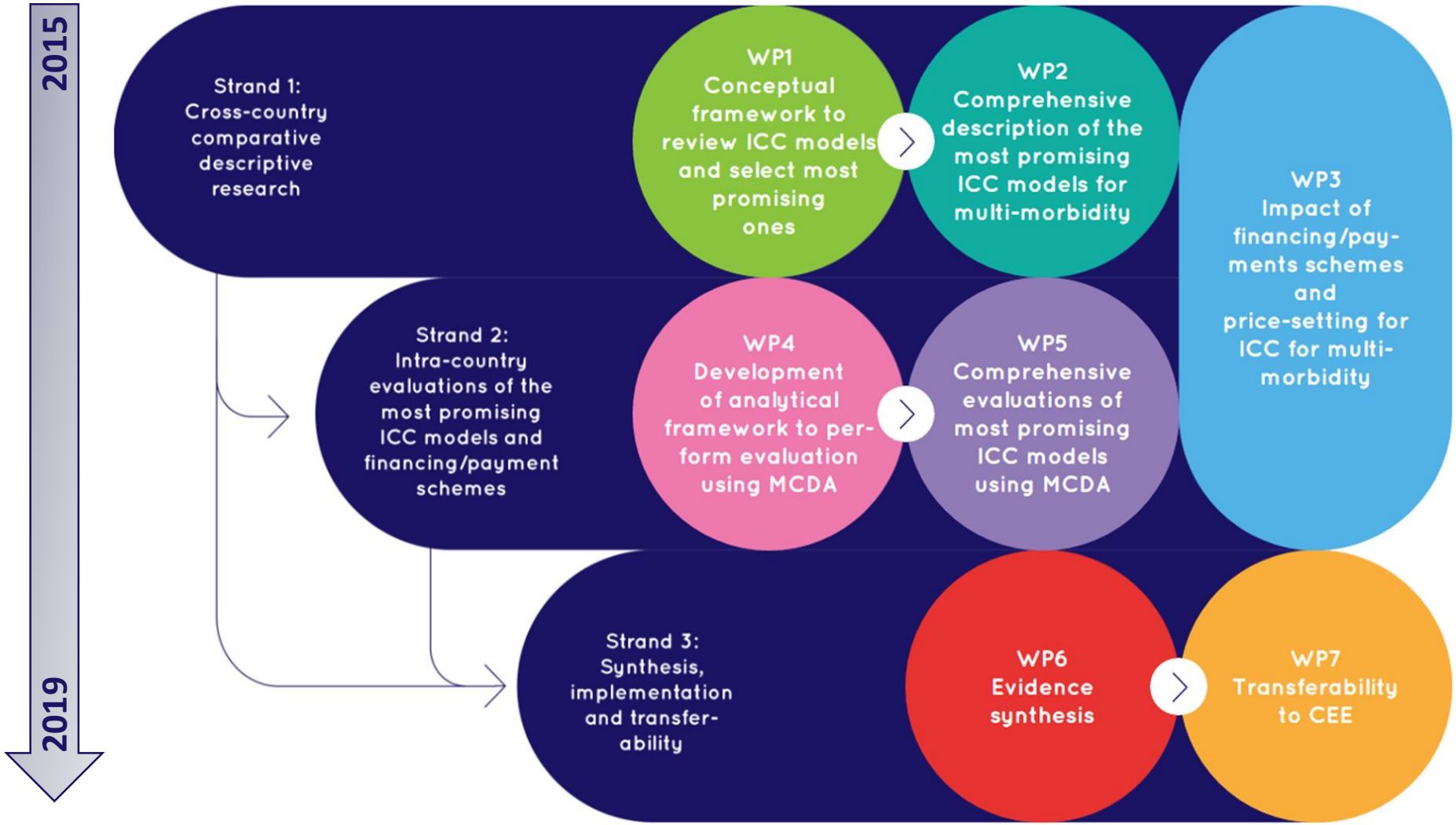
SELFIE 2020

FINAL CONFERENCE

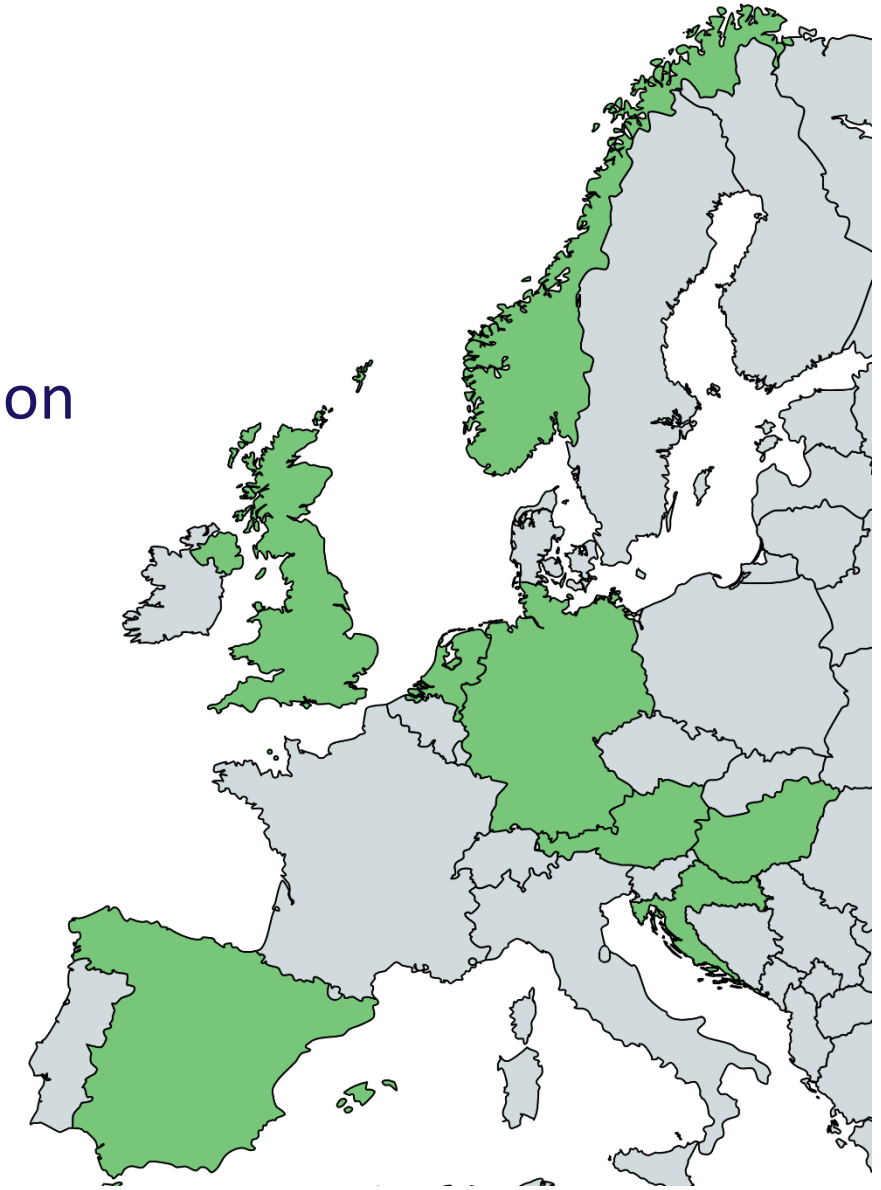
Integrated care for
multi-morbidity

SELFIE: Sustainable intEgrated chronic care modeLs for multi-morbidity: delivery, FInancing, and performancE



SELFIE partners

1. Erasmus School of Health Policy & Management, Erasmus University Rotterdam, **the Netherlands** (*coordinator*)
2. Institute for Advanced Studies, **Austria**
3. Ministry of Health (&Agency for Quality & Accreditation in Health Care and Social Welfare), **Croatia**
4. Dept of Health Care Management, Berlin University of Technology, **Germany**
5. Syreon Research Institute, **Hungary**
6. Dept of Economics, University of Bergen, **Norway**
7. IDIBAPS & Hospital Clinic Barcelona, **Spain**
8. Centre of Health Economics, University of Manchester, **UK**



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Navigating through the jungle of integrated care

Ewout van Ginneken & Miriam Reiss

SELFIE Final conference, 13th of June

Content

- A framework as navigation tool through the jungle of integrated care
- Selection of 17 promising integrated care initiatives
- Factors contributing to success of integrated care initiatives

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Rationale for development of SELFIE framework

- Current integrated care programmes arguably fail to capture the complexities resulting from multi-morbidity.
- New models need to better capture multi-morbidity-specific elements
- More attention to the macro-level policies could improve effectiveness of newly designed integrated care programmes
- Approach: a scoping review of scientific and grey literature and expert discussions to identify and structure relevant concepts, elements and models.

