, self-management can be seen as a component of self-sufficiency, the main aim of the programme.
Involved partners	Four partners involved in the BSiN programme can be identified: • 'Krijtmolenalliantie' (**KMA**), an alliance of care and support organisations from acute and long-term health care, social care, welfare, and youth. • **Health insurer** (Agis[xii]) / 'Zilveren Kruis Achmea' • **Municipal services of Amsterdam** • **Research organisations:** Primarily TNO. Additionally, Ben Sajet (University of Amsterdam (UvA)) and the VU University Medical Center Amsterdam (VUmc).

[xii] Agis has been part of health insurer Zilveren Kruis Achmea since 2015.

Involved disciplines and professions	The BSiN approach is offered by providers from the alliance of the 12 organisations that together form the KMA. The KMA includes primary health care (s), secondary health care (hospitals), mental health services, welfare (debt services case managers, social workers), social care (municipality return-to-work coordinators, home-care services), and youth care.
Organisational form and ownership	The alliance of organisations that together form the KMA signed a formal agreement to collaborate in November 2010, after which this agreement is updated and confirmed every year.

5.2. Service delivery

5.2.1. Design of delivery of care

In the autumn of 2011, reforms of the Dutch health- and social care system to transition from 'sickness and care to behaviour and health' (*Dutch: 'van ziekte en zorg naar gedrag en gezondheid'*) took place. At the core of this transition is the responsibility of persons for their own (un)healthy behaviour and the stimulation of persons' self-sufficiency. Increasing self-sufficiency is the main goal of BSiN, which is achieved according to the following three codes[1,10]:

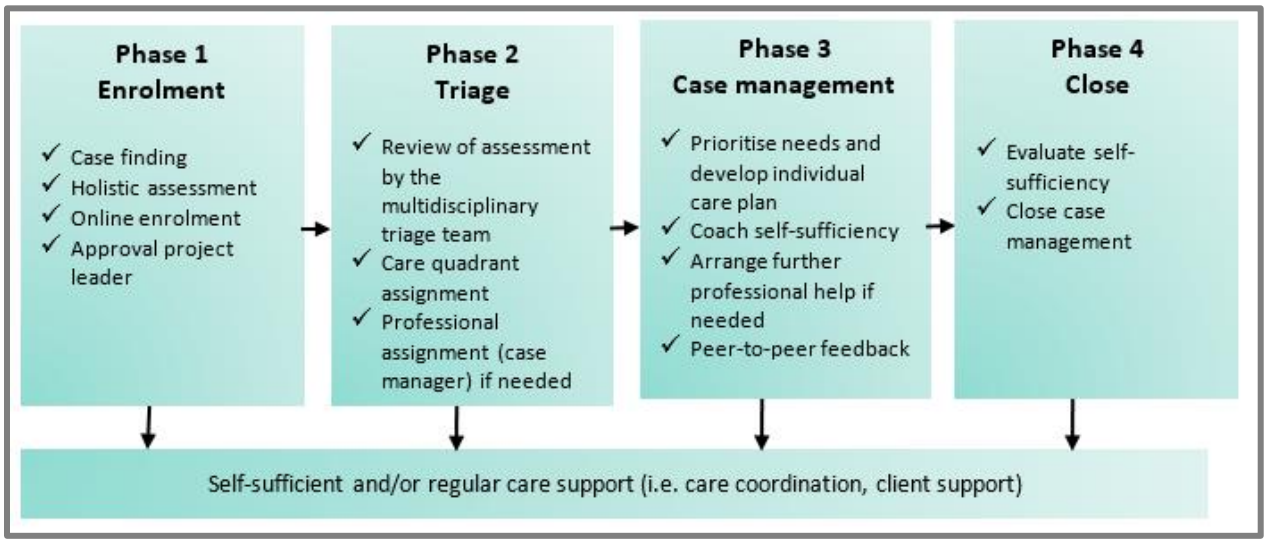
1-1-1 One person, one plan, and one case manager. Thus, the coordination of care and welfare is the responsibility of one person in order to avoid duplication of work and over-treatment and to improve the adherence of the person with multiple needs.

0-1-2 The person with multiple needs is primarily self-sufficient and is supported to the extent that is necessary. Hence, care starts with self-care with or without informal care, followed by primary and social care, and finally by the involvement of specialists from secondary care.

2-1-0 At the same time, BSiN aims to improve the self-sufficiency of the persons with multiple needs in order to transfer the level of support from secondary to primary and social care and from primary and social care to self-care with or without informal care.

The whole process of the BSiN approach can be divided into four phases (see **Figure 5.1**).[1] This starts with (1) enrolment followed by (2) triage. After triage persons are placed in one of four quadrants, i.e. self-sufficient, client support, care coordination, and case management. In SELFIE we focus on the most intense hereof, namely (3) case management. Lastly there is the (4) closing phase. Below we describe the first two phases, which are general to the overall BSiN approach, and then zoom in on the case management quadrant and close thereof.

Figure 5.1: The four phases of the BSiN program



Phase 1: Enrolment[1]

A professional from one of the KMA organisations or other organisations in Amsterdam North signals that an individual is potentially vulnerable, that their problems and/or needs go beyond their own professional scope and domain, and thus may benefit from the BSiN approach (see examples in **Box 5.1**). The KMA organisations estimated in 2013 (before the start of the implementation) that they in total would have 722 vulnerable individuals with probably low self-sufficiency within their organisations.[1] After agreement with the individual the professional enrols the individual for the BSiN approach. This entails that the professional conducts an initial holistic assessment with the SSM. This validated instrument[xiii] consists of 11 domains: finances, daily activities, housing, relationships at home, mental health, physical health, addiction, activities of daily living, social network, societal participation, and justice. Each domain of the SSM is measured on a five point scale, i.e. 1 (in crisis), 2 (not self-sufficient), 3 (limited self-sufficiency), 4 (adequate self-sufficiency), and 5 (completely self-sufficient). Hereafter, the professional can use an online portal to enrol the individual (see *5.5 Technologies & medical products*).[10] The professional needs to fill in (i) personal characteristics, (ii) contact details of the applicant, (iii) informed consent, (iv), reason for enrolment, (v) the referring (KMA) organisation(s), and (iv) the SSM of the person (as far as possible). Based on this information, the project leader (head of triage team) decides whether the person requires formal triage and additional support from BSiN.

Box 5.1: Case descriptions of individuals with multiple problems

Case 1

During an interview a BSiN participant explained that he had overweight and was only able to walk short distances. Due to his physical problems he needed a car to do the groceries for his mother. But he also had financial problems, and the car led to even more financial problems. Moreover, after doing the groceries he was too physically exhausted to perform housekeeping duties.

"due to the physical problems,[…] although I properly close the garbage bags, but then I put them all in the bedroom and opened the window so that it at least wouldn't smell […] So I didn't feel like dragging another couple of garbage bags [outside], because then I had to walk even further (IP10_3)." [1]

Case 2

A care provider explained that she enrolled a woman for BSiN because she had serious back problems (due to a medical mistake) which had a major impact on the persons' daily life. She needed another house to live, because her current house was not appropriate for her health situation. And she needed more care, because her current treatment consisted of pain medication only *(IP08_3).*

Case 3

A BSiN participant explained that due to her multiple physical health problems (several heart attacks, fibromyalgia, chronic fatigue, chronic obstructive pulmonary disease, and problems to the gallbladder), she was not able to work. Her friends were working full-time and she felt very alone. Sitting at home all day doing almost nothing, she did not care about anything anymore. As a result of this mental state, she did not do her administration and had growing financial problems *(IP05_3).*

[xiii] The SSM is a validated instrument that is often used by municipalities in the Netherlands.12 The instrument originates from the U.S., where it was developed for a target group of homeless persons.

Phase 2: Triage[1]

After enrolment and approval by the project leader, the multidisciplinary triage team reviews the assessment, discusses the case, gives their advice and determines the level of support needed by using the online portal (see *section 5.5*). The triage team consists of persons with the following disciplines:

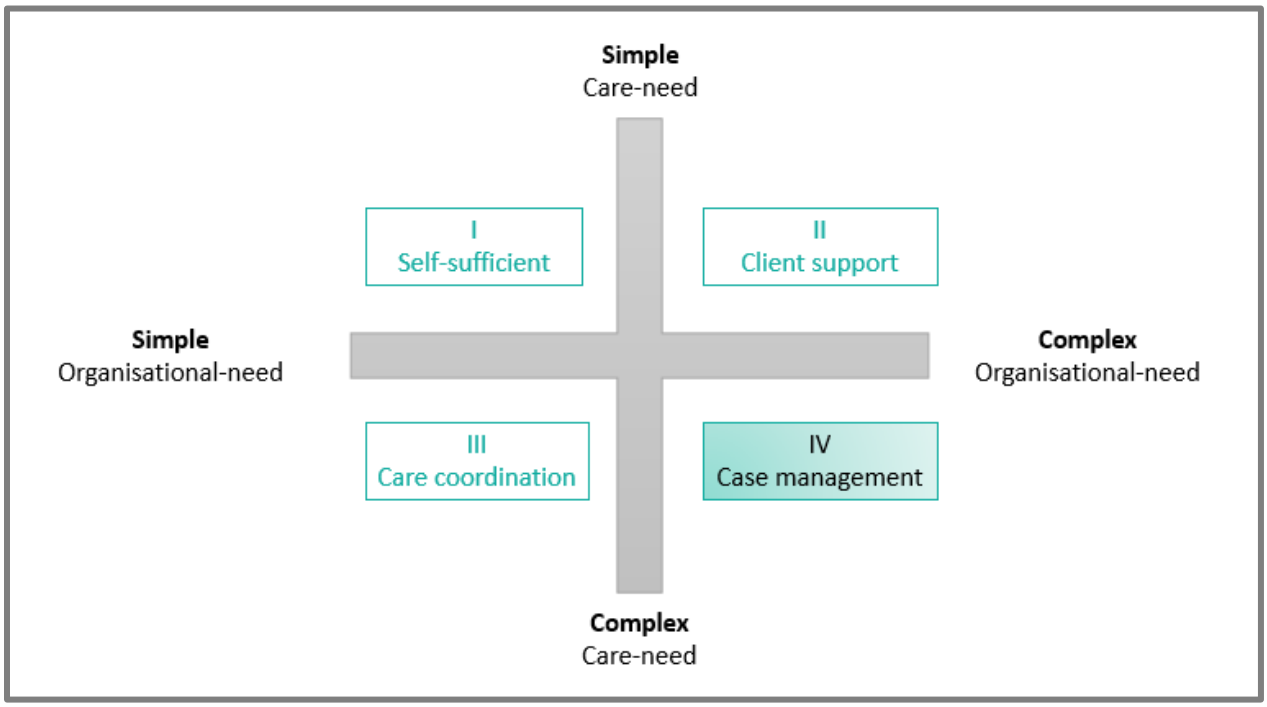
- Chairman, project leader BSiN, and social worker;
- General practitioner (vacancy since 2016);
- District nurse;
- Welfare worker with specialisation 'participation and employment'.

If necessary, this team is supplemented by an elderly care physician, a mental health professional, or a youth worker.

The triage team discusses the enrolled individual on the basis of their SSM, and uses this to determine the level of support needed. This is based on two facets: 1) the complexity of the different care needs and 2) the organisational complexity involved in meeting these needs (i.e., multiple organisations covering multiple sectors). The combination of these two facets results in four possible quadrants of support (see **Figure 5.2**)[6,7]:

I. Self-sufficient – no care needed;
II. Client support;
III. Care coordination;
IV. Case management.

Figure 5.2: Frieslab model[6,7]



In order for an individual to be triaged into the fourth, i.e. case management, quadrant, their SSM should contain at least 3 domains on which they score 3 or lower. Thus, a combination of quantity and complexity of the problems is important; multiple problems does not necessarily mean that case management is necessary *(IP13_3).* Moreover, the available social network plays an important role in

the level of support needed. Therefore, it is important to have a holistic understanding of the person with multiple problems in his or her environment. In accordance, a triage team member explained that he did not only look at the enrolled person, but also looked at his environment (the interviewee defines this as "the system"):

> *"We often looked at the system [social network/environment], not at the one enrolled patient. In this neighbourhood that means, for example, if you have a Moroccan person that's enrolled, who has high blood pressure and who is a bit anxious or depressed, but he also has a disabled son, a game addicted son and another son with all sorts of serious behavioural problems and a wife who is depressed and has little money. The complexity is also often in the system (IP07_3)." [2]*

As a last step in this phase, the head of the triage team (i.e., BSiN project leader) assigns a professional from one of the KMA organisation to the individual. This can be the same professional that enrolled the individual or someone from their organisation, as this is usually where the biggest problems lie. However, this can differ on the basis of the person's specific situation *(IP07_3)*. The individuals in the case management group are assigned to a professional who is specifically trained as a case manager; this new profession role will be described in *5.4.1 New professional role 'case manager'*.

Until recently, the main focus of the BSiN approach has been on the case management quadrant. The delivery of care that an individual receives in quadrant II (client support) or quadrant III (care coordination) is in essence usual care. As of 2016, however, new sub-programmes within the BSiN approach are underway that will further improve the care for individuals from these quadrants (see *5.6 Information & research*). For this reason the focus in the SELFIE research will predominantly be on the case management quadrant. We thus describe the rest of the service delivery care process for this quadrant below.