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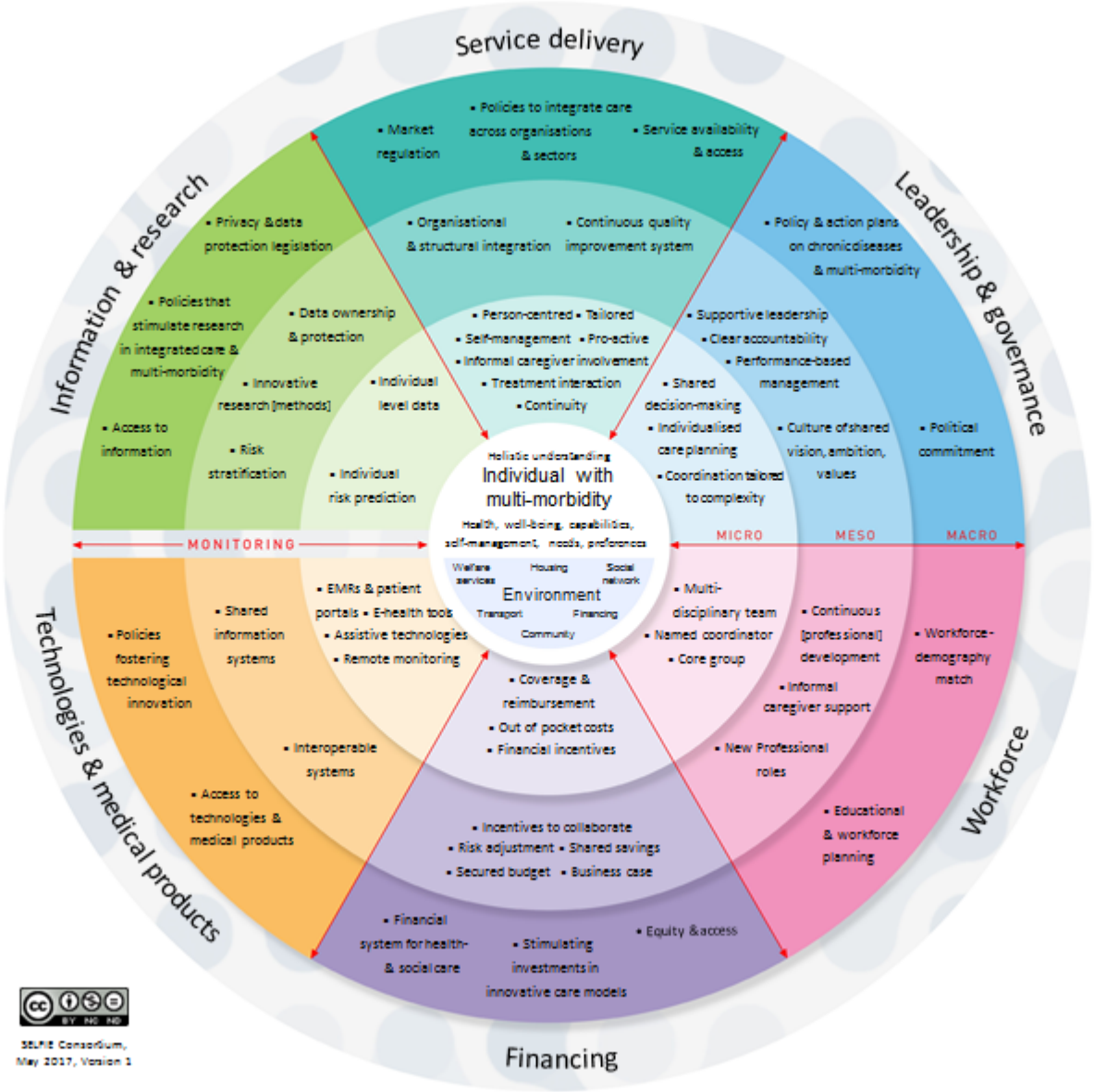

The SELFIE framework for integrated care for multimorbidity

Can aid **the development, implementation, description, and evaluation** of integrated care for multi-morbidity.

Can be used by **developers** (clinicians, managers), **policy makers, health insurers, and researchers**.

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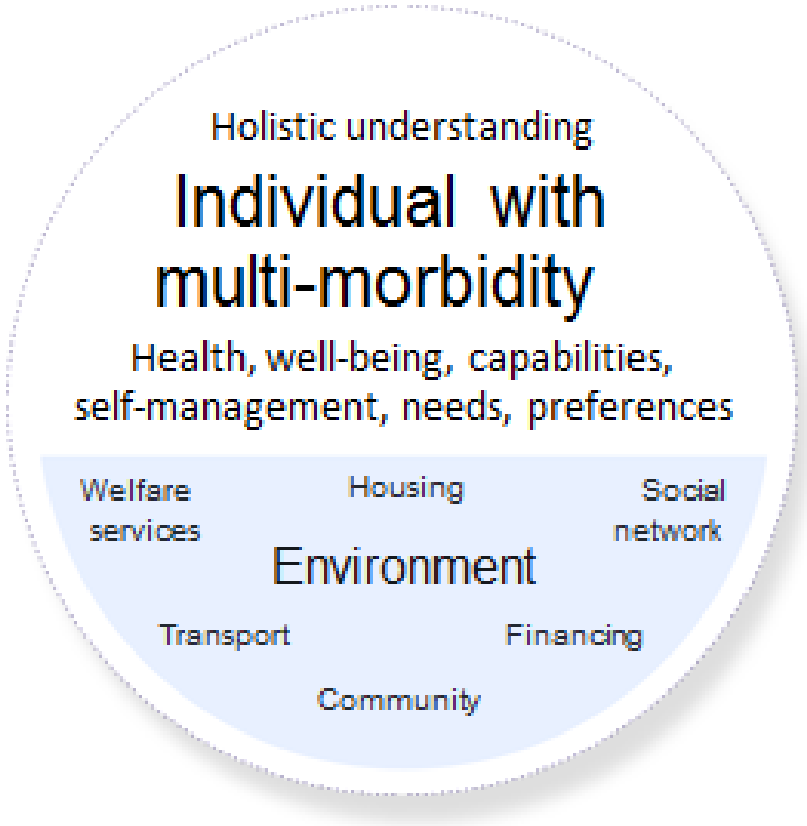
The core



- Holistic understanding of the person
- Self management capabilities
- The environment needs to be taken into account

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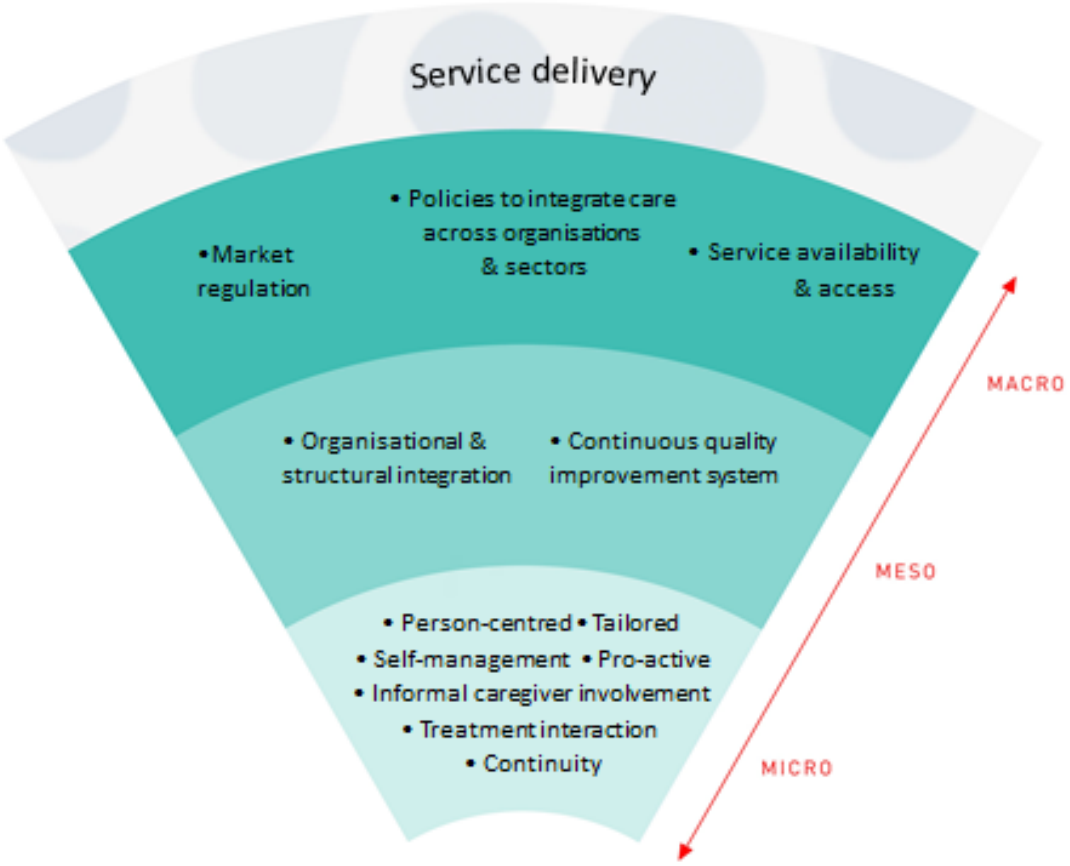
Service delivery



Meso: Integration across health and social care sectors, **ranging from fully integrated formal alliances or mergers to informal cooperation agreements**

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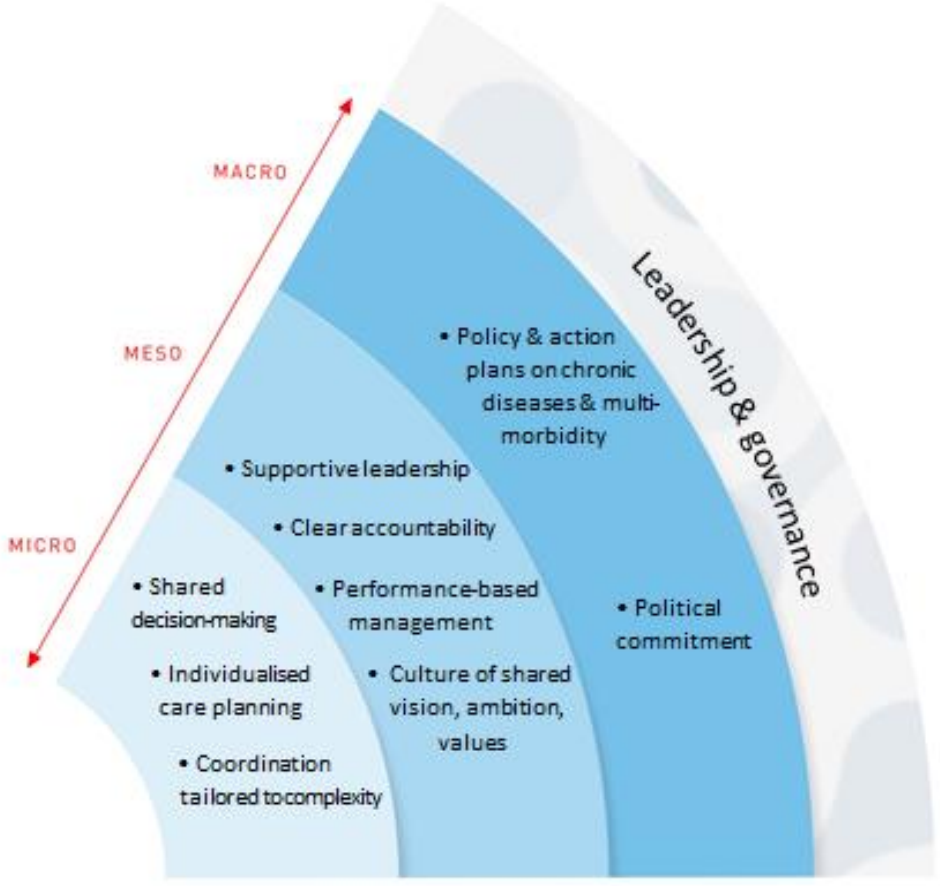
Leadership & governance



Meso: supportive and trusted leadership **throughout all levels and systems** that is fully committed to clearly-defined goals, and acknowledges professional autonomy, shared vision

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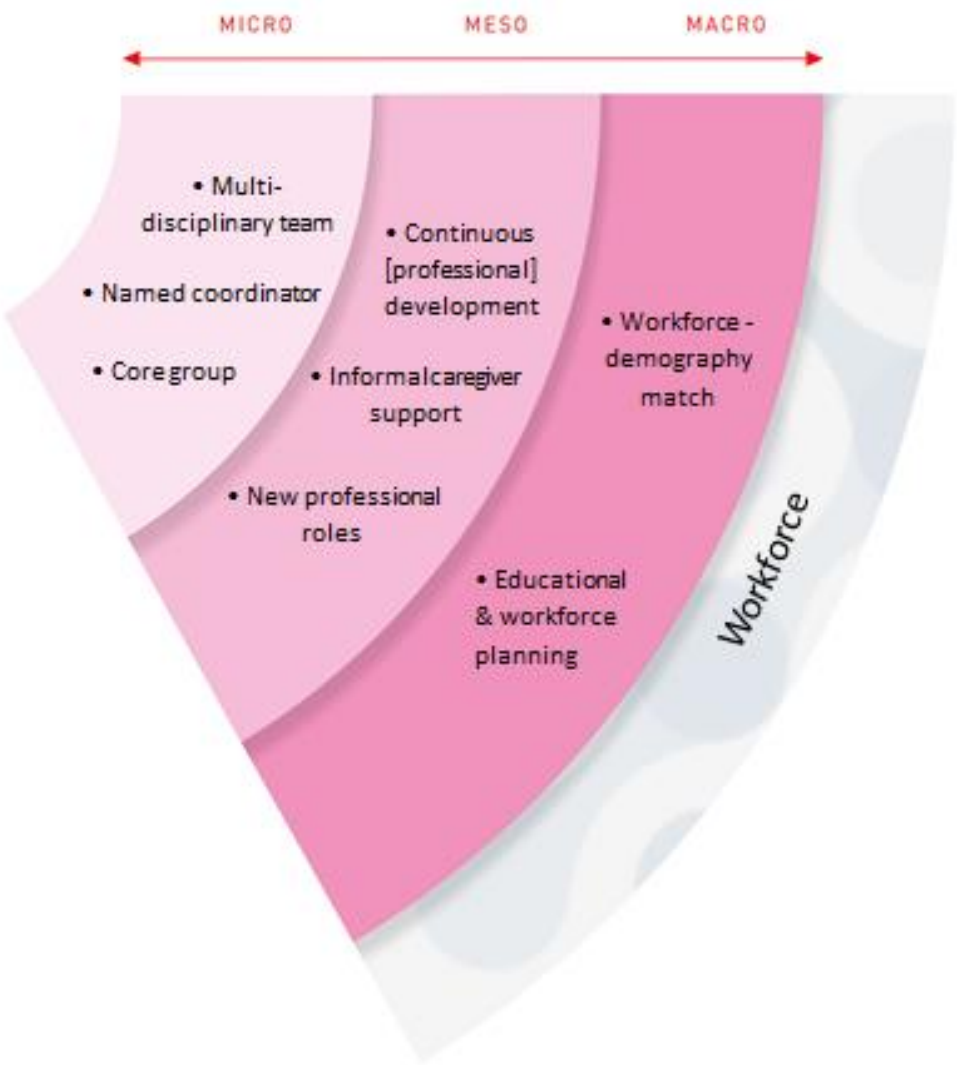
Workforce



Micro: multidisciplinary team **that crosses the healthcare, social care, and volunteer work boundaries,** one contact person, not too many different carers, care coordinator

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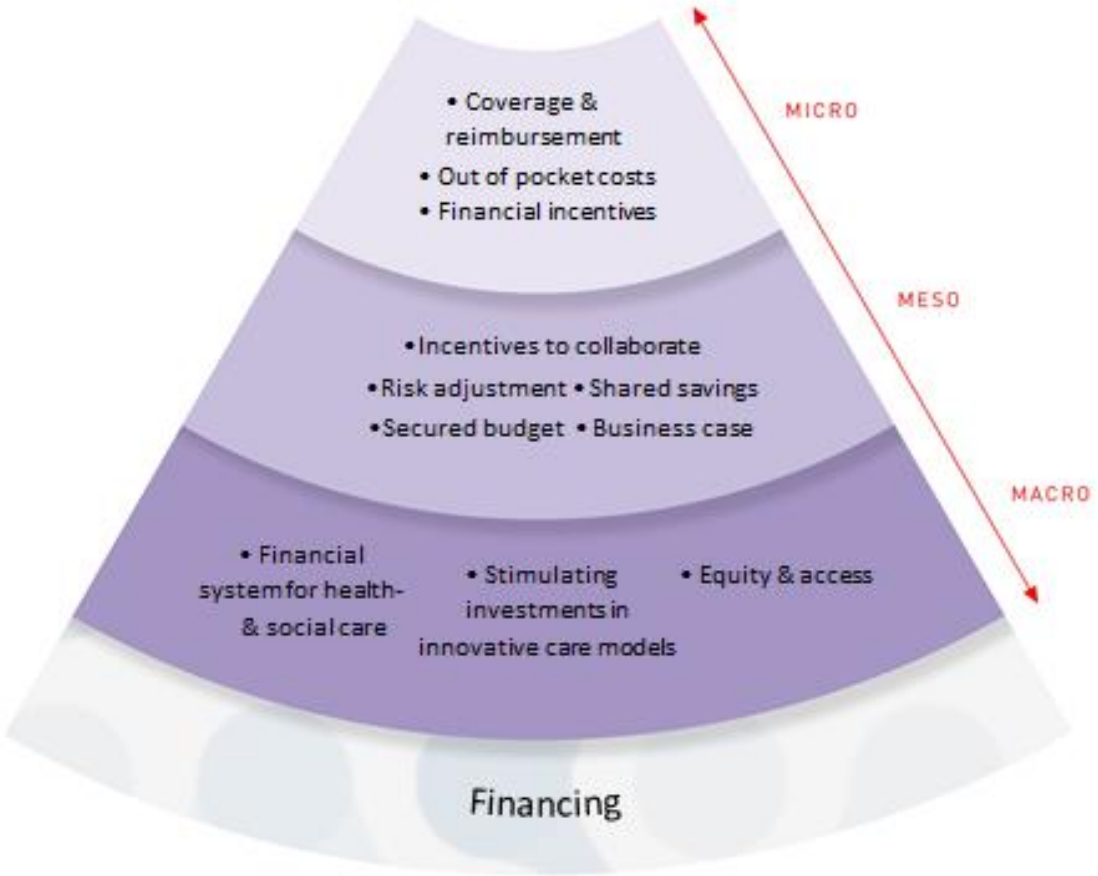
Financing