Phase 3: Case management[1]
Case management includes the prioritisation of needs and the development, implementation, and monitoring of the individual care plan. This is all done together with the person with complex needs (i.e., shared-decision making). This individual care plan consist of a description of each problem within SSM domains, with subsequent goals, action points, and evaluation possibilities *(IP08_3).* It is important to note that this plan does not focus on the disease, but on what a person can do *(IP09_3).* A detailed description of the care delivered by the case manager is described in **Box 5.2**. The professional role of the case manager will be described in *5.4.1 New professional role 'case manager'*.

Box 5.2: Description of the care process in the case management quadrant[1]

Step 1: Preparation
The assigned case manager:
- Reads the information initially entered into the online enrolment;
- Contacts the individual and makes a face to face appointment;
- Contacts the professional that enrolled the individual to discuss the case and notify him/her that case management has started;
- Contacts the project leader if needed.

Step 2: First appointment
Within two weeks of case manager appointment, the case manager and the individual have a first face to face appointment, in which the following occurs:
- Getting to know one-another, introductions, start to build a relationship;
- Signing of the informed consent (if not signed already);

- (Re-)assessment of the SSM;
- Making an inventory of which professionals are already involved and whether/what network is available

Step 3: Development of the individual care plan
Next, the case manager develops a draft individualised care plan and reports notes from the first appointment into the ICT portal. In a follow-up appointment, usually four weeks after the first appointment, the case manager and individual:

- Discuss and finalise the individualised care plan;
- Continue mapping of the (social) network, drawing the network into an ecogram (e.g., a geographical representation that shows all of the systems at play in an individual's life, see **Figure 4**);
- Make agreements about actions from the individual care plan, including prioritisation of actions;
- Potentially schedule further professional consultation if the individual plan calls for this.

Step 4: Core of the case management trajectory
In the case management trajectory, the case manager needs to:

- Contact all involved professionals about the formulated individual care plan and make agreements for collaboration if needed;
- Enter the individual care plan into the ICT portal;
- Coach self-sufficiency (i.e., implementation of the individual care plan);
- Register all appointments and contact details into the ICT portal;
- Attend monthly case manager meetings in which questions and problems can be addressed (i.e. peer-to-peer feedback). These meetings are attended by other case managers, the BSiN project leader, and one mental care professional.

Step 5: Mid-term evaluation and continue case management trajectory
After around 3 months, the case manager needs to:

- Conduct a mid-term evaluation with the individual;
- Contact all concerned professionals about the progress;
- Fill in a second SSM together with the individual;
- Adapt the individual care plan if necessary;

Step 6: 6-month evaluation – towards close
After six months the case manager needs to:

- Fill in a third SSM assessment together with the individual;
- Conduct a final evaluation by determining whether the individual is self-sufficient or needs further support;
- If needed, extend case management and adapt individual care plan;
- If possible, close case management and contribution of case discussion;
- Make concluding agreements with all concerned professionals.

Phase 4: Close[1]
As described in **Box 5.1**, after 6 months, the level of self-sufficiency is assessed again and evaluated with the case manager. Based on this evaluation, the level of support need is either changed (i.e. case management into client support) or continued (i.e. case management remains).[1] It is always possible to

close case management before the 6 months evaluation, but in practice, the case management trajectory takes longer than 6 months, sometimes even longer than 12 months *(IP02_3).*

5.2.2. Reflections on delivery of care

The design of care in the BSiN approach, specifically for the case management quadrant, has been described above. Below we highlight several reflections on the delivery of care that are related to the different phases in the whole process of BSiN.

- **Phase 1: Enrolment**

The KMA organisations estimated, before the start of the implementation of the BSiN approach, that they in total would have 722 individuals with multiple problems that potentially also had a low self-sufficiency that could be enrolled for the BSiN approach.[1] However, after the first year of implementation, only 102 individuals were triaged. These individuals were mainly enrolled from the municipality's social security organisation Work Participation and Income (WPI [36%]), the social care organisation Doras (20%), and primary care organisation SAG (13%). On the basis of the SSM, 64 of these 112 persons (57%) were appointed to case management.[1] After three years of implementation, 1.181 individuals enrolled in BSiN, and 89 individuals have been assigned to the case management quadrant. Thus, the enrolment into BSiN was lower than expected. During the interviews, several reasons were reported. Namely, a care provider explained that professionals do not have enough time for proactive case finding, and are thus waiting for the "opportunity" to enrol an individual (see citation number 3). Furthermore, it seems that professionals are used to solving their clients' problems on their own and it takes time for them to recognise that the individual requires help that is beyond their profession (see citation number 4). Thus the initial low enrolment was likely caused by the fact that both organisations and professionals needed time to get used to working with the BSiN approach and to really see the value of doing so. Another possible reason for low enrolment is that, in principle, people can sign-up a family member, a neighbour or themselves for triage, but thus far, self-referral has not been promoted to outsiders and only professionals have referred individuals (see citation number 5). Currently, actions are being taken to promote the BSiN approach among professionals in Amsterdam North. For example, a GP gave a presentation about the programme during a symposium in the hospital in Amsterdam North *(IP07_3).* These promotions have shown positive results on the number of enrolled individuals.[1]

"The effort you have to make. You have to search for all those people [cases]. Or you have to wait until you see them here and then it must be just the right moment that you have time […] So you really have to put in a lot of effort before you can enrol someone. And then you are confronted with the same things again. That a lot of people say I have no time and capacity for this (IP07_3)." [3]

"But I think a lot of organisations, when there are a lot of clients coming in [being enrolled], feel like 'yeah this, this is a problem area that we can solve' and maybe less quickly think 'uh yeah but there are also other medical and psychiatric and specialist aspects'. And that, that is of course a big problem that we've now tackled on the small-scale, but of course we don't solve that in 1-2 years" (IP03_3)." [4]

"[being able to sign up yourself or your neighbour] has, I think, always been a possibility, but if you don't make it widely known then no one can find it [the programme] (IP03_3 – Programme manager)." [5]

- **Phase 2: Triage**

For the triage phase, it is important to highlight how the delivery of the intervention in daily practice differs from the plan. The SSM that is entered in the online enrolment form is not always complete, and if the information of the SSM is insufficient to perform triage, a 'temporary' care manager is assigned to collect more information to complete the SSM. This is generally the case when a GP enrols an individual, as it is practically impossible for a GP to assess the whole SSM within a ten minutes consultation *(IP02_3)*. Another important point to note is that although the Frieslab model includes four quadrants (i.e., self-sufficient, client support, care coordination, case management), the current BSiN approach only continues for individuals in the case management quadrant. The purpose of the triage team is to decide what type of care (i.e., which quadrant) an individual needs. However, currently it has mostly been decided upfront whether case management needs to be set up or not *(IP07_3, IP11_3).* Thus, the BSiN approach is often considered to simply be 'triage and case management', as professionals tend to enrol only individuals who will most likely be assigned to the case management quadrant (see citation number 6). This is different from how the BSiN approach was set up – the aim was for wider enrolment (as described above) in which persons would be allocated to one of the four quadrants. However, in practice, professionals mostly enrol persons with complex needs, for whom they suspect case management will be necessary. This is related to the fact that the care needed in the non-case management quadrants is currently just usual care. In the future, however, there are plans to adapt the care in those quadrants as well.

"I think that everyone who enrolled someone thought this seems like someone who fits in this project, so where you could apply case management (IP07_3 - Physician)." [6]

- **Phase 3: Case management**

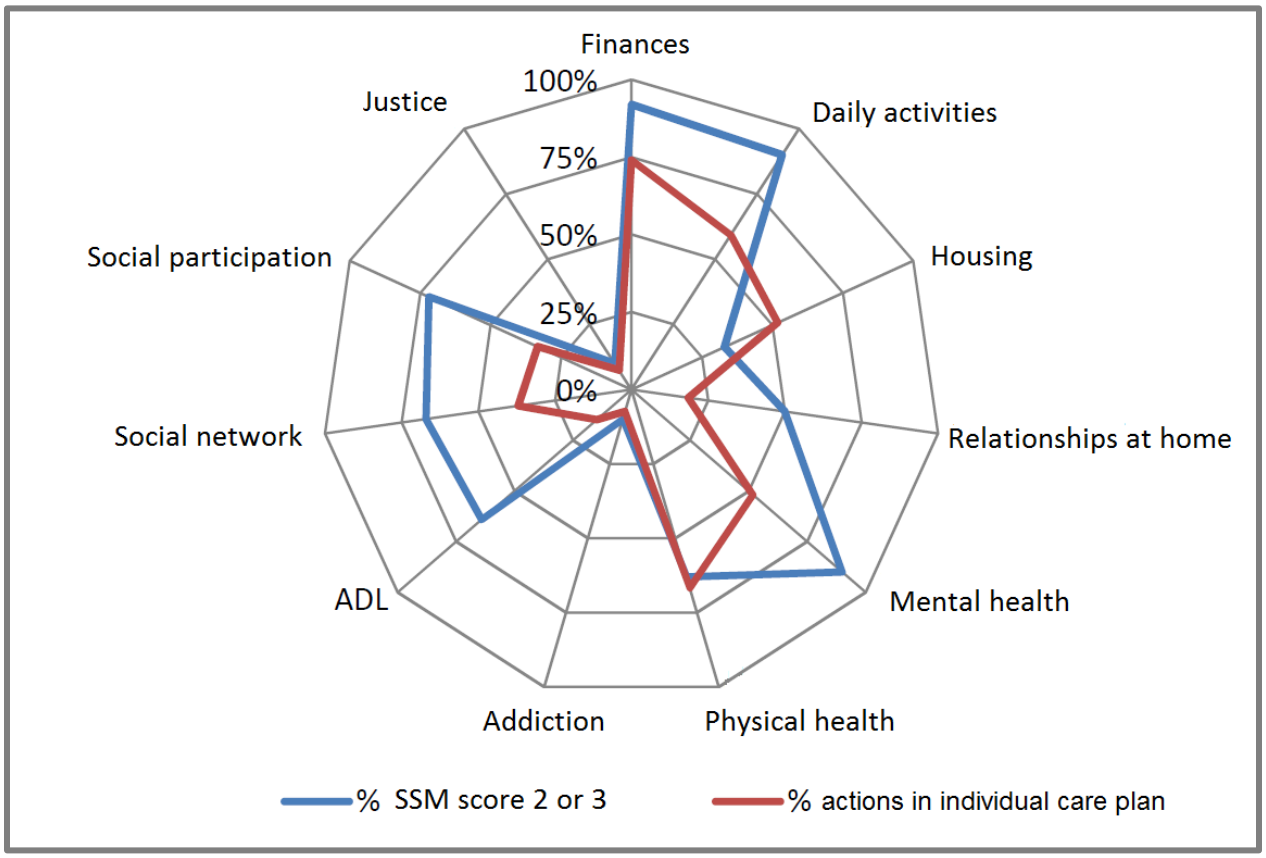
During the case management trajectory, the person him- or herself is in charge of the individual care plan and his or her active role is placed centrally. The individual care plans do not address each life domain that is assessed as not self-sufficient by the SSM (≤3). This is because not all life domains have the same priority (see citation from below - *IP07_3*) nor does a person wants to work on all life domains (see citation below - *IP12_3*). In **Figure 5.3** an overview is given of SSM domains that were scored as limited as well as domains that were focused on in the individual care plans across individuals during the case management trajectory. Remarkably, the figure shows that the percent of actions laid out in the individual care plan pertaining to the 'housing' domain was higher than the percent of limited self-sufficiency (SSM score 2 or 3) in this domain. Examples of the reasons for this are given in the citations below. In contrast, for the domains 'activities of daily living', 'relationships at home', and 'social participation', in less than half the cases with an SSM score of 2 or 3, these domains were addressed in the individual care plans.[1]

"that you have a forty year old woman in the practice who has three children and visits the practice with all kinds of vague complaints, asthma, headaches, tired, not well, worries. And the case manager visits her and then it turns out that [she] lives there with her mother and her sister and two children in house that is way too small and actually the big problem is the living situation. How do you solve that? And in addition to all the other things. But then it crystallizes into one action point, housing needs to be worked on (IP07_3 - Physician)." [7]

"I recently enrolled a case for BSiN. That is actually a lady who belongs mental health care services, but the mental health care services cannot offer her what she currently needs and she also doesn't want that. And then, together with BSiN, I found, a case manager, someone who is going to help this woman with what she currently needs. […] then I actually help the case manager with how do you handle such a

person and how do we prevent eviction. And that is the knowledge that I don't have (IP12_3 - Non-physician medical staff).” [8]

Figure 5.3: Ecogram of %SSM score 2 or 3 and % actions in individual care plan N=27[1]



5.2.3. Self-management interventions

There is no specific definition of self-management. However, self-management is related to self-sufficiency, the main aim of the programme. In the section above different ways by which the case manager stimulates self-sufficiency were explained, for example, the individualised care plan is made with and by the individual him- or herself. The case manager helps individuals achieve their goals set out in this plan, but always focuses on what they can do themselves and stimulates their taking responsibility and initiative.