- Meso: new payment methods **that support coordination and integration**, ranging from P4C, bundled payments, and shared savings

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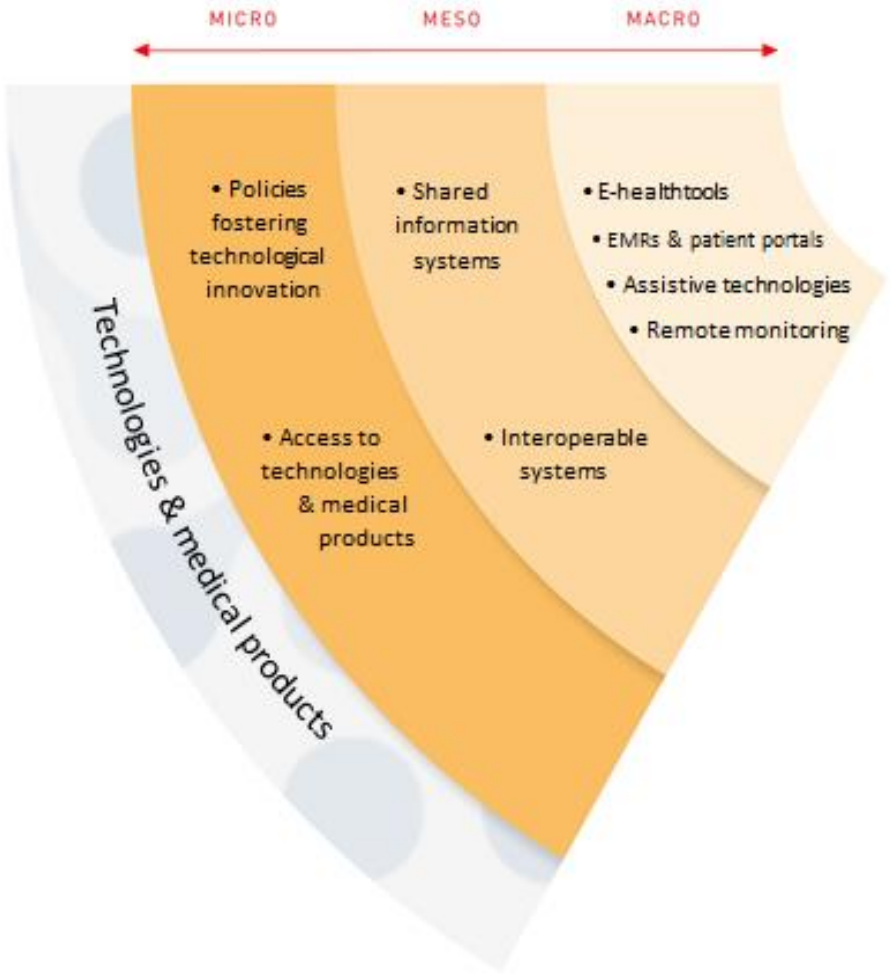
Technologies and medical products



Meso: a **shared information system** (e.g., EMRs including care plans) that is accessible for multiple professionals **across health and social sectors**

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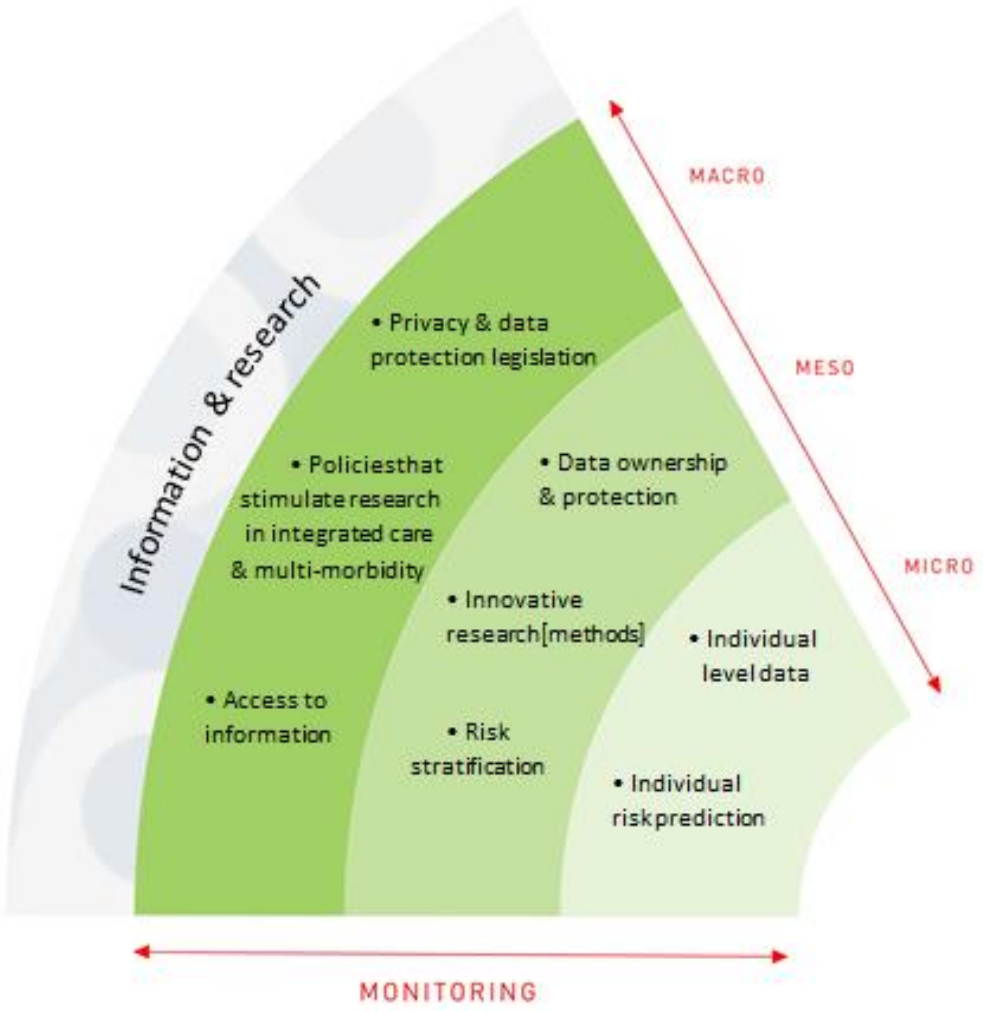
Information & research



- Macro: ensure privacy and data protection legislation with regard to information sharing and information on **navigating the care and social system**

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Monitoring

- **Micro:** monitoring of changes, preferences, care plans and self-management capability

- **Meso:** continuous monitoring using a quality improvement system plays a key role in performance management and pay-for-performance

- **Macro:** monitoring the workforce-demography match and the prevalence and incidence of multimorbidity

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Health Policy 122 (2018) 12–22

Contents lists available at ScienceDirect

Health Policy

Health Policy 122 (2018) 23–35

Contents lists available at ScienceDirect

Health Policy

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Relevant models and
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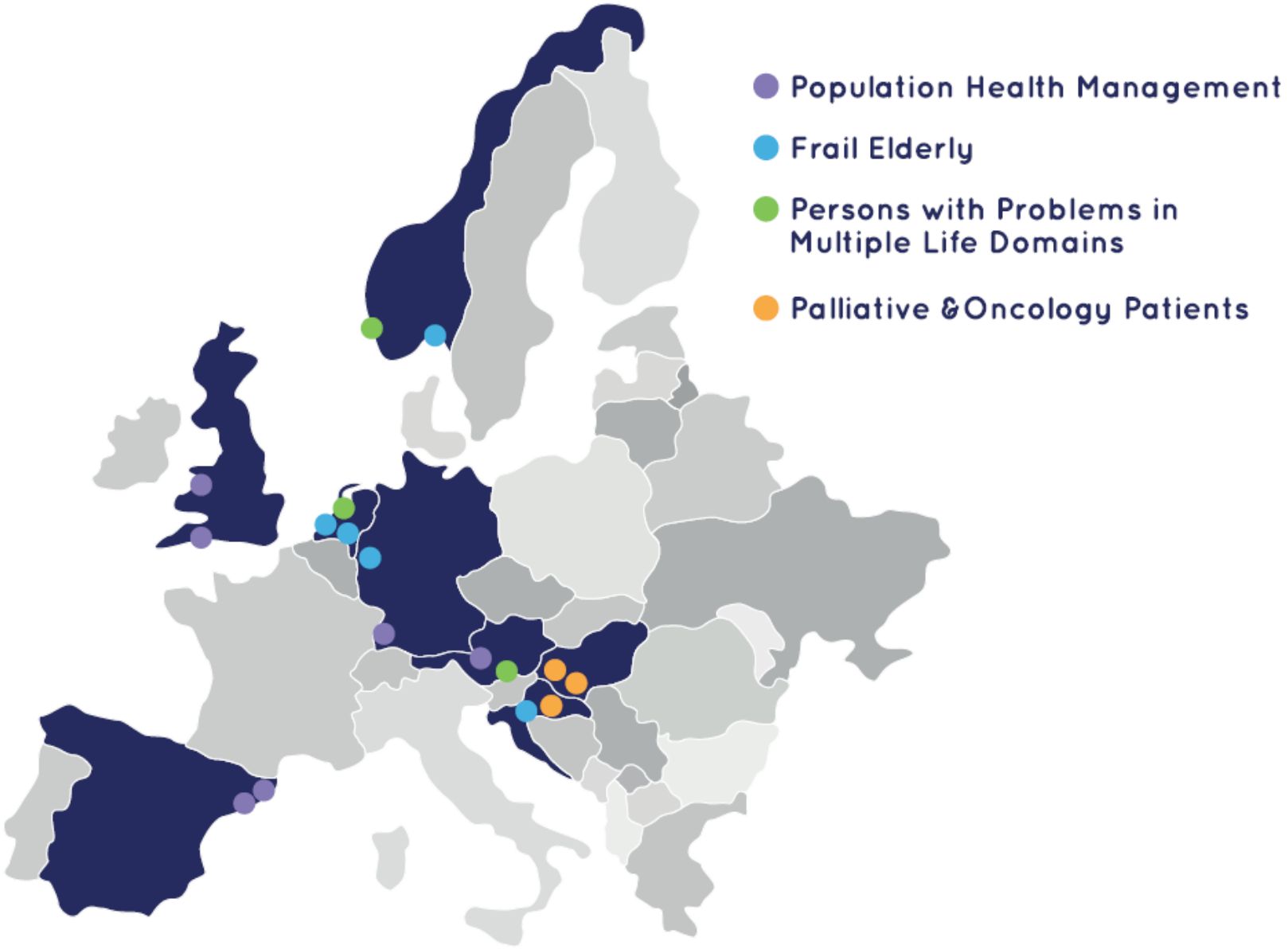
THE SELFIE FRAMEWORK
FOR INTEGRATED CARE FOR MULTI-MORBIDITY

By: Fenna RM Leijten*, Verena Struckmann*, Ewout van Ginneken, Thomas Czypionka, Markus Kraus, Miriam Reiss, Apostolos Tsiachristas, Melinde Boland, Antoinette de Bont, Roland Bal, Reinhard Busse, and Maureen Rutten-van Mölken, on behalf of the SELFIE consortium.

Fenna RM Leijten is Researcher at the Institute of Health Policy and Management, Erasmus University Rotterdam, the Netherlands;
Verena Struckmann is Researcher

Summary: There is an increasing prevalence of multi-morbidity, which is associated with lower quality of life and higher expenditures, and constitutes a challenge to current, often fragmented, care

Selection of 17 integrated care programmes



AT	Health Network Tennengau (Gesundheitsnetzwerk Tennengau) Sociomedical Centre Liebenau (Sozialmedizinisches Zentrum Liebenau)
HR	GeroS System Palliative Care System
DE	Casaplus Gesundes Kinzigtal
HU	Onconetwork Palliative Care Consulting Service (Mobile) Team
NO	Learning network Medically Assisted Rehabilitation (MAR) Bergen
ES	Badalona Serveis Assistencials (BSA) Barcelona Esquerre (AISBE)
NL	Better together in Amsterdam North (BSiN) Proactive Primary Care Approach for Frail Elderly (U-PROFIT) Care Chain Frail Elderly
UK	South Somerset Symphony Programme Salford – Salford Integrated Care Programme (SICP)/ Salford Together

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Comprehensive description of programmes

- Next step after development of framework and selection of programmes: **comprehensive description** of the 17 programmes, guided by framework

- Methodological approach: **thick description** – qualitative approach aiming to investigate patterns of cultural and social relationships beneath the surface of the studied case (“soft facts”)

- Information gathered by means of **two complementing approaches**:

  1. **Document analysis** of programme documents
  2. **Qualitative interviews** with 10-20 relevant stakeholders per programme: managers, initiators, payers, professionals, informal caregivers, patients, other

- Individual reports on the 17 programmes prepared by SELFIE partners – available on SELFIE website (https://www.selfie2020.eu/)

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Overarching analysis

- Overarching analysis of thick description reports with focus on the **core and micro level** of the framework, mainly in the area **service delivery** (second overarching analysis on digital health tools)
- Identification of **factors contributing to success of integrated care initiatives for persons with complex needs**
- **Central aspects that emerged:**
  - Holistic view of the patient
  - Continuity of care
  - Communication between professionals
  - Patient involvement
  - Self-management

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Holistic view of the patient

- Increasing consensus that integrated care of persons with complex needs **cannot exclusively address physical health problems**
- Recognition of **interconnectedness of physical health, mental health and social situation**
- Taking into account **patients' environment** when assessing their needs
- Some programmes specifically target **vulnerable populations**

Consideration of **social situation** in Sociomedical Centre Liebenau (AT):

"[...] if someone doesn't know how they are going to finance their everyday needs, then coping, for instance, with their diabetes or their multiple illnesses is probably the least of their worries" [physician]

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Continuity of care

- Good collaboration, smooth transitions between caregivers – central aspect of **quality of care**
- Especially important for persons with complex needs who have to navigate **multiple providers** in **multiple sectors**
- Professionals acting as **single contact point** for patients
- **Alignment of services** offered: multiple services in one place (“one-stop-shop”)

Care coordinator as **single contact point** in South Somerset Symphony (UK)

“It doesn’t matter what is wrong with me, I can discuss it with them. If I need a doctor’s appointment, they can make one at the surgery for me and they can…[…] So it is, as they have said, one body of people I can go to that has access to everything I need.” [patient]

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Communication between professionals

- Integrated care for persons with complex needs often involves **multi-disciplinary teams**
- **Communication of particular importance** when various disciplines are involved and cases are complex
- Regular **team meetings** or **case conferences** as communication instruments
- Implementing good communication takes **effort**, **time** and **team culture** that allows for open-minded discussion

Low thresholds in communication perceived as important, e.g. in Health Network Tennengau (AT):

"I think a certain culture has since developed over the years in the Tennengau region. Nowadays, there are no borders between the different participants. If I contact someone, that contact is basically friendly and positive from the start, even if I were perhaps on occasion to voice criticism. […] We support and encourage each other and that's what I find good and is what, I think, has established itself over the course of time." [care manager/initiator]

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Patient involvement

- **Involvement** of patients in **all stages of the care process** – in contrast to patient as a passive receiver of treatment
- Patients with complex needs often need to prioritise among possibly conflicting goals – **joint goal-setting**
- **Shared decision-making** as an opportunity for patients to feel they are being heard

Aim of **preventing admission to institutional care** in U-PROFIT (NL):

"[Living at home longer 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." [project manager]

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Self-management

- Self-management as an **essential element** in the care of persons with complex needs (e.g. behavioural/lifestyle changes, coping strategies, health literacy, navigation through the care system, medication adherence, communication skills etc.)
- Many integrated care programmes provide **support** (education, monitoring, continuous training) **to promote patients' self-management abilities**
- Self-management needs to be **tailored to patients' motivation and abilities**

Self-management as a means to **empower patients**, e.g. in Gesundes Kinzigtal (DE):

"We do not want to be the clucking hen, who asks every week did you do this, did you do that. Like this, the patient is never going to do something independently. So the idea and our philosophy is in the end to support self-empowerment, so that the physician is not the coach for a patient's entire life, but simply the companion, a 'supervisor' for a certain time." [health professional]

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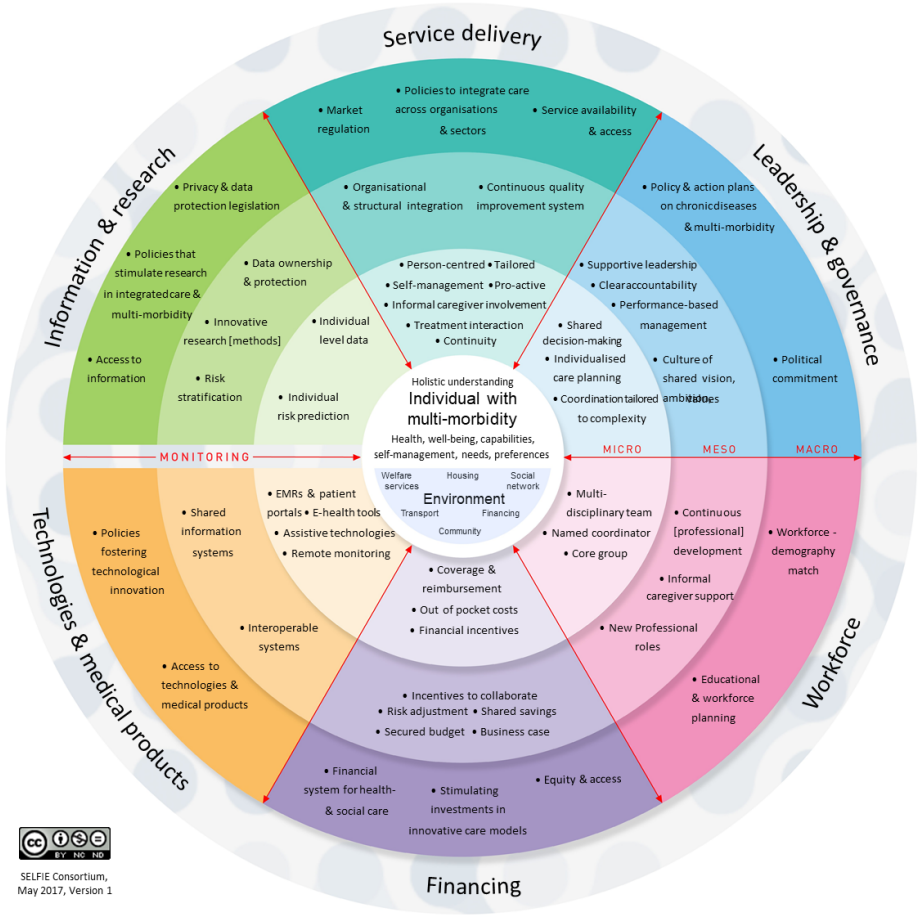
Implementation, upscaling and transferability: lessons learned