5.3. Leadership & governance

5.3.1. Overview of actors, their collaborations, and their roles

The service delivery of the BSiN approach is provided by an alliance of care and support organisations from acute and long-term health care, social care, welfare, and youth care. All organisations have a representative in the board of the Krijtmolenalliantie (**KMA**) and have signed a cooperation agreement.[1] The content of this agreement has expanded throughout the years because the programme is growing and financial arrangements need to be made *(IP01_3).* However, the aim is to keep the agreement as simple and functional as possible *(IP01_3).*

The composition of participating organisations that form the KMA has changed during the years. MEE joined the KMA in 2013, Altra in 2015, The Salvation Army in 2016, and HVO-Querido also in 2016. One welfare organisation (Combiwel) withdrew from the KMA in 2016, due to a reorganisation and the organisation lost their contract with the municipality to deliver care in Amsterdam North *(IP01_3).* Currently, the KMA consist of the collaboration of the following 12 organisations[10]:

Acute and long-term health care

- Arkin *Mental health care*
- BovenIJ *Secondary care: hospital in Amsterdam North*
- Cordaan *Long-term care and home-care: provides care and assistance in Amsterdam on a small scale in and around various locations, and in the community, at home or 'just like home', wherever possible. This also includes day-time activities for people with cognitive or mental health problems, assisted housing facilities, palliative care and respite care*
- Evean *organisation which supports maintaining independent living (e.g. physiotherapy, home-care, rehabilitation, occupational therapy). This also includes day-time activities for people with cognitive or mental health problems, assisted housing facilities, palliative care and respite care*
- Amstelring *Long term-care: provides care at home or in a nursing home in Amsterdam*
- Stichting Amsterdamse Gezondheidscentra (SAG) *Primary care: a collaboration of 15 primary care health centres who provide care to over 85.000 people living in Amsterdam*
- HVO-Querido (since 2016) *Long-term care: provides housing support, relief and daytime activities to people having difficulties living independently, are homeless or having problems with family or partner*

Welfare, social care, and social security

- Doras *Provides social support in Amsterdam North*
- MEE (since 2013) *Client support for people with a disability*
- Work Participation and Income (WPI)[xiv] *Municipality department that provides support to unemployed and people living in poverty in Amsterdam*
- The salvation army (since 2016*) Physical and spiritual needs to the poor, destitute and hungry people*

Youth

- Altra (since 2015) *Organisation that provides special education, support in raising children, youth and educational support at school or at home*

[xiv] Since 2015 the new name for the organisation DWI (in Dutch: Dienst Werk en Inkomen).

Besides the KMA, there are three other actors involved in the BSiN approach who are providing advice (and financial support) of the programme. These actors are:

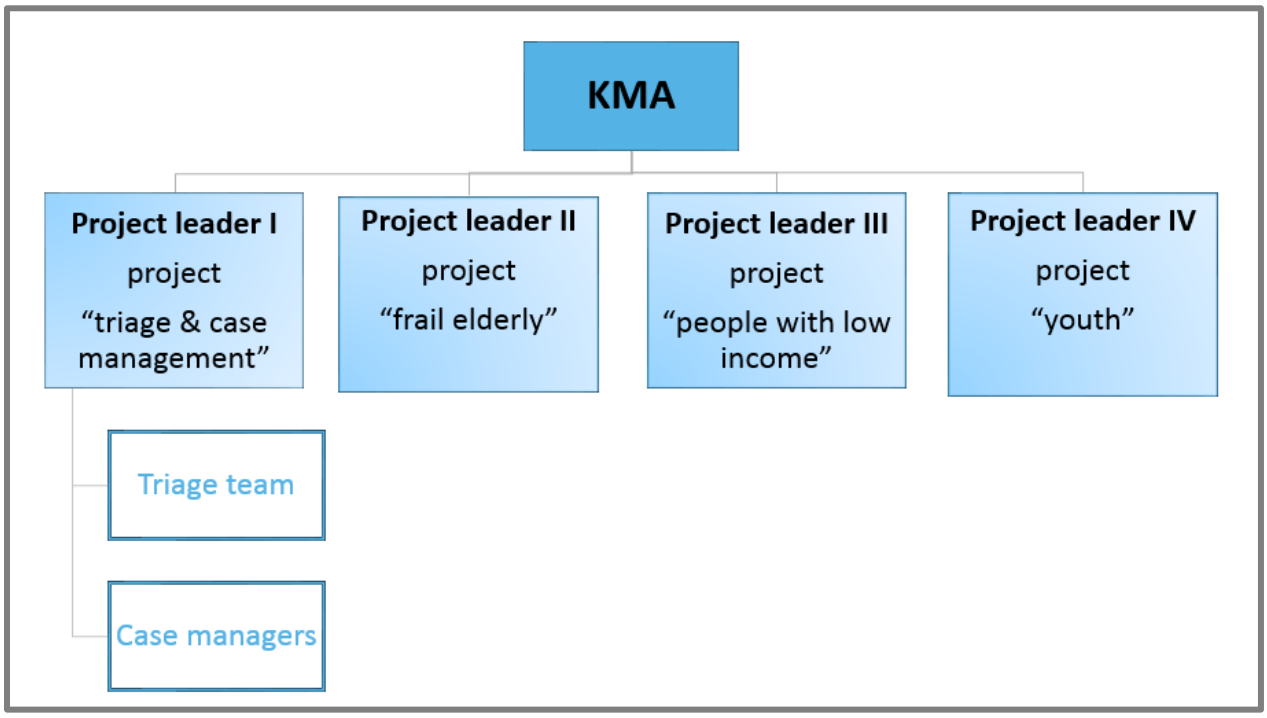
- **Health insurer** (Agis[xv]) / 'Zilveren Kruis Achmea';
- **The municipality of Amsterdam;**
- **Research organisations:** Primarily 'Netherlands Organisation for Applied Scientific Research (TNO)' – in charge of the process evaluation and effect evaluation of BSiN focused on triage and case management.

Representatives of the KMA, the municipality, and the health insurer Zilveren Kruis Achmea are currently preparing agreements on long-term, instead of annual, integrated funding of BSiN by pooling revenues and sharing savings for the period 2017-2020 (see *5.7.1 Overview of financing*).

Figure 5.4 shows the organisational form of BSiN. The representatives of the organisations in the KMA board meet once a month. There is one project leader who is in charge of the implementation of triage and case management in daily practice. This project leader is employed by one of the KMA organisations (primary care organisation, SAG) and is a member of the KMA board. The triage team of professionals is responsible for the triage of persons. The head of the triage team is the project leader. Finally, the case managers are performing case management in daily practice and are having a monthly case meeting with the BSiN project leader in which questions and problems about the daily delivery of case management can be addressed. In 2016, the KMA started the development, implementation, and evaluation of three other projects besides the triage and case management project. These other projects primarily target elderly (care coordination needed), people with low income (client support needed) or youth. These three projects also have a project leader who are part of the board of the KMA. The project leaders report monthly to the KMA board about the four projects.

[xv] Agis has been part of Zilveren Kruis Achmea since 2015.

Figure 5.4: The organisational form of the BSiN approach



5.3.2. Reflections on leadership and governance

Above an overview of actors, their collaborations, and their roles in the BSiN approach described. Below, we describe several highlights and reflections on leadership and governance.

During the interviews, the uniqueness of the collaboration of the different sectors in BSiN was highlighted. In the Netherlands, it is generally accepted that a GP receives a note (via letter/email/telephone call) if one of their patients has been to see a specialist (e.g., in the hospital). However, the GP usually does not receive any information if one of his patients sees a professional in social care or in the welfare sector *(IP07_3).* The lack of communication between the sectors has serious consequences as problems in the different sectors are inextricably linked – this is of course especially the case for the BSiN case management target population. Professionals even point out that the non-health problems such as those relating to finance and housing have the most impact on the well-being of an individual *(IP07_3).* Fortunately, the communication between the sectors is different, and better, in BSiN.

> *"as GPs we often have the idea that we are the spider in the web, but we only see half of the web (IP07_3)." [9]*

It is also mentioned that it takes time to build a good relationship between the organisations from the different sectors and staff turnover is a barrier in this process *(IP13_3, IP12_3).* Furthermore, not all KMA organisations have the same active role in the BSiN approach. This is also reflected in the extent to which they enrol persons for triage and the number of case managers they train and employ as such. Overall, there is a growing number of professionals, organisations, and sectors joining and being represented in the KMA *(IP02_3).* For instance, to achieve the goal of a healthier population in

Amsterdam North, the KMA is negotiating with the municipal health services (*in Dutch: GGD*) who provides preventive care *(IP04_3).* Moreover, patient organisations would be an important addition to the KMA as they could help to develop and adjust the programme so that it is more tailored to patient needs *(IP04_3).* Additionally, several stakeholders mentioned that the BSiN programme would benefit if more primary care professionals were involved *(IP07_3, IP01_3).* The reason for this is that primary care is closely connected with the individuals and may be better able to persuade them to participate the programme *(IP01_3).*

"my idea is that it is essential to involve the GP to be really successful. And then, of course, using nurse practitioners is a way to involve the general practices (IP07_3- Physician)." [10]

5.4. Workforce

5.4.1. New professional role 'case manager'

In BSiN, professionals from different KMA organisations and different sectors are acting as case managers. This is a new professional role that they take upon themselves next to their day-to-day work. The professionals are selected by their own organisation. The specific tasks of a case manager throughout the care process is described in **Box 5.2**, see *5.2.1 Design of delivery of care*. Overall, case management requires that the professional (i) has an integrated and holistic view of the problems of the person, and (ii) coordinates and supports care provided for by multiple sectors, organisations, and providers.

5.4.2. Experiences with the new professional role 'case manager'

There has been a debate about which professions should act as case manager. Because BSiN targets individuals with multiple problems on a broad scale of life domains, and the goal is to assign a case manager based on the problems of the individual, it could be argued that BSiN needs case managers from different professional backgrounds representing the different sectors *(IP07_3).* But not all professionals agreed. For instance, two professionals from mental health explained that they do not want to be a case manager, because they want to work as a specialist while a case manager is a generalist *(IP11_3, IP12_3* – see citation number 12). In accordance, during the case management training there was a discussion about the different approaches of a generalist and a specialist, and they expected that the first would be the director while the second would be the executer.[13]

"not everyone must be a generalist, because then everyone is grey and then no one can really do something good (IP02_3 – social staff)." [11]

"They wanted us to also be involved as case managers, but we didn't want that. […] The first ring [i.e., layer of care] is made up of the case managers, or the generalists, and the second of the specialists. And we only want [to take up] the role of specialist (IP11_3 – non-physician medical staff)." [12]

Because the professionals who act as a case manager have a different professional background, the role of a case manager was more new to some than to others (see citation number 13). A social worker is used to work with individuals with multiple problems while a nurse is used to focus on health problems only *(IP02_3).* Moreover, some professionals considered case management already as part of their day-to-day work *(IP02_3, IP11_3, IP12_3)*. Changes in the usual care of the professionals might be the cause of this. A district nurse explained that since January 2015 she is obligated to assess the SSM when she visits clients with suspects of problems *(IP08_3).* This approach partly overlaps with BSiN. Due to her experience with BSiN she is used to the SSM and has a more advanced professional network in comparison with her colleagues. This helps her to care for these clients. But she also explained that it is actually a waste of time to assess the SSM if the client does not have multiple problems or if the professional does not have a network of professionals, such as in BSiN, to help these clients *(IP08_3).*

"Well it really matters what your overarching organisation is [...] Within Doras [a social care organisation] I would say it [case management] is of course reasonably standard [...] among for example […] people from Combiwel, who are from welfare, they organise groups and activities in

community centres so for them case management is very different from their regular work, and a district nurse is in practice always focused on the medical problems (...) and MEE [social security] people with a disability , yes those are also social workers, who are used to this [case management] (IP02_3).” [13]

The BSiN participants reported that they experienced case management positively, for example because the case manager made sure they had time for them (see citation number 14), case management helped one individual become more aware of his/her situation (see citation number 15), and case management focuses on what persons can and want to work on themselves; their own active role is placed centrally (see citation number 16).

“Just making the time […] that the time is just there you know, that is nice. That you don’t feel the pressure ‘oh now we have to do this quickly’ because she has to leave in three minutes for example (IP05_3).” [14]

“Well yeah, it you know… It made me more aware of some things, think about them more (IP10_3).” [15]

“Yes we [the participant and the case manager] just generally looked at who or what might be able to help me in North [the region] (IP06_3).” [16]

5.4.3. BSiN educational programmes

Because not all professionals are trained in the competencies and skills of a case manager during their initial education, additional training has been offered throughout the implementation of the BSiN approach. Besides case management training, information and updates about BSiN, information about the ICT portal, and thematic workshops are given to case managers and managers from the KMA organisations. In addition, there are monthly peer-to-peer feedback meetings for case managers.[14] An overview of the BSiN educational programmes for different care providers and organisations can be found in **Box 5.3**.

Box 5.3: Overview of the BSiN education programmes[14]

Subject	Information and update of BSiN
Duration	2 hours
Presenter	TNO in cooperation with the project leader
Participants	Case managers and all other professionals involved in case management, and managers from organisations KMA
Subject	Case management training: - Holistic view and control position of case managers; - Network and knowledge; - Integrated care; - Supporting self-sufficiency and motivational interviewing; - Building a relationship with the individual; - Drawing the social network; - BSiN programme (SSM, Frieslab model, triage, individualised care plan, monitoring, follow-up);

	- Procedure for emergencies; - Prioritisation of domains, targets and actions; - Role and position of case managers within the organisation; - Role, position, and communication of case managers outside the organisation.
Duration	Number of day parts need to be defined
Presenter	External training company
Participants	Case managers
Subject	ICT: Information about the ICT system and the appropriate usage of the system.
Duration	2 hours
Presenter	ICT system developer Indigo in cooperation with the project leader
Participants	Case managers
Subject	Thematic teams focused on knowledge sharing, e.g. workshop mental care
Duration	2 hours
Presenter	Guest speakers in cooperation with the project leader
Participants	Case managers
Subject	Peer-leaning and process support
Duration	Once a month, 1-2 hours
Presenter	Project leader
Participants	Case managers and one professional from the mental care

The education plan is changed according to the needs of the care providers. For instance, there is currently no separate education training about the ICT system and the appropriate usage of the system as there seems no need for an ICT training *(IP02_3).* Since the start of the implementation of the BSiN approach the following three training programmes were provided and will be explained in more detail below:

- case management training programme in 2013;
- advanced case management training programme in 2014;
- advanced case management training programme in 2015.