Willemijn Looman & János Pitter

SELFIE Final conference, 13th of June

Integrated care for multi-morbidity

WHAT - framework



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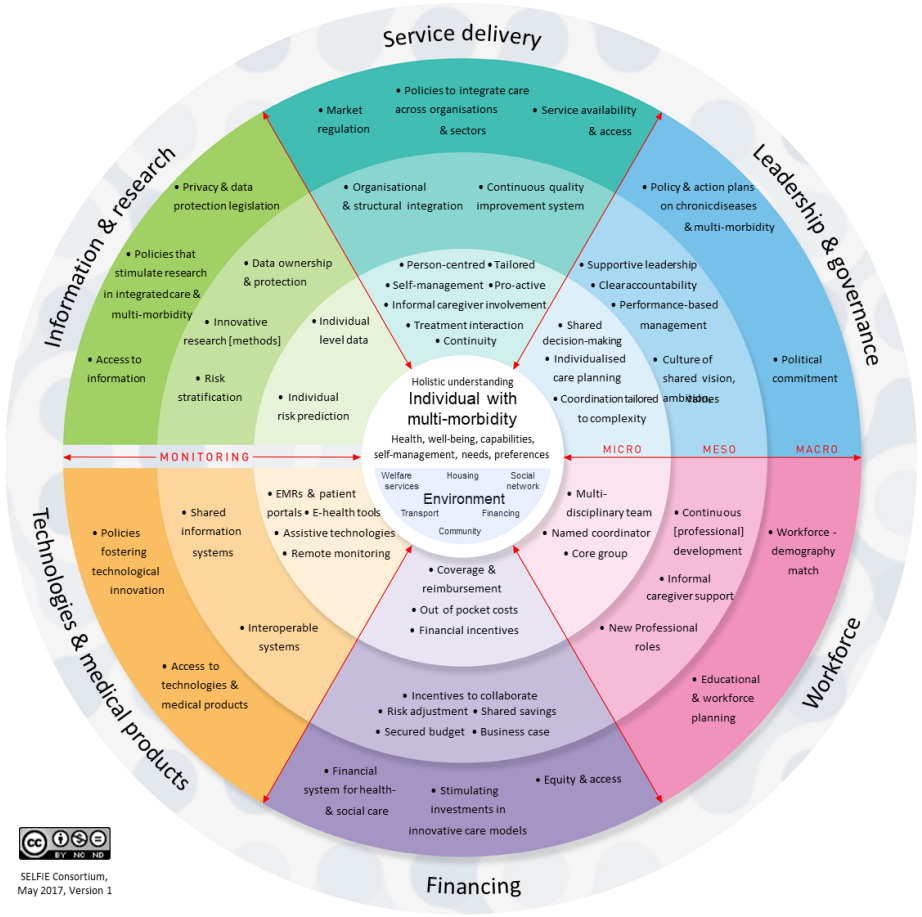
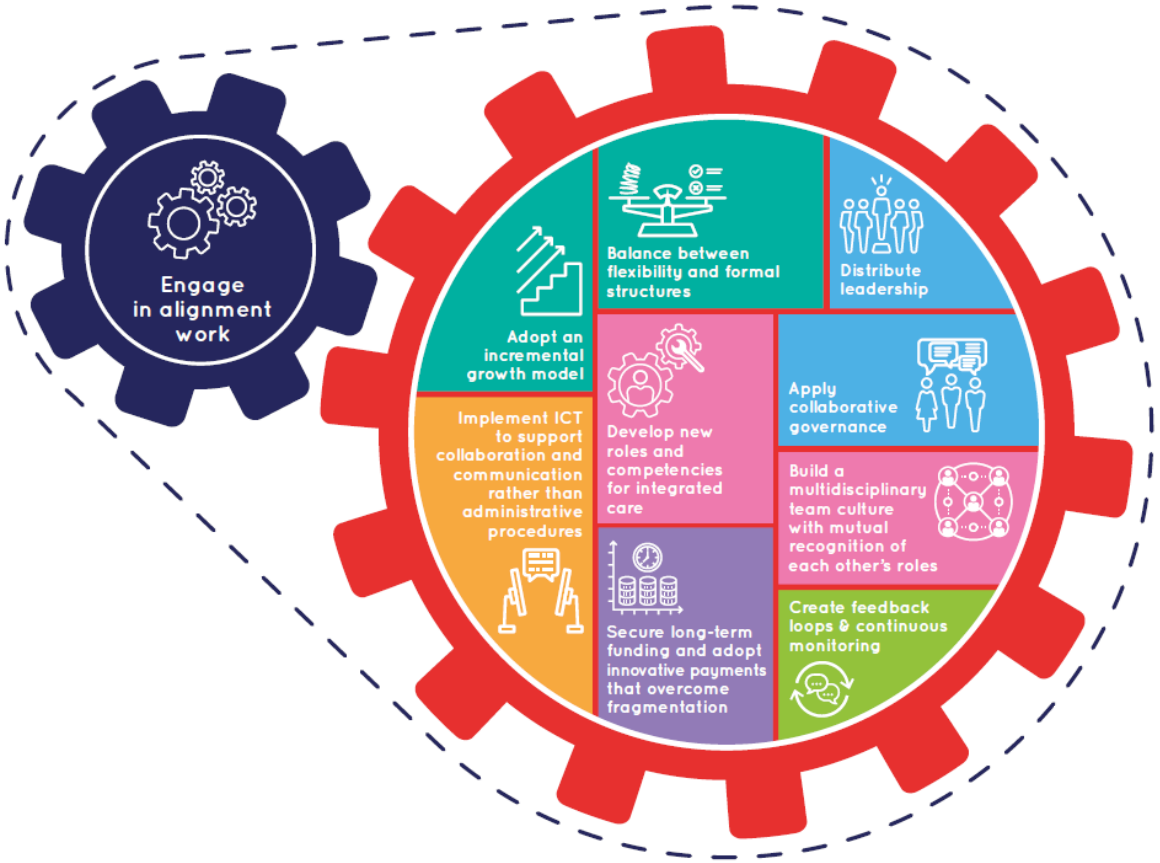
Integrated care for multi-morbidity

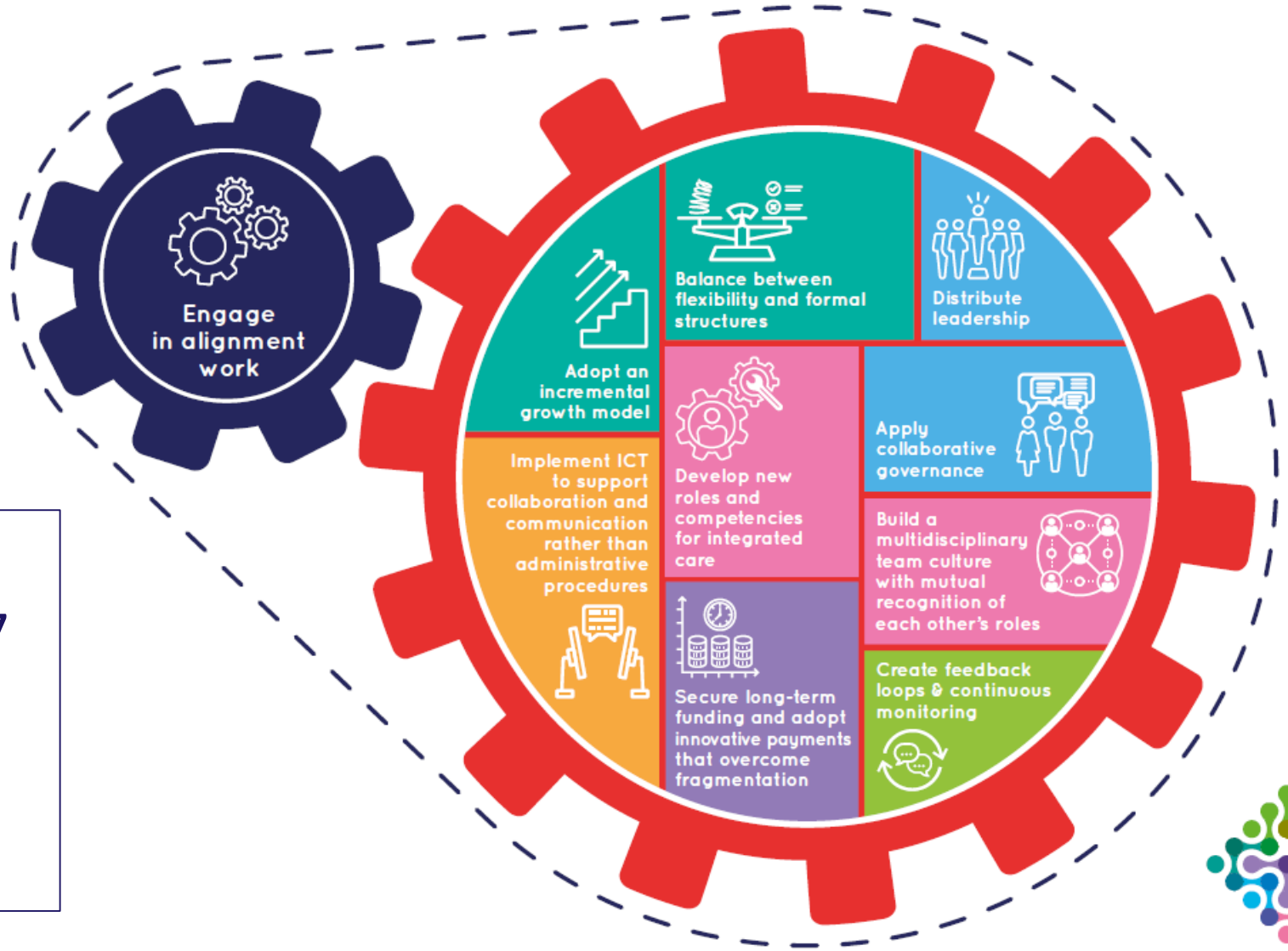
WHAT - framework



HOW - framework



10 implementation mechanisms



Based on:
- Thick descriptions 17 SELFIE integrated care programmes
- Literature

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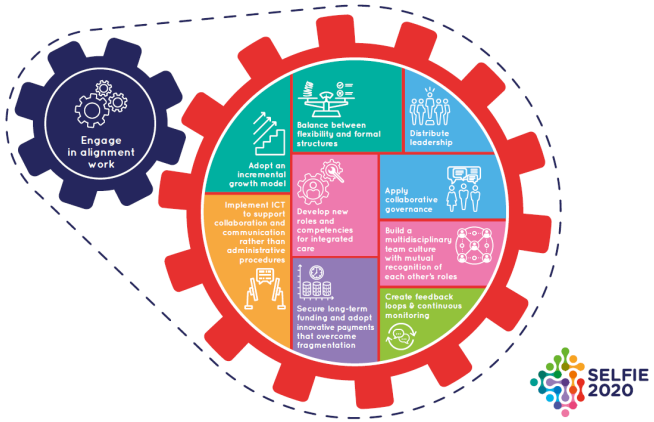
1) Engage in alignment work



Alignment of components

- example: individualized care plan

Alignment of micro/meso/macro-level

- example: working around macro-level barriers (rather than overcoming)

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2) Adopt an incremental growth model

One can *incrementally* integrate all of the services for some of the people,

and some of the services for all of the people,

but cannot integrate all of the services for all of the people *at once* (adaptation of **Leutz**, 1999).

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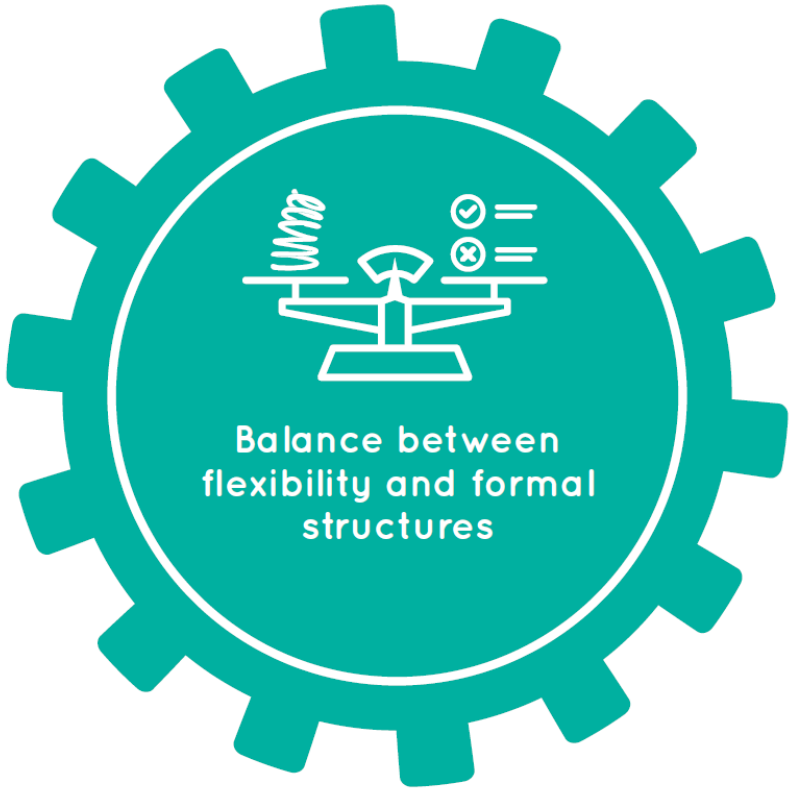
3) Balance between flexibility and formal structures

Balance between:

- Person-centredness & standardization

- Informal relations & formal structures



4) Apply collaborative governance

Ansell & Gash, 2007

Health Network Tennengau – Austria

- involvement of all major players in health and social care
- shared motivation and interests
- frequent communication
- building trust

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5) Distribute leadership

Leadership was distributed across different levels: national, regional, organisational and unit level.

Examples:

- Elected management board of programme
- Local champions within teams

6) Build a multidisciplinary team culture with mutual recognition of each other's roles

Salford Together – United Kingdom

Multidisciplinary Health and Social care Groups

- Multidisciplinary team meeting
- Team meetings to improve collaboration
- Physical proximity

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7) Develop new roles and competencies for integrated care

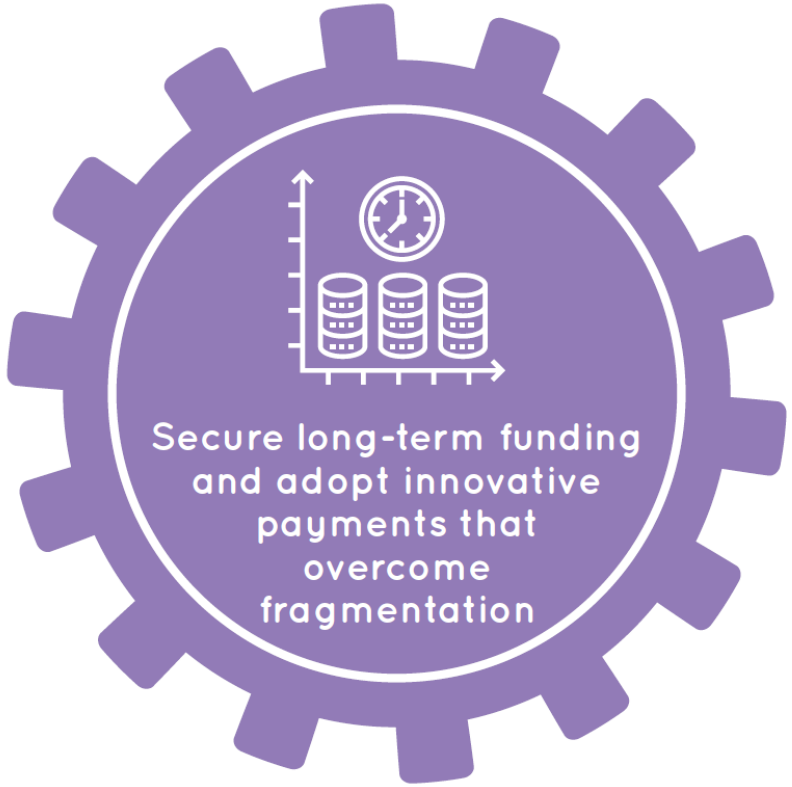
New roles, task-shifting & task differentiation

Education & training for new competencies:

- To engage in multidisciplinary team work

- To adapt to changing role of the patient
  e.g. self-management support

8) Secure long-term funding and adopt innovative payment that overcome fragmentation



- Start-up funding
- Long-term contracts
  - Collaborative governance involving payers
- Payment models incentivizing integration

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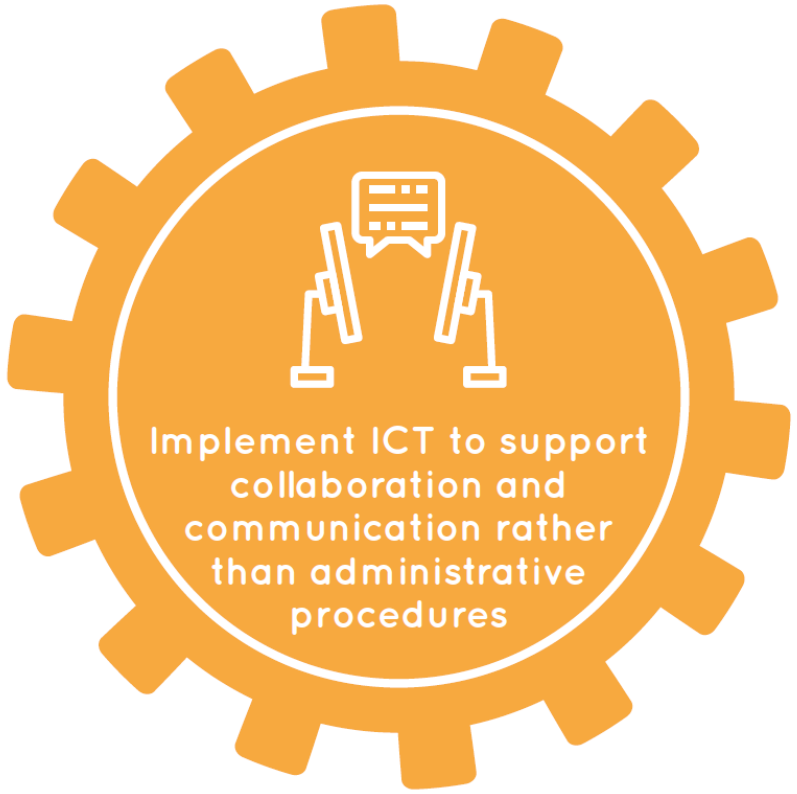
9) Implement ICT to support collaboration and communication rather than administrative procedures