In the spring of 2013, 30 professionals from the KMA organisations were trained as case managers. This training was organized by TNO and supported by an external company.[1] The training consisted of fives modules (1) general information on the BSiN approach and the role of TNO, (2) introduction of the network of case managers and professionals, (3) and peer-learning, (4) using the SSM as screening tool, (5) improvement of self-management and self-sufficiency.[1]

In 2014, 16 of the 30 trained case managers were still performing case management. Less than halve (37.5%) of these case manager were from health care organisations. Eleven of these sixteen case managers and followed an advanced case management training in June 2014. The advanced training focused on the development of the necessary competencies and skills and was given by an external company (Radar Vertige).[1]

In 2015, 16 professionals followed an advanced case management training. This advanced training was meant to train new case managers, but the participants consisted mainly of professionals from the KMA organisations who are involved in integrated care but were not acting as or had plans to become a case manager. Therefore, the focus of the training changed from case management-specific into integrated care in general. For example, the module "positioning of a case manager" changed into "positioning of a professional in an integrated work field". In total, the revised training consisted of five modules, i.e. (1) role of an integrated working professional, (2) communicative skills to promote self-sufficiency and responsibility of individuals, (3) positioning of a professional in an integrated work field, (4) developing an individualised care plan on the base of the SSM, and (5) a peer-learning day.[15,16]

TNO has been primarily responsible for the education of case managers, but since 2016, the KMA is primarily responsible. However, no new training programmes have been organised as it seems that is currently no need to train new case managers.

5.4.4. Reflections on educational programmes

The evaluation of the first case management training revealed that on the one hand the case managers were positive about the skills they learned, sharing their knowledge and experience, and enlarging their networks to other case managers and professionals. On the other hand, they reported that the instruction and applicability of the BSiN approach were still a bit unclear.[13] Some participants reported that it was more of a workshop than a training, because they needed to give input about the content instead of purely being taught and provided with new knowledge *(IP02_3).* During the advanced training the case managers reported that they had a more clear understanding of what was expected from them. Namely, it became clear that they did not need to know everything themselves and that the SSM and the action plans within the individual care plans were tools and not goals. The evaluation also revealed that the case managers, in the next training, still wanted to learn more about how to adopt a holistic view of the problems, and how to improve their support of the integration process across different sectors and organisations.[17] The participants of the most recent case management training in 2015 reported that they improved their professional skills (e.g. to better *support* the individual instead of *deciding for* the individual) and the cooperation with different disciplines and sectors (e.g. they made concrete appointments about responsibilities).[16] Thus the first training programmes were primarily meant for (future) case managers, but other professionals working at KMA organisations also wanted to, and did, follow training programmes about the BSiN approach. The involvement of these other professionals appears to be an important topic for future training programmes. During an interview it was mentioned that all case managers work very much on their own and think that they can manage everything themselves *(IP11_3).* Knowledge sharing, could help the professionals to recognise the multiple problems of the individual, their (in)abilities to care for these problems, and to ask for further professional help if needed *(IP12_3).*

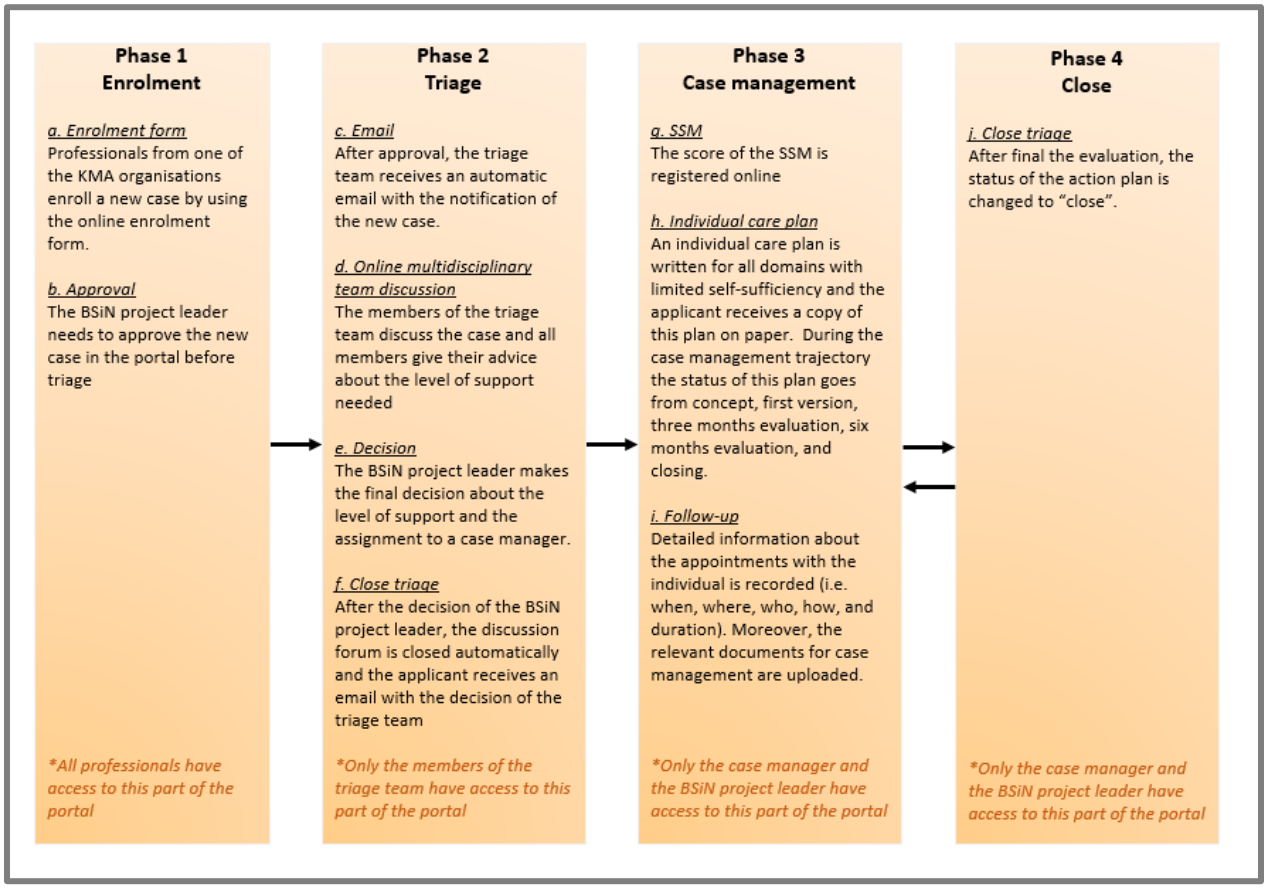
5.5. Technologies & medical products

5.5.1. ICT support system

The KMA organisations are using different ICT registration systems in their daily work. To align and connect these systems solely for the purpose of the BSiN approach would be technically complicated, time consuming, and privacy sensitive. Furthermore, implementing a new uniform ICT system would be expensive and a large change in the day-to-day work for the health professionals. Therefore, the KMA decided in May of 2013 to develop a separate web application for BSiN, a relatively simple ICT support system which could be developed and implemented within a short period of time.[1]

As of September 2013, this ICT support system has been introduced in the KMA organisations. The portal includes documents and tools to support the case manager and project leader in the BSiN approach (e.g., online SSM registration, format for individual care plan). Furthermore, the application supports communication between the professional that enrolled the individual, BSiN project leader, case manager, and triage team. A detailed overview of the ICT support during the four phases of BSiN is given in **Figure 5.4.**

Figure 5.4: Support of the ICT system during the four phases of BSiN



5.5.2. Reflection on the ICT support system

Above the implemented ICT support system has been described. Below, we describe several highlights and reflections on this system.

After the introduction of the ICT support system in September of 2013 and several improvements in the starting period, a major barrier of the system was the transformation of information from the web application into the ICT systems that the health and social care professionals regularly use. As a result, information of the participant had to be imported into both systems. To avoid duplication of work, the project leader of BSiN reported in an interview with TNO that they needed to investigate the possibility of a uniform ICT system for all KMA providers[1]. However, during an interview conducted one year latter (for the current report), the project leader explained that this is very difficult to achieve:

> *"It's really difficult but if you know how many systems. […] the municipality has, I believe 70 or 76 systems alone, and then we haven't even counted the general practitioner systems yet (IP02_3)." [17]*

The KMA is currently still exploring options for an integrated ICT system.

During the interviews, it was reported that the ICT support system is really simple to use *(IP02_3)* but also several suggestions for improvement were mentioned. First, the current ICT system was not developed to exchange information between the care provider and the person with complex needs. The BSiN case management participants currently receive the SSM and the individualised care plan on paper *(IP02_3)*. Another option would be to "cut and paste" the information from the ICT system into an email to the participant. However, ideally the participant should have a holistic overview and be able to read the information whenever he or she wants *(IP03_3).* Thus, an electronic patient health record could be an improvement. Secondly, the ICT system still has some technical problems. For instance, one case manager who was generally very pleased with the detailed overview of the individual care plan explained that it was a lot of work to enter the plan in the system and every time that the computer crashed she had to start all over (because she could not save changes in the meantime and copying all separate text boxes in word would be too time consuming) *(IP08_3).* Additionally, during a demonstration of the ICT system it became clear that the person enrolling someone into BSiN could temporary not score the SSM domains from 1-5 but could only place a description about the level of self-sufficiency of each SSM domain. This lack of information makes the triage of the individual into the four quadrants less accurate and inefficient.

5.6. Information & research

Evaluations of the implementation and development of the BSiN approach are continuously being performed. Not only the results are critically compared to the goals of the approach, but the goals itself are also repeatedly assessed.[1] Predominantly, research on the BSiN approach has been done by TNO, but other universities and organisations are also currently, and will in the future, evaluate (components of) the approach. Namely, since 2016, the KMA has started the development and implementation of three projects that primarily target persons in quadrants other than case management:

- *Frail elderly:* This research is led by the organisation Ben Sajet, in cooperation with the University of Amsterdam (UvA) and VU University Medical Center Amsterdam (VUmc). The project focuses on improving the transfer from secondary to primary care and includes mainly persons in the care coordination quadrant.
- *People with low income:* Led by TNO, together with three welfare and social security organisations from the KMA (WPI, Doras, MEE). The project will mainly include persons from the client support quadrant.
- *Youth:* Collaboration between BSiN and a similar programme in Amsterdam North, named Doing Things Together (*Dutch: Beter Samen*), coordinated by the municipality.

"Eventually, there should be a big umbrella of activities (IP01_3 - Researcher)." [18]

Thus far, the main evaluations of triage and case management have consisted of an in-depth process evaluation and an effect evaluation by TNO and the results are presented to the KMA, municipality of Amsterdam, and Zilveren Kruis Achmea. An active learning process in the form of a process evaluation is based on documented results and experienced implementation barriers of professionals extracted from interviews and observations. Second, the programme is being evaluated in a quantitative study by TNO (Dutch Trial Register number: NTR5068) from November 2013 until December 2017. As of October 2016, 220 persons are included in the study. This study is supported by the KMA, the municipality, TNO and funded by the Amsterdam Agis Health Fund.[1] A summary of the study including the preliminary short-term (6 months) results is presented below[3].

5.6.1. TNO effect evaluation – short-term results

Study population
The intervention group consists of residents in Amsterdam North who, after triage, showed a decreased self-sufficiency on at least 3 domains of the SSM, were assigned to a case manager, and signed informed consent (i.e. the case management group). This study thus pertained to the fourth quadrant, which will most likely also be the focus of the SELFIE research. A control group was created for the purpose of this study, and consists of residents in all districts of Amsterdam who filled out the 'Amsterdam Health Monitor Survey' (AGM) in 2012, had a decreased self-sufficiency on at least 3 out of 9 domains based on various questions in the AGM, and agreed to be contacted for further research. The participants were excluded if they did not have a decreased self-sufficiency on at least 3 of the 11 domains of the SSM at baseline or were participants of the BSiN program.[3]

Outcomes
The primary outcomes of the study were the "level of participation" and the "level of societal participation". The SSM is used in the BSiN approach as a tool that the case manager can use to gain a

holistic understanding of the individual, to help create the personalised individual care plan, and to monitor progress (see *5.2.1 Design of delivery of care* for the SSM domains). The instruments and indicators to measure outcomes are presented in the **Appendix, Table A5.3**. Alongside participation outcomes, other concepts measured include general health, chronic diseases, mental health, vitality, lifestyle, self-efficacy, and a question about the satisfaction with care providers.

Data collection procedure
A face-to-face interview was held with persons in the intervention and control group at baseline (T0), 6 months (T1) and 12 months (T2). The duration of the interviews was approximately 25-45 minutes, but longer for people with poor Dutch language skills. A combined appointment with the case manager is scheduled for the individuals in the intervention group in order to avoid questions being asked twice, if possible. The individuals in the control group receive a gift card of €10,- for each interview.[3,5]

Additionally, data on health care expenses has been extrapolated from the Zilveren Kruis Achmea Health Insurer database for about 80% of the BSiN participants who were insured by Zilveren Kruis Achmea.[3] These expenses were made during the one year period of the case management. In the control group, the expenses were made during one year in the period between November 2013 and November 2016. Data on the costs of social care have not been collected.

Baseline characteristics of the sample
As of November 2014, the study population in the effect evaluation, including both persons receiving case management (cases) and controls, consisted of 61 individuals (42 cases, 19 controls). The baseline characteristics of the sample are summarised in **Table 5.3**. Overall, individuals were mainly women (80%), were low educated (66%), and had 2 or more chronic conditions (77%). The proportion of men was significantly higher in the control group compared to the case management group (26% vs. 5%). Additionally, the proportion of individuals with problems with feet or legs was significantly lower in the case management group (29% vs. 63%) while the proportion of individuals with mental problems was significantly higher in the case management group (50% vs. 16%). An individual in the case management group on average had an SSM sum score that was 8.2 lower than that of an individual in the control group. This significant difference was mainly due to the lower level of self-sufficiency of individuals in the case management group in the life domains (i) finance, (ii) housing, (iii) relationships at home, (iv) mental health, (v) physical health, (vi) social network, and (vii) social participation.[4]

Table 5.3: Baseline characteristics of study population.[4]

	Total (N=61)[xvi]	Control (N=19)	Case management (N=42)
Demographics			
Men	20%	5%	26%*
Age, mean (standard deviation)	48 (11)	52 (12)	46 (10)
Low education level	66%	58%	69%
Level of Dutch language[xvii], mean (SD)	4.3 (1.0)	4.7 (0.9)	4.2 (1.1)
Housing, own home	93%	100%	91%
Housing, (illegal) renting	<5%	<5%	<5%
Housing, behind of payment	<5%	<5%	5%
Housing, unknown	<5%	<5%	<5%
Living together	30%	17%	36%
Chronic health conditions			
Problems with hands / arms	30%	42%	24%
Problems with feet / legs	40%	63%	29%*
Problems with back / neck	46%	42%	48%
Migraine / severe headache	20%	21%	19%
Cardiovascular disease	34%	32%	36%
Respiratory disease	26%	32%	24%
Gastro-intestinal diseases	21%	16%	24%
Diabetes	12%	5%	14%
Severe skin disease	<5%	<5%	5%
Mental problems	39%	16%	50%*
Hearing problems	13%	16%	12%
Epilepsy	<5%	5%	<5%
Life-threatening disease	8%	16%	5%
Eye disease	20%	16%	21%
Other	18%	16%	19%
No disease	**5%**	**<5%**	**7%**
1 disease	**18%**	**11%**	**21%**
2 or more diseases	**77%**	**90%**	**71%**
SSM score[xviii]			
Finance, mean (SD)	2.7 (0.6)	2.9 (0.7)	2.5 (0.6)*
Daily activities, mean (SD)	2.5 (0.7)	2.5 (0.8)	2.4 (0.6)
Housing, mean (SD)	4.2 (1.1)	4.8 (0.6)	3.8 (1.1)*
Relationships at home, mean (SD)	3.7 (1.0)	4.4 (0.6)	3.3 (1.0)*
Mental health, mean (SD)	3.3. (1.1)	4.4 (0.9)	2.6 (0.6)*
Physical health, mean (SD)	3.3 (1.1)	3.8 (0.8)	3.0 (1.1)*
Addiction, mean (SD)	4.6 (0.7)	4.5 (0.5)	4.7 (0.8)
ADL, mean (SD)	3.4 (1.2)	3.6 (0.9)	3.2 (1.3)
Social network, mean (SD)	3.4 (1.2)	4.5 (0.9)	2.8 (0.9)*
Social participation, mean (SD)	3.1 (1.2)	3.9 (1.1)	2.6 (0.9)*
Justice, mean (SD)	4.8 (0.8)	5.0 (0.0)	4.7 (0.9)
Total SSM score, mean (SD)	**38.50 (5.3)**	**43.81 (3.0)**	**35.60 (3.8)***

*SD = standard deviation; *Significant difference between intervention and control group (p < 0.10).*

[xvi] The inclusion of BSiN participants is still ongoing.

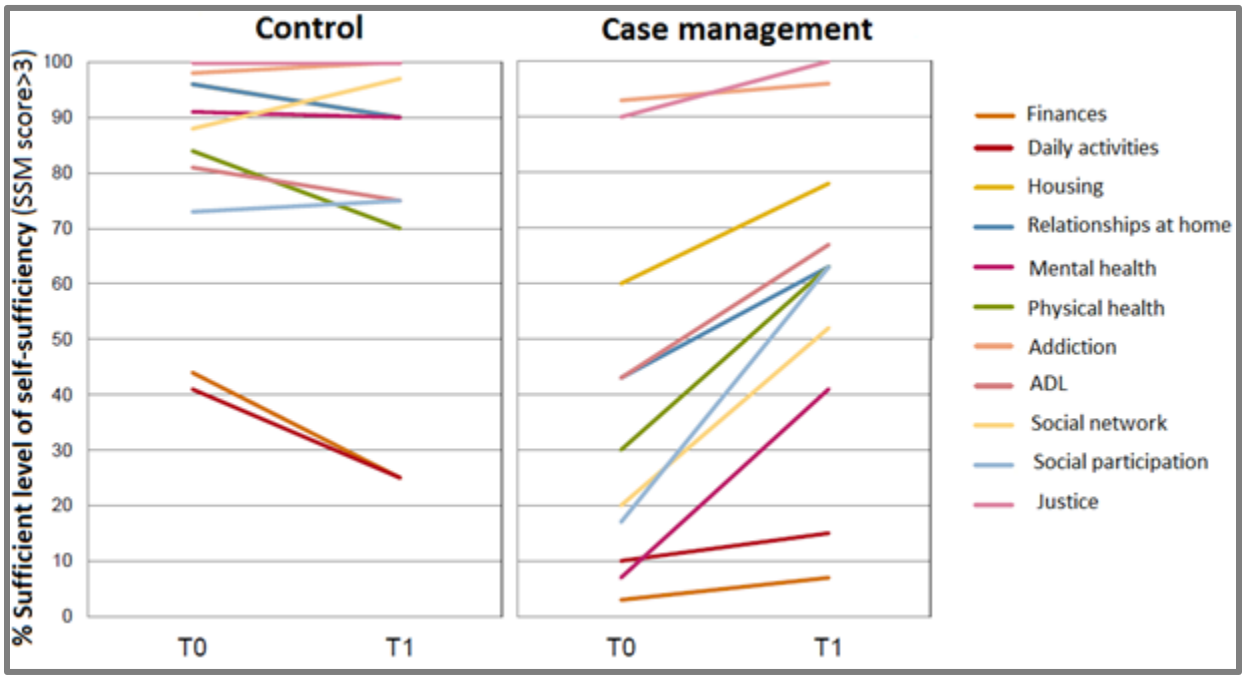
[xvii] The Dutch language level is rated on a scale from 1 (low) to 5 (high)

[xviii] Based on N=48; 30 observations in the case management group and 18 observations in the control group.

Preliminary short-term results

The preliminary results after 6 months demonstrate improved self-sufficiency, especially in the field of mental health and income (See **Figure 5.5**) in the case management group. Furthermore, there are indications that improved self-sufficiency has positive effects on clients' experienced health and social participation[9]. More quantitative results have not been reported so far nor have the data on health care expenses been analysed.

Figure 5.5: SSM score at baseline and after 6 months in the control and case management group



5.6.2. Reflections on information & research

The involved partners in the BSiN approach (KMA, municipality of Amsterdam, and health insurer Zilveren Kruis Achmea) are positive about the preliminary research results provided by TNO. These results helped to further develop the programme and were used as input for decisions to continue support and finance of the programme *(IP04_3, IP09_3, IP13_3).* But it was also mentioned that there is no clear evidence of the (cost-)effectiveness of the programme (*IP09_3).* The small sample size currently has not allowed final conclusions to be drawn *(IP01_3).* Furthermore, the large process evaluation report from TNO could have been split into smaller reports *(IP01_3).* Presenting research findings in short reports has the potential to stimulate the active learning process.

5.7. Financing

5.7.1. Overview of financing

Triage and case management was initially funded by research funds. As of 2016, agreements have been made between the providers of the KMA, the municipality, and Zilveren Kruis Achmea, to finance triage and case management from regular health care and social care for the entire Northern district of Amsterdam. This payment mechanism is prepared and arranged by a building team consisting of representatives of Zilveren Kruis Achmea, the municipality of Amsterdam, and research organisation TNO. Long-term contracts are being prepared by the building team for the period 2017-2020. An overview of the current BSiN payment mechanism can be found in **Appendix** (**Table A5.4**) and will be explained in more detail below.

The estimated total costs of BSiN (based on the triage of 150 persons, 60 persons with case management, and 18 professionals [coordinators, case managers and GPs]) are slightly more than €400.000 per year. The main cost driver of the BSiN approach (70% of the costs) were the costs of the delivery of case management (see **Table 5.4**). Care in the quadrant two and three (care coordination and client support) is part of the usual care which is funded by the health insurer and the Social Support Act (SSA) (*in Dutch: Wet Maatschappelijke Ondersteuning (WMO)*, respectively.

Table 5.4: Overview of the estimated programme costs of BSiN 2016

	Cost description	Proportion of costs
Labour costs	Triage (150 individuals)	4%
	Case management (60 individuals)	70%
	Case manager meetings (peer-to-peer feedback)	13%
	BSiN project leader	3%
Education	Case management training (18 professionals)	2%
	Advanced case management training (18 professionals)	1%
ICT support system	Development costs ICT system	6%
Total		**100%**

The total programme costs are financed for 2016 via two payers, the municipality, who funds 75% of the total BSiN programme costs from the SSA, and health insurer Zilveren Kruis Achmea, who funds 25% of the total BSiN programme costs *(IP03_3).* This proportion is based on a roughly estimated distribution of the care that would be normally paid by the municipality and the health insurer *(IP03_3).* The KMA receives a pooled budget for the BSiN approach from these payers via a combination of direct and indirect payment mechanisms (see **Figure 7**):

- Direct (in **green**): a fixed negotiated additional budget from the SSA and health insurer Zilveren Kruis Achmea specifically for the service delivery of triage (n=150) and case management (n=60);
- Indirect (in **blue**): the providers of the KMA contribute proportionally to the BSiN budget by sharing a part of their regular budget for health care, social care and welfare.

The individual care organisations receive money from the total BSiN budget based on their delivered services of care, i.e. per case management trajectory coordinated by a case manager from their organisation (see **Figure 8**). The reimbursement per six months case management trajectory is fixed for all case managers (approximately €5.000,-), independent of their profession or organisation *(IP01_3).* The individual care organisations do not have guaranties about the number of case management

trajectories, so it is not guaranteed that they get the same amount of money back as they contribute *(IP03_3).* On the other hand, the BSiN budget is relatively low, so the individual organisations will hardly notice a difference in their budget. Further, their partial payments are evaluated after one year and, accordingly, changed for the next year *(IP03_3).*

Figure 5.6: Financing of programme costs in Better Together in North (BSiN)

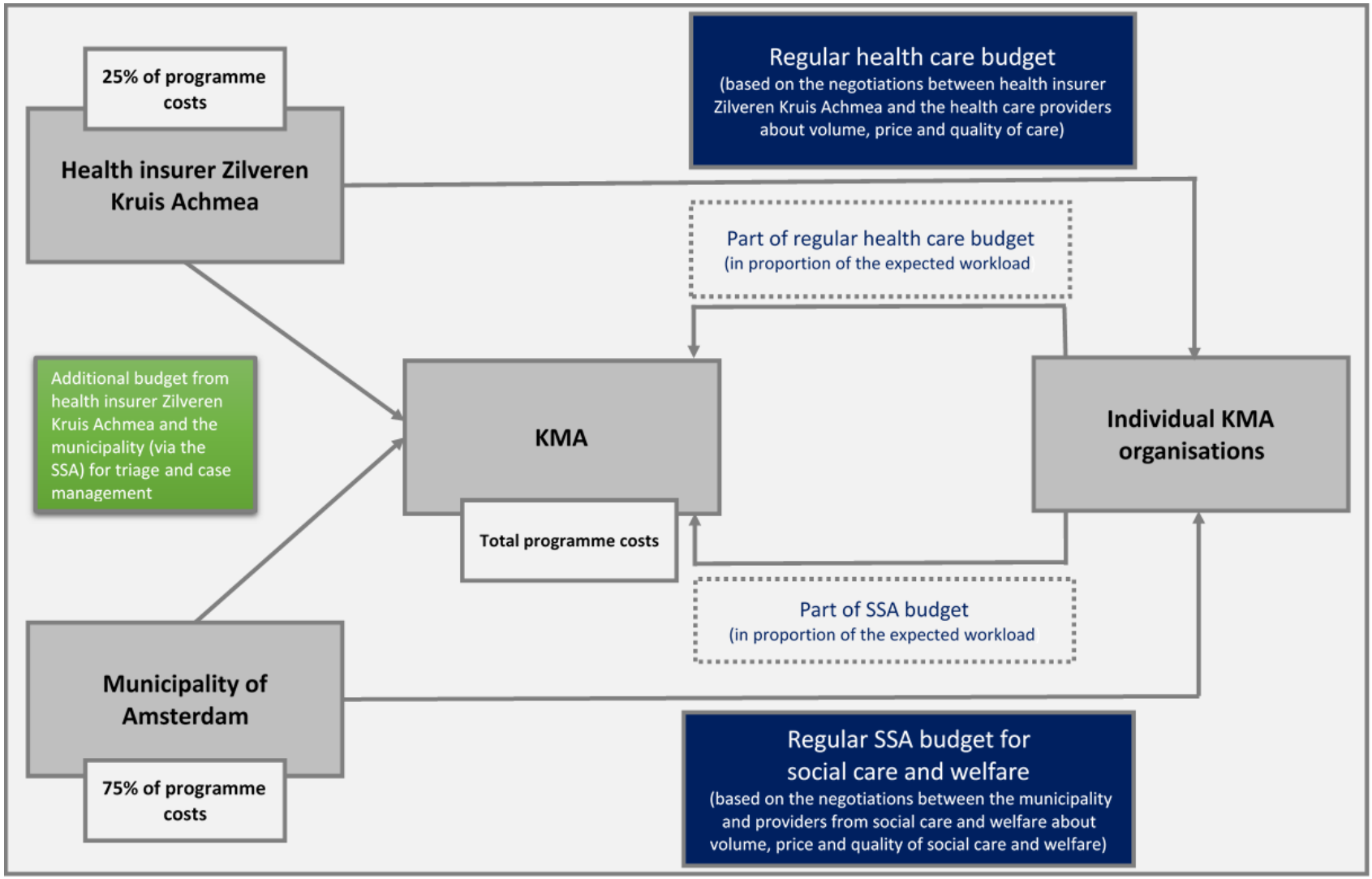
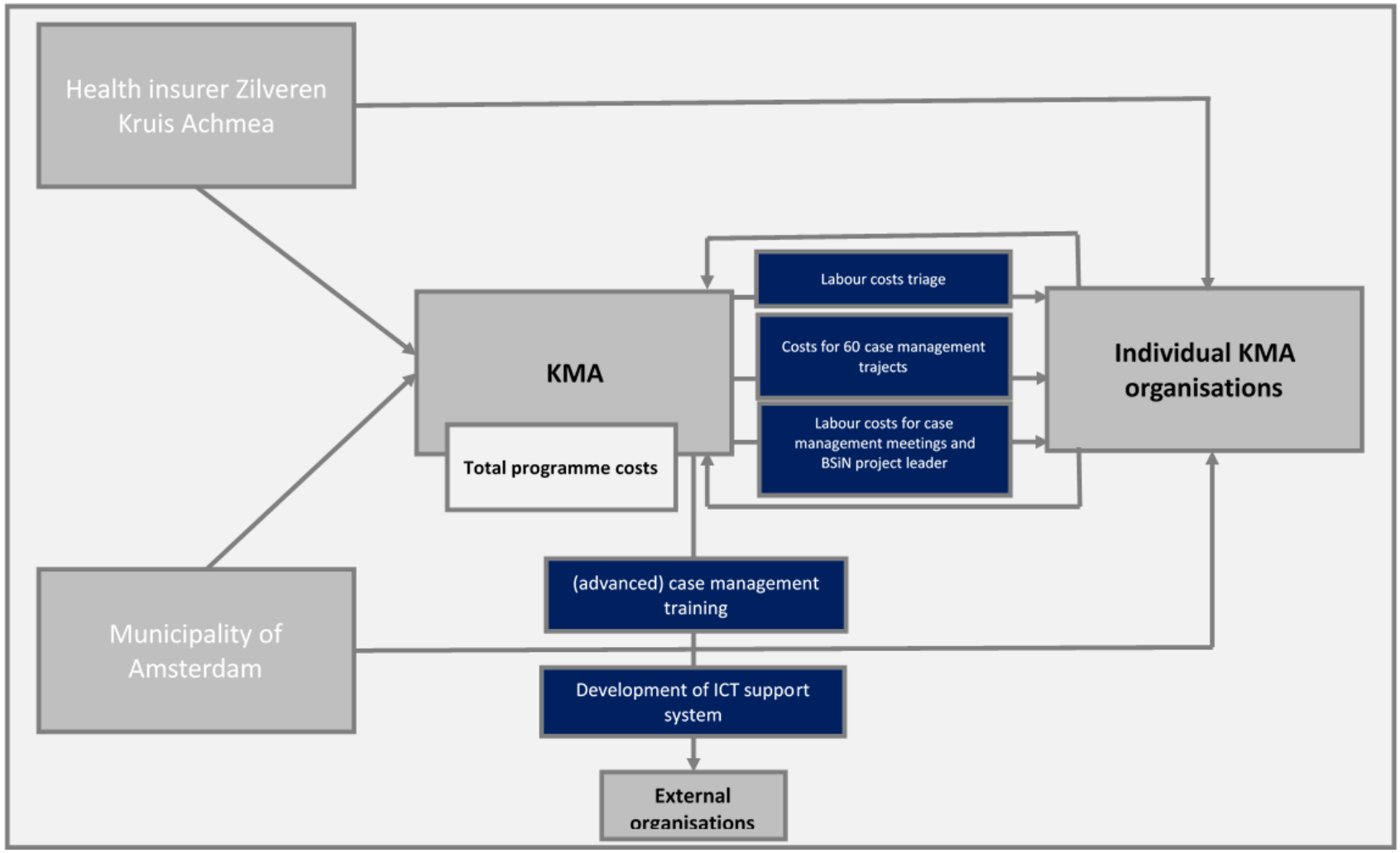


Figure 5.7: Payment system of the Better Together in North (BSiN) programme



5.7.2. Main financing issues

Above the payment scheme of the BSiN approach has been described. Below, we describe several highlights and reflections on financing.

The municipality and health insurer are both responsible for the care for individuals with multiple problems (you cannot always distinguish health care from social care [see citation from below - *IP03_3]*).

> *"You cannot really say 'this is welfare and support' and 'this is the Health Insurance Act', yes for the extremes [you can], 'a broken leg under the Health Insurance Act' and someone with debt under the Social Security Act [welfare and support]. That is clear but there are of course many areas where both are of concern (IP03_3 – programme manager)." [19]*

Despite the relatively low costs for the BSiN approach, this shared responsibility made the financial arrangement for the programme very complex. In the current Dutch funding system, the municipality negotiates with the providers from social care and welfare about volume, price and quality of care. Likewise, the health insurer negotiates with the health providers about volume, price and quality of care. In BSiN, part of this social care and welfare budget is pooled with the health care budget. This limits the ability of both the municipality and the health insurer to control and regulate the care that they are responsible for *(IP03_3).* To make it more complicated, it is even difficult to distinguish the responsibilities for individuals with multiple problems within the social sector (see citation below from *IP13_3).* Furthermore, also within the health insurance act it is difficult to distinguish responsibilities for the individual health insurers. Health insurer Zilveren Kruis Achmea is only responsible for the delivery of care for their insured population, while approximately 20% of the BSiN target group is not insured with Zilveren Kruis Achmea.[3] It is generally accepted that health insurers follow the arrangement of the predominant health insurer who is the market leader in the area, but they are of course free to disagree *(IP09_3).* However, because the costs of triage and case management make up a relatively low share of the total budget from the health insurer this is not a major barrier yet *(IP09_3).*

> *"If you only look within [the] social [sector] then you have education, youth, […], work and income […] But who is going to pay? Actually we are collectively responsible and that is also the struggle that I see (IP13_3 - initiator of the program)." [20]*

Thus, funding of the BSiN approach is going across the boundaries of the current funding system. This is only possible with decision makers who are focussing on the needs of the individuals instead of the boundaries and regulations *(IP09_3).*

5.8. Implementation process

5.8.1. Past, present and future

Start cooperation and exploration of options (2008-2011)

In 2008, nine care and support organisations started an alliance, named the Krijtmollenalliantie (KMA), aiming to integrate care and welfare in Amsterdam North.[1] In the same period, health insurer Agis[xix]/ Zilveren Kruis Achmea and municipality Amsterdam agreed to improve their cooperation and subsequently improve care for frail populations in Amsterdam (*in Dutch: Amsterdam Samen Gezond*[xx]). Based on several analyses, it was shown that there was a specific need in Amsterdam North to improve the population health, improve the experience of care, and reduce costs (see *Executive summary* for the unique features of Amsterdam North). Following, with support of health insurer Agis/ Zilveren Kruis Achmea and the municipality of Amsterdam, the KMA started to develop a programme, named 'Better Together in Amsterdam North' (BSiN) *(IP09_3).* The initial goal of BSiN was to integrate care and welfare for single men aged 50 years or older and frail elderly. But in 2011, a business case from the consultancy agency 'Twynstra Gudde' demonstrated that an integrated approach would only be profitable for persons with multiple problems who are depending on different types of professionals whereas it would cost money for single men aged 50≤ years.[1] In the timeline (**See Figure 9)** we named this period "start cooperation and exploration of options".

Development of the approach and policy preparations (2011-2012)[1]

In autumn 2011, reforms of the Dutch health- and social care system to transition from 'sickness and care to behaviour and health' (*Dutch: 'van ziekte en zorg naar gedrag en gezondheid'*) took place – signalling a strong focus on self-sufficiency in our society. The municipality of Amsterdam responded to the system change by developing and funding an integrated care programme for frail households with multiple problems and implementing several teams in Amsterdam North, named "Doing Things Together" (*in Dutch: Samen Doen*). In contrast, the KMA did not succeed in developing and implementing a concrete programme at that time.[1] Furthermore, some of the KMA organisations participated in "Doing Things Together" because they were dependent on subsidy from the municipality.[1] The care providers wanted to continue the development of the BSiN programme by independent care providers.[1] Health insurer Agis/Zilveren Kruis Achmea asked TNO for advice and support of the further development of BSiN.[1] Consequently, in March of 2012, TNO presented a proposal to continue the development of BSiN with a detailed description of the activities, task delegations, and planning. Additional funding for this plan was necessary from the KMA organisations and health insurer Zilveren Kruis Achmea (via Amsterdam Agis Health fund [AAG]).[1] A project group was founded to develop the project plan further and to apply for a subsidy from AAG. In this plan the assignment, triage and assessment of level of support on the basis of the SSM and the Frieslab quadrant model were described. In April 2012, this plan was presented to the KMA board. After some small changes from the KMA, the project entitled 'Living Lab Better Together in Amsterdam North' applied for a subsidy from AAG.[1] In June of 2012, the grant for BSiN from AAG was approved with two preconditions

[xix] Agis has been part of Zilveren Kruis Achmea since 2011, before 2006 Agis was part of the social health insurance for people with a low income.

[xx] Municipality of Amsterdam. To a vital and healthy Amsterdam: Covenant for better cooperation between the city of Amsterdam, Amsterdam region and Agis Health insurance. (in Dutch: Naar een vitaal en gezond Amsterdam: convenant voor een intensievere samenwerking tussen de Gemeente Amsterdam, Stadsregio Amsterdam en Agis Zorgverzekeringen). Amsterdam: Municipality of Amsterdam, 2008.

from AAG: 1) duplication of payments needed to be avoided, and 2) BSiN should integrate with “Doing Things Together” (i.e., the integrated care programme for frail households developed by the municipality).[1]

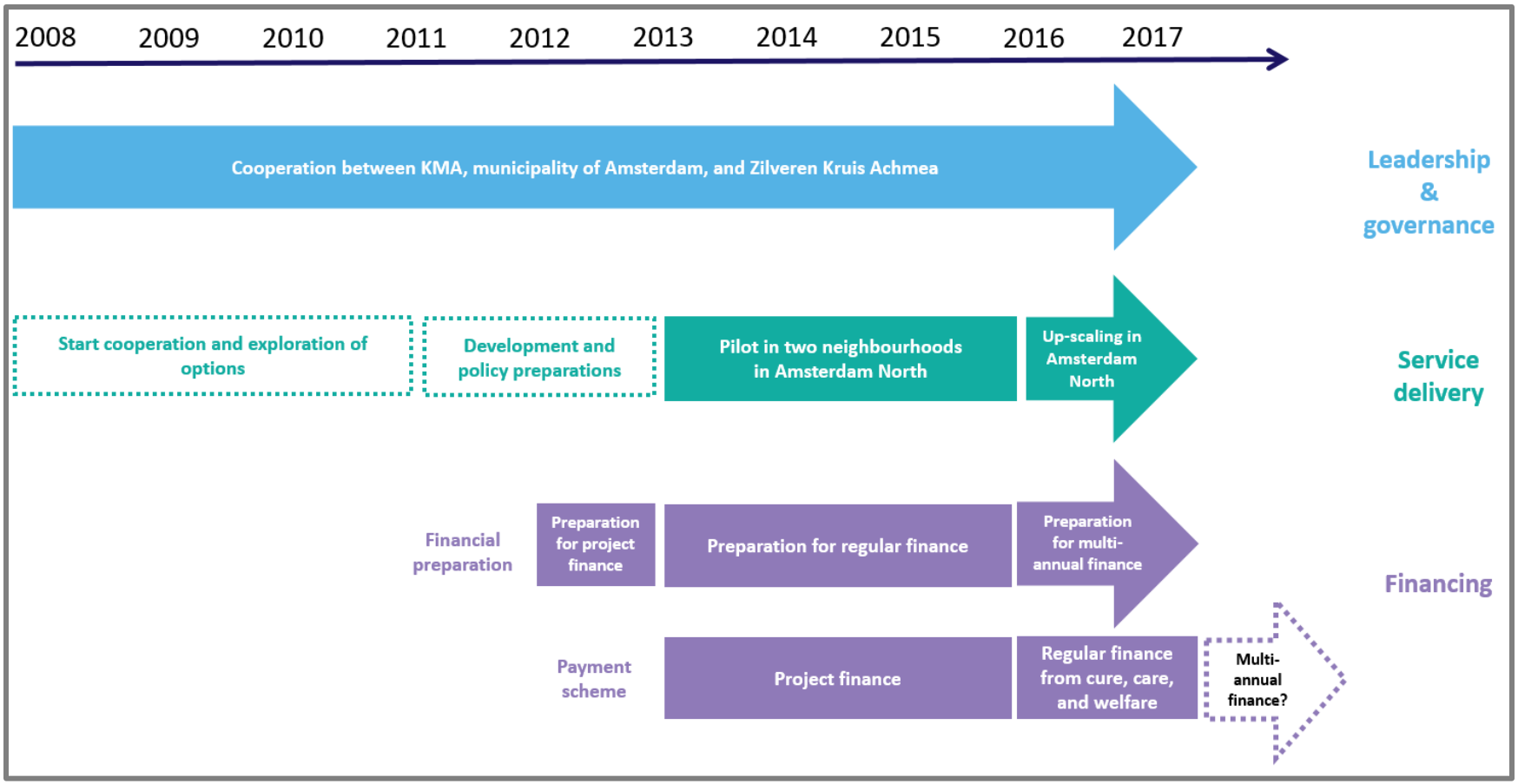
Implementation of a pilot in two neighbourhoods in Amsterdam North (2013-2015)

The organisational implementation of BSiN took more time than expected, because the development and implementation of the organisational structure of BSiN alongside the already existing individual organisation structures, needed commitment from all policymakers, managers and professionals. Finally, the implementation of the BSiN approach, consisting of triage and case management, started in the summer of 2013.[1]

Up-scaling in entire Amsterdam North (2016 onwards)

This is currently ongoing and results from the up-scaling are not yet available. The BSiN approach, consisting of triage and case management, can still be labelled as a project as the approach is not fully developed (e.g., negotiations are ongoing for multiple-year funding) *(IP03_3).*

Figure 5.8: Timeline of BSiN implementation



5.8.2. Reflection on implementation

Above, the development and implementation of the BSiN approach has been described. Below, we describe several highlights and reflections on the implementation process.

Firstly, it is remarkable that the three actors (the KMA, municipality and Zilveren Kruis Achmea) invested the first few years in exploring the options for cooperation (e.g., "in which direction do we go and where do we focus on?") *(IP09_3, IP01_3, IP13_3).* This resulted in small initiatives (see citation from below – *IP13_3*) but not in the development and implementation of a concrete programme. This long period was also the reason for the municipality to start the development and implementation of their own programme, named "Doing Things Together", targeting frail households *(IP13_3).* The care organisations disapproved the interference from the municipality[1] and the municipality wanted the care providers to become the managers of the integrated care programme on the long-term *(IP13_3).* But it took until 2016, after the first positive results from BSiN were made public, to start the integration between the programme of the municipality "Doing Things Together" and BSiN (i.e., youth is one of the three new projects). One of the main reasons for this long period was that the municipality of Amsterdam wanted to protect the youth (i.e. they were afraid for the consequences of a child if a parent was mislabelled as self-sufficient *(IP13_3)).*

"Those first few years, it was mostly talking and figuring out what it was going to look like and who would then have to do what and then there wasn't so much happening concretely as a complete collective. What did happen was that by sitting together the organisations got to know one-another better and because of that the collaboration already improved. (IP13_3 - initiator of the program)."[21]

Secondly, the development and implementation of the approach was dependent on financing *(IP09_3).* The arrangement of "project finance" could be seen as the turning point to start the pilot in two neighbourhoods in Amsterdam North and the arrangement of "regular finance" as the turning point for the up-scaling of the approach *(IP09_3, IP13_3).*

Thirdly, during the interviews the personalities of professionals in the board of the KMA was frequently mentioned as facilitator of the implementation *(IP04_3, IP03_3, IP09_3).* The board members focus on what is best for the neighbourhood instead of what is best for their individual organisation.
Fourthly, the clearly defined geographic location of Amsterdam North might have facilitated the implementation of BSiN *(IP09_3).* Amsterdam North is separated from the other districts in Amsterdam due to the river the "IJ" (see **Figure 5.9**).

Figure 5.9. Map of Amsterdam North

5.9. Discussion

5.9.1. General discussion

In this report we comprehensively described one of the three most promising Dutch integrated care programs for multi-morbidity selected for detailed investigation in SELFIE, named BSiN. From the information obtained from documents and stakeholders interviewed (e.g. involved care providers, policy makers, participants etc.) we can draw some general lessons about the programme.

This BSiN programme has successfully implemented an efficient online triage system, a case management programme, and a payment scheme making use of regular health and social care funding. The programme is perhaps one of the few examples in Europe of successful cooperation between care providers from both the health and the social care sector. Despite this, it should be noted that the programme was not implemented very systematically. For instance, the training of the case managers included an assessment of their needs instead of a systematically planned training programme based on a prior inventory of their needs. Although the care providers, the health insurer, and the municipality of Amsterdam shared the ambition to improve care for frail populations in Amsterdam North, it took many years to define the exact target population and to start with the development of a programme. Even after this long start-up period, the programme is still not wholly mature. The continuation of the programme is still very vulnerable and several risks for continuation have been identified: (i) the financing of the programme involving multiple payers from the health and social care sector, (ii) ongoing reforms of the Dutch health- and social care system, (iii) the implementation of another integrated care programme by the municipality for frail households with multiple problems in Amsterdam North, named "Doing Things Together" *(in Dutch: Samen Doen)*, (iv) the limited involvement of primary care providers who are in practice already in close contact with frail persons in Amsterdam North, and (v) different care guidelines from various professions which hamper the cooperation between the organisations and sectors. These risks are currently still present and continued efforts are needed to ensure sustainability of the BSiN programme.

Despite its comprehensiveness, several limitations of the current thick description study should be mentioned. Firstly, in qualitative research the goal is not to investigate a representative population but to explore themes. In the current thick description information from the interviews was used to gain a better insight into the programme itself and into how stakeholders reflected on the various implementation phases. It should be acknowledged that the persons interviewed were all internally motivated to participate and to share their experiences. Secondly, the section *5.6 Information and research* is based on preliminary short-term results, as the longer-term impact of the programme on outcomes and costs of health and social care utilisation has not been investigated yet. Thirdly, it was not feasible to interview representatives from each individual KMA organisation within the given time frame. However, we did interview multiple representatives from the different sectors. Finally, the interview topics were developed in advanced and to some extent standardised across all programmes studies in SELFIE. Although there was time during the interviews to add new topics, it is possible that we have not cover all relevant issues of the BSiN approach. This is especially the case since the current target population of individuals with problems in multiple life domains is different from the target population of patients with multiple chronic diseases addressed by most the other SELFIE programmes.

5.9.2. BSiN in the context of the conceptual framework

In this section, the BSiN approach is described in relation to the SELFIE conceptual framework. Interesting similarities or differences are mentioned, starting with the core of the framework, followed by each pie in the same order as the sections of this report.

Holistic understanding of the individual with multi-morbidity and his/her environment
The SSM is used in the BSiN approach to gain an overview into an individual's problem-areas which covers all the topics identified in the core of the SELFIE framework, specifically: health, well-being, capabilities, self-management, needs, and preferences are included in the holistic assessment and individual care plan. Indeed, BSiN has a broad focus on multiple problems across 11 different domains which are not all included in the SELFIE framework (e.g., justice).

The majority of the environmental factors from the SELFIE framework are explicitly included in triage and the case management trajectory, namely the availability or use of welfare services, the social network, the community, housing, and financing. Only the role of transport is not explicitly included, however, it is to be expected that this factor is also taken into consideration by the case managers as transport could influence the level of self-sufficiency of the individual.

Service delivery
The BSiN approach, including triage and case management, is a good example of a person-centred integrated care approach based on a truly holistic assessment that covers multiple life domains and thus involves professionals from many different organisations across different sectors. The delivery of care is tailored to the need of the person based on the SSM and individualised care planning. This holistic assessment is performed several times during the case management trajectory in order to accurately match the person's needs. It is interesting to note that the involvement of informal caregivers was not seen as an important characteristic of BSiN. This is because most participants of BSiN do not have a partner nor do they have an active social support system. The BSiN program would benefit from macro level policies that stimulate the integration of care across organisations and sectors, such as through close links between Ministries of Health and of Social Affairs.[18] These policies are currently lacking and would facilitate further organisational and structural integration.

Leadership & governance
The BSiN approach has largely targeted integration in the realm of "leadership & governance". Treatment decisions are made together with the individual, individualised care plans are developed and the level of support is tailored to the level of support needed based on the Frieslab model. At the meso level, the case manager is primarily responsible for the delivery of care and ensures the continuation of care by arranging and coordinating further professional help if needed. The case managers have a broad professional network due to the alliance of the 12 care and support organisations that together form the KMA. To protect the quality of care delivery, case managers give one-another peer-to-peer feedback, but this could be extended by monitoring performance indicators. The various stakeholders in BSiN seem to have a shared vision on what is best for the persons with multiple problems; they seem to give priority to these people over the business interests of their own organisations. At the macro level, the municipality of Amsterdam is currently facilitating the wider implementation of the programme, although they also hindered the programme in the past by simultaneously stimulating another integrated care programme in the same region.

Workforce
The case managers are the core and central contact point for BSiN participants. Furthermore, in the BSiN approach a core team of professionals work together in the form of a triage team that decides

what level of care is appropriate for each individual. These case managers can have a different background and are specifically trained in the new professional role that they take upon themselves next to their day-to-day work. During the interviews it was mentioned that cooperation between the care providers would improve if the providers would know more about each other's professions in order to appropriately recognise problems beyond their own profession.

Technologies & medical products
This BSiN programme has successfully implemented an efficient online triage system. The current ICT system is simple and easy to use but has limited functionality beyond the initial traige. The system is not incorporated into the information systems that the organisations use in daily practice, nor does the ICT system include a patient portal or an EMR. Options for a future integrated ICT system are currently being explored, addressing issues such as data ownership, privacy protection, and access to information.

Information & research
Evaluations of the triage and case management components of the BSiN approach have consisted of an in-depth process evaluation by TNO. The results of which have been presented to the KMA, the municipality of Amsterdam, and Zilveren Kruis Achmea. Second, the programme is being evaluated in a quantitative study by TNO, but only the preliminary short-term results are currently available. These evaluations helped to further develop the programme and were used to guide decisions to continue support and financing of the programme. Besides these evaluations, more routine information could be collected to support decision making in daily practice. For instance, a shared information system could be used for more proactive case finding of potential candidates of BSiN.

Financing
There is currently no financial system in the Netherlands that covers the combination of health and social care and there is no clear accountability; two different payers share the responsible for funding the care for persons with multiple problems. Therefore, it is unique that the health insurer Zilveren Kruis Achmea and the municipality of Amsterdam North have succeeded to agree to a payment scheme from regular health and social care budget for the BSiN programme. However, the current payment scheme is vulnerable and the financial agreement has only been made for one year (i.e., 2016). Changes in the financing system at the macro level can support programmes such as BSiN that target individuals with problems that cross multiple sectors.

This thick description report sheds light on what the BSiN approach is, how it is being implemented in daily practice, and how different stakeholders reflect on it. The insights gained in this report form the basis for setting up an empirical evaluation of BSiN in the context of further SELFIE research.

5.10. Appendix

Table A5.1: Interview partner overview

TD code	Stakeholder category	Stakeholder description
IP01_3	G	Researcher
IP02_3	D2	Social staff
IP03_3	A	Programme manager
IP04_3	A	Programme manager (2)
IP05_3	F	Client (1)
IP06_3	F	Client (2)
IP07_3	D1	Physician
IP08_3	D2	Non-physician medical staff/social staff
IP09_3	C	Representative of sponsor/payer organisation
IP10_3	E	Informal caregiver
IP11_3	D2	Non-physician medical staff (2)
IP12_3	D2	Non-physician medical staff (3)
IP13_3	B	Initiator of the program

Table A5.2: Dutch-English translations of the used quotes from the interviews

Quote #	Dutch	English
[1]	"door die fysieke problemen, […] Hoewel ik de vuilniszakken wel goed dichtmaakte, maar dan zette ik ze allemaal in de slaapkamer neer en dan deed ik het raam open, dat het in ieder geval niet ging stinken […] Dus ik had helemaal geen zin om nog een keer met een paar vuilniszakken te gaan slepen, want dan moest ik nog een stuk verder lopen."	*"due to the physical problems,[…] although I properly close the garbage bags, but then I put them all in the bedroom and opened the window so that it at least wouldn't smell […] So I didn't feel like dragging another couple of garbage bags [outside], because then I had to walk even further (IP10_3)."*
[2]	"We keken wel vaak naar het systeem, niet naar de ene aangemelde patiënt. Dat betekent hier in de wijk bijvoorbeeld dat als je dan een Marokkaanse aanmeldt, die heeft een hoge bloeddruk en is wat overspannen of depressief, maar hij heeft ook nog een gehandicapte zoon, een gameverslaafde zoon en nog een zoon met allerlei gedragsproblemen serieus en een vrouw die depressief is en weinig geld. De complexiteit zit ook vaak in het system."	*"We often looked at the system [social network/environment], not at the one enrolled patient. In this neighbourhood that means, for example, if you have a Moroccan person that's enrolled, who has high blood pressure and who is a bit anxious or depressed, but he also has a disabled son, a game addicted son and another son with all sorts of serious behavioural problems and a wife who is depressed and has little money. The complexity is also often in the system (IP07_3)."*
[3]	"De inspanning die je moet doen. Je moet al die mensen op gaan zoeken. Of je moet wachten tot je ze hier een keer tegenkomt en dan moet het net het moment zijn om even tijd te hebben [….]. Dus daar moet je echt wel eventjes aan trekken voordat je iemand kan aanmelden. En dan loop je weer tegen hetzelfde aan. Dat er dan heel veel zeggen ik heb er geen tijd en ruimte voor."	*"The effort you have to make. You have to search for all those people [cases]. Or you have to wait until you see them here and then it must be just the right moment that you have time […] So you really have to put in a lot of effort before you can enrol someone. And then you are confronted with the same things again. That a lot of people say I have no time and capacity for this (IP07_3)."*
[4]	"Maar ik denk dat heel veel organisaties als daar cliënten binnenkomen het idee hebben van ja dit is, dit is problematiek die wij kunnen oplossen en misschien wat minder snel denken uh ja maar er zitten ook er zitten ook andere ook medische en psychiatrische en en specialistisch aspecten aan. En dat en dat is natuurlijk is een groot probleem, dat hebben we nu een klein beetje denk ik getackeld, maar dat lossen we natuurlijk ook niet even in 1-2 jaartjes op."	*"But I think a lot of organisations, when there are a lot of clients coming in [being enrolled], feel like 'yeah this, this is a problem area that we can solve' and maybe less quickly think 'uh yeah but there are also other medical and psychiatric and specialist aspects'. And that, that is of course a big problem that we've now tackled on the small-scale, but of course we don't solve that in 1-2 years" (IP03_3)."*

[5]	"[jezelf of je buurman aanmelden] dat kan volgens mij al die tijd al, maar als je het niet bekend maakt kan niemand het vinden."	*"[being able to sign up yourself or your neighbour] has, I think, always been a possibility, but if you don't make it widely known then no one can find it [the programme] (IP03_3)."*
[6]	"ik denk dat iedereen die aanmeldde dacht dit lijkt me iemand die in dat project past, dus waarbij je case management zou kunnen inzetten."	*"I think that everyone who enrolled someone thought this seems like someone who fits in this project, so where you could apply case management (IP07_3)."*
[7]	"dat je dan een vrouw van veertig in de praktijk hebt en die heeft drie kinderen en die komt hier met allerlei vage klachten, astma, hoofdpijn, moe, niet goed, zorgen. En gaat de case manager naar haar toe en dan blijkt dat iemand woont daar met haar moeder en haar zus en nog twee kinderen in een veel te klein huis en eigenlijk is het grote probleem de woning. Hoe ga je dat dan oplossen. En naast alle andere dingen. Maar dan kristalliseert zich dat uit in oké één actiepunt de woning moet aan gewerkt worden."	*"that you have a forty year old woman in the practice who has three children and visits the practice with all kinds of vague complaints, asthma, headaches, tired, not well, worries. And the case manager visits her and then it turns out that [she] lives there with her mother and her sister and two children in house that is way too small and actually the big problem is the living situation. How do you solve that? And in addition to all the other things. But then it crystallizes into one action point, housing needs to be worked on (IP07_3)."*
[8]	"Ik heb nog wel een casus recent aangemeld bij Beter Samen. Dat is eigenlijk wel een dame die thuishoort in de GGZ, maar de GGZ kan haar nu niet bieden wat ze nodig heeft en dat wil ze ook niet. En dan heb ik wel samen met Beter Samen in Noord een case manager dus gevonden die mevrouw gaat helpen bij wat ze nodig heeft op dit moment. […] Maar dan help ik eigenlijk de case manager met hoe ga je met zo iemand om met wat ze vertelt en hoe voorkomen we dat ze ontruimd wordt. En dat is dan de kennis die ik niet heb."	*"I recently enrolled a case for BSiN. That is actually a lady who belongs mental health care services, but the mental health care services cannot offer her what she currently needs and she also doesn't want that. And then, together with BSiN, I found, a case manager, someone who is going to help this woman with what she currently needs. […] then I actually help the case manager with how do you handle such a person and how do we prevent eviction. And that is the knowledge that I don't have (IP12_3)."*
[9]	"als huisarts hebben wij vaak het idee dat wij de spin in het web zijn, maar we hebben maar een half web wat we zien."	*"as GPs we often have the idea that we are the spider in the web, but we only see half of the web (IP07_3)."*
[10]	"bij mijn idee dat het essentieel is om de huisarts erbij te betrekken, om echt succes te hebben. En dan is natuurlijk het gebruiken van praktijkondersteuners is een manier om huisartsenpraktijken te betrekken (IP07_3)."	*"my idea is that it is essential to involve the GP to be really successful. And then, of course, using nurse practitioners is a way to involve the general practices (IP07_3). "*
[11]	"helemaal niet moet iedereen generalist worden, want dan wordt iedereen grijs	*"not everyone should become a generalist, because then everyone is grey*

	en dan kan niemand meer echt iets goeds hè (IP02_3)."	*and then no one can really do something good (IP02_3)."*
[12]	"Ze wilden graag dat wij ook als case manager aangesloten zouden zijn, maar dat wilden wij niet. […] In de eerste ring zitten dan de case managers, of de generalisten, en in de tweede ring zitten de specialisten. En wij wilden alleen de specialistenrol."	*"They wanted us to also be involved as case managers, but we didn't want that. […] The first ring [i.e., layer of care] is made up of the case managers, or the generalists, and the second of the specialists. And we only want [to take up] the role of specialist (IP11_3)."*
[13]	"Nouja dat scheelt heel erg wat je moederorganisatie is […] Binnen Doras is dat natuurlijk ja redelijk standaard zal ik maar zeggen […] bij bijvoorbeeld […] mensen van Combiwel, die zijn van uh welzijn ja die doen groepen en activiteiten in buurthuizen Dus daar is, is case management wel heel iets anders dan het reguliere werk en een wijkverpleegkundige ja, in praktijk gericht altijd op het medische […] en MEE mensen met een beperking, ja dat zijn ook maatschappelijk werkers, die zijn ook wel gewend zeker."	*"Well it really matters what your overarching organisation is [...] Within Doras [a social care organisation] I would say it [case management] is of course reasonably standard [...] among for example […] people from Combiwel, who are from welfare, they organise groups and activities in community centres so for them case management is very different from their regular work, and a district nurse is in practice always focused on the medical problems (...) and MEE [social security] people with a disability , yes those are also social workers, who are used to this [case management] (IP02_3)."*
[14]	"Gewoon de tijd op zich al, […] dat dat de tijd er gewoon is weet je, dat is fijn. Dat je niet de druk hebt oh het moet nu snel want ze moet over 3 minuten weg bijvoorbeeld."	*"Just making the time […] that the time is just there you know, that is nice. That you don't feel the pressure 'oh now we have to do this quickly' because she has to leave in three minutes for example (IP05_3)."*
[15]	"Nou ja, het heeft wel … Het heeft me toch wel van een aantal dingen meer bewust gemaakt, meer over nadenken."	*"Well yeah, it you know… It made me more aware of some things, think about them more (IP10_3)."*
[16]	"ja we gingen eigenlijk beetje in het algemeen kijken van wie of wat zou me kunnen helpen in Noord."	*"Yes we [the participant and the case manager] just generally looked at who or what might be able to help me in North [the region] (IP06_3)."*
[17]	"Het is heel lastig maarja als je weet hoeveel systemen, we hebben ook nog een gemeentelijk systeem en uh, ja de hele gemeente heeft geloof ik 70 of 76 systemen alleen al en dan hebben we de huisartsen nog niet meegeteld."	*"It's really difficult but if you know how many systems. […] the municipality has, I believe 70 or 76 systems alone, and then we haven't even counted the general practitioner systems yet (IP02_3)."*
[18]	"Er moet uiteindelijk een heel grote paraplu aan activiteiten komen."	*"Eventually, there should be a big umbrella of activities (IP01_3)."*
[19]	"Je kunt helemaal niet de Chinese muur zetten tussen dit is welzijn en ondersteuning en dit is zorgverzekeringswet, ja. En de uitersten	*"You cannot really say 'this is welfare and support' and 'this is the Health Insurance Act', yes for the extremes [you can], 'a broken leg under the Health Insurance*

	kun je wel een gebroken been hoort onder de zorgverzekeringswet en iemand met schulden hoort in de WMO ja en dat dat is duidelijk maar er zijn natuurlijk ongelofelijk veel gebieden waar allebei in het geding zijn."	*Act' and someone with debt under the Social Security Act [welfare and support]. That is clear but there are of course many areas where both are of concern (IP03_3)."*
[20]	"Als je alleen al binnen sociaal kijkt dan heb je onderwijs, jeugd, […] dienst, werk, en inkomen (…) Maar wie gaat dat dan betalen? Eigenlijk zijn we als collectief daar verantwoordelijk voor en dat is ook wel de worsteling die ik zie."	*"If you only look within [the] social [sector] then you have education, youth, […], work and income […] But who is going to pay? Actually we are collectively responsible and that is also the struggle that I see (IP13_3)."*
[21]	"Die eerste paar jaar is er vooral veel gepraat en afgetast van hoe gaat het er dan uitzien en wie moet dan precies wat doen en toen is er niet zo heel veel concreet gebeurt als compleet collectief. Wat er wel gebeurde was omdat je bij elkaar zat dat de lijntjes automatisch korter werden tussen de verschillende organisaties en dat daardoor wel gewoon al wel de samenwerking verbeterde."	*"Those first few years, it was mostly talking and figuring out what it was going to look like and who would then have to do what and then there wasn't so much happening concretely as a complete collective. What did happen was that by sitting together the organisations got to know one-another better and because of that the collaboration already improved (IP13_3)."*

Table A5.3: Overview of outcomes measured at 0, 6 and 12 months.

Outcome	Instrument / indicator(s)
Demographic characteristics	
Gender	
Age	
Ethnicity	
Level of Dutch language	Two items about to measure the subjective judgements of the level of Dutch
Health and well-being	
Level of participation	Dutch version of the Self-Sufficiency Matrix[12] - Mental health; - Physical health; - Activities of Daily Living; - Social network; - Societal participation; - Relationships at home; - Addiction; - Finances; - Daytime activities; - Housing; - Justice.
Level of societal participation	Three sub-domains: - Employment status (yes / no; hours per week), absenteeism (number of days of absence in the past 6 and 12 months) and level of education; - Volunteer work (yes / no; hours per week); - Informal care giving (yes / no; hours per week)
Perceived general health	One item: - "How would you rate health in general?"[xxi] (very good / good / fair / poor / very poor)
Chronic health limitations	The presence of 15 types of chronic illnesses, the amount of disability and discomfort from theses illnesses and treatment and medication use
Mental health	Two items related to loneliness and sadness: - "Are you lonely?" (yes / no / indifferent) - "Did you feel down or sad in the past year?" (always / most of the time / several times / a few times / never) And two other multiple-item questionnaires, related to: - Current medication use for anxiety, depression, tension or stress (yes / no) - Professional help for mental complaints in the past year (yes / no)
Vitality	Two questions[xxii]: - "Do you have enough energy to do what you would like during a day? Are you often tired?" / Are you often tired (energetic / neutral / listless) - "What are your plans for the future? What does your future look like?" (future plans / neutral / no future plans)
Lifestyle	Questions on: • Body Mass Index (weight and height) • Daily exercise (light and heavy) • Fruit and vegetable intake

[xxi] Derived from the Short-Form Health Survey 12.18

[xxii] Derived from the Vita-16.19

	• Smoking and drinking behaviour • Intention to improve health on 10 domains
Self-efficacy	• Health literacy (three 5-point Likert scales questions) • Problem solving "Are you taking actions to solve a problem?" (disagree / disagree agree / agree) "How do you solve problems?" (problem solving coping style / avoiding coping style / requesting for support coping style) • Compliance/adherence to treatment (medication adherence, no-shows at appointments and, adherence to advice from provider (never / sometimes / most of the time / always) • Resilience "Are you capable to deal with setbacks?" (good / neutral / not good)
Experience with care	
Satisfaction with care providers	Rating for all (social) care providers from 1 to 10
Integration and coordination of care	• Named Coordinator "Is there a named coordinator?" (yes / no), "How do you value the level of support from this coordinator?" (supportive / not supportive)
Patient centeredness	• Individualized care planning "Is there individualized care planning?" (yes / no)" "Did you read the plan?" (yes/no) "Do you understand the plan" (yes/no)
Health care costs	
Health care expenses	Health care expenses extracted from the claim data of health insurer Zilveren Kruis Achmea
Productivity loss	Absenteeism "Number of working days lost in the past 6 months" and "Number of working days lost in the past 12 months"

Table A5.4: Overview of payment mechanism

	Payer(s)	Mechanism	Group of providers / personnel	Details of payment mechanisms
Step 1	**Municipality of Amsterdam** (funding 75% of the programme costs via SSA)	**Budget** →	**Providers from social care and welfare**	a) Primarily financed as part of the regular SSA budget for social care and welfare. (This budget is based on the negotiations between the municipality and providers from social care and welfare about volume, price and quality of care)
		Budget →	**KMA**	b) Additional budget from the SSA for triage (n=150) and case management (n=60)
	Health insurer Zilveren Kruis Achmea (funding 25% of the programme costs)	**Budget** →	**Health care providers**	a) Regular budget for the health care providers. (This budget is based on the negotiations between Health insurer Zilveren Kruis Achmea and the health care providers about volume, price and quality of care
		Budget →	**KMA**	b) Additional budget from Health insurer Zilveren Kruis Achmea for triage (n=150) and case management (n=60)
Step 2	**Providers from social care and welfare**	**Budget** →	**KMA**	Part of their regular SSA budget
	Health care providers	**Budget** →	**KMA**	Part of their regular health care budget
Step 3	**KMA**	**Bundled Payment** →	**Individual care organisations**	Fee per "case management trajectory"

SSA=Social Support Act, KMA= Krijtmolenalliantie, an alliance of care and support organisations from acute and long-term health care, social care, welfare, and youth.

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