Examples:
BSA & Ais-Be
Catalonia

Electronic Health Record

Catalan Shared Medical Record



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10) Create feedback loops & continuous monitoring

May 2013 - reflexive monitoring

- Feedback
  - Requires culture of openness and willingness
  - In structures, e.g. patient ombudsman
- Involvement research institutes
  - Quality improvement
  - Robust evidence on outcomes

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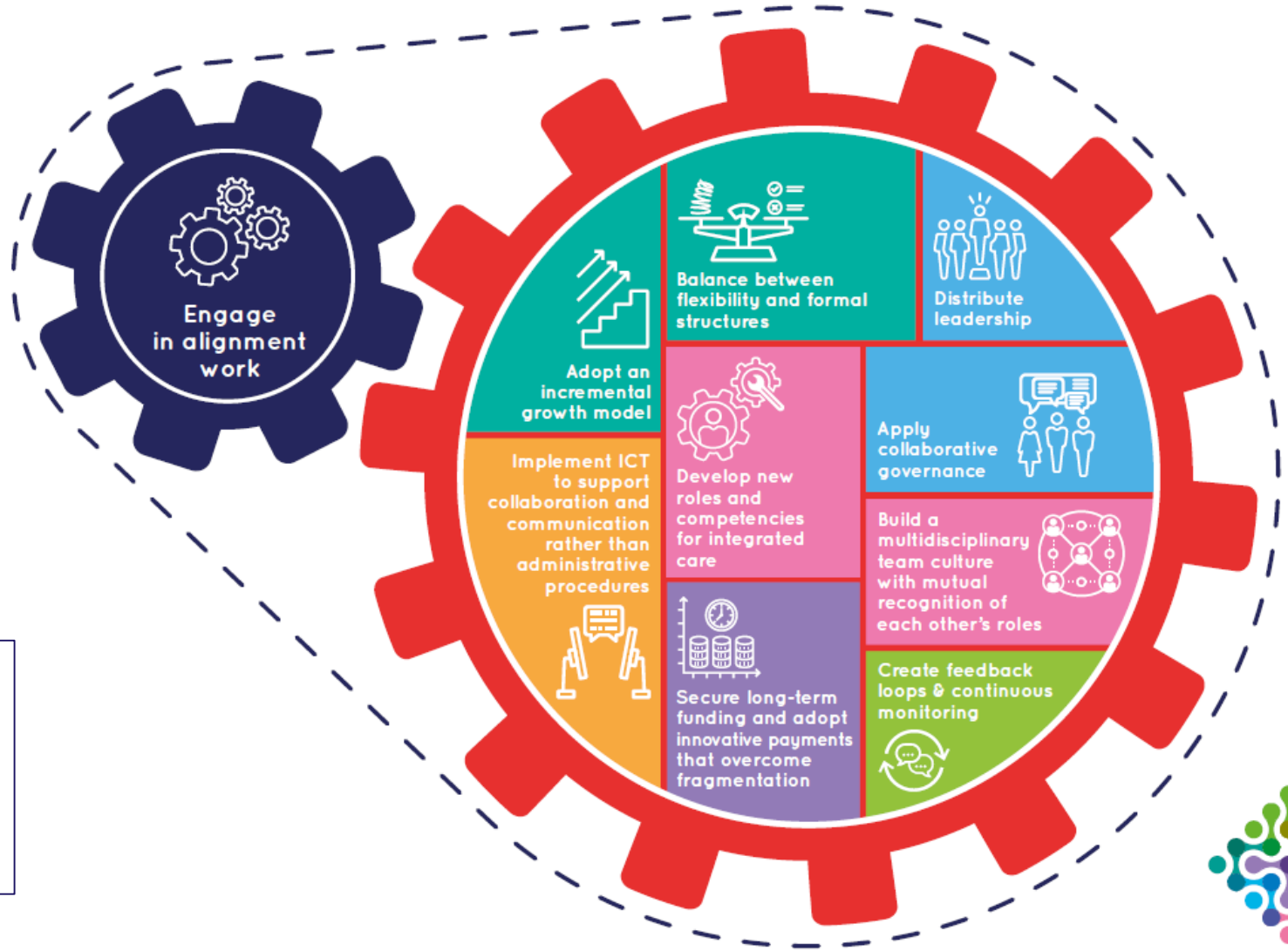
10 implementation mechanisms for integrated care for multi-morbidity



Applicable in different local, regional and national contexts

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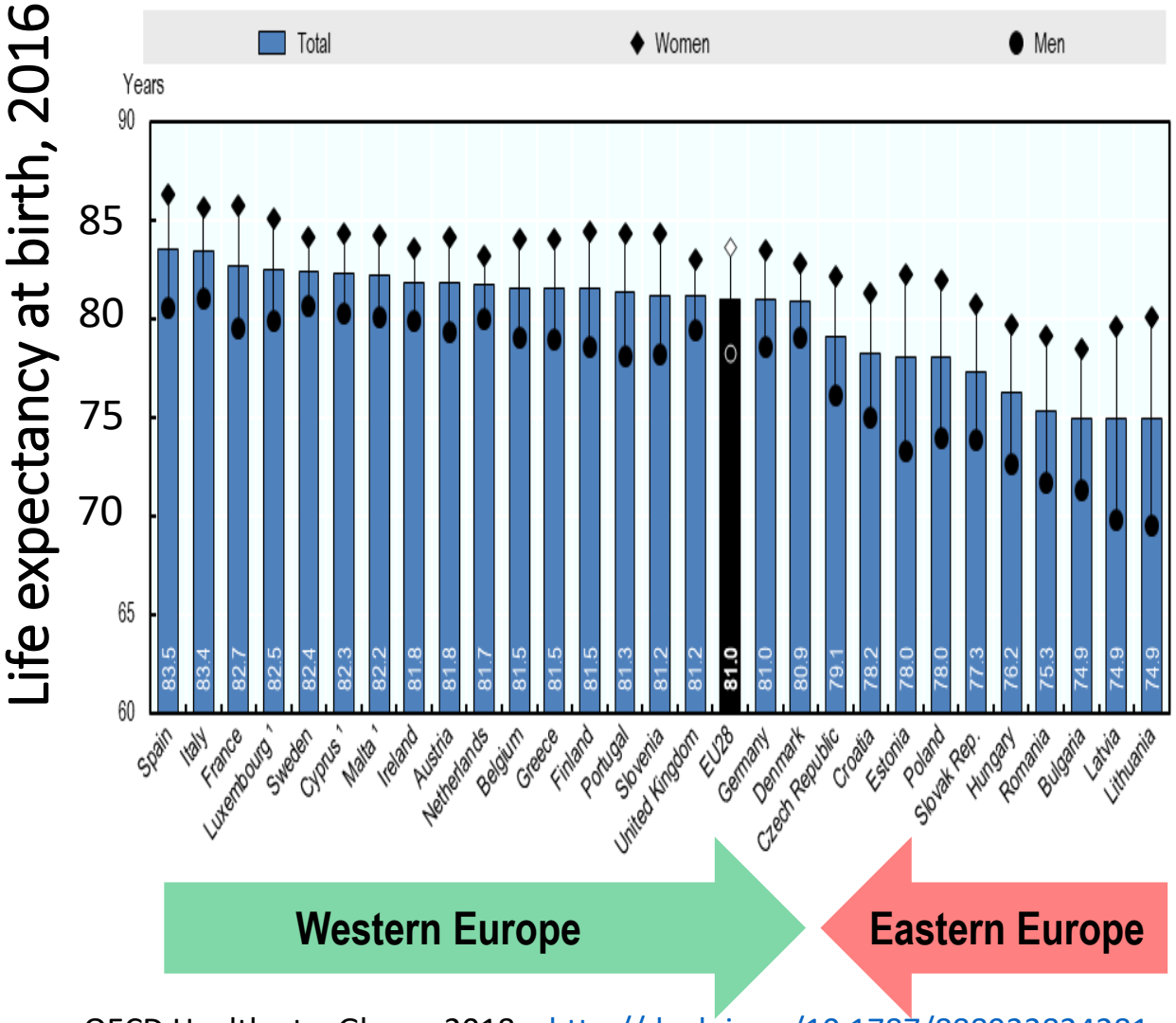
Why to seek knowledge transfer to Central and Eastern Europe?



OECD Health at a Glance 2018, http://dx.doi.org/10.1787/888933834281

+ even more **limited healthcare and research resources** in CEE;

+ price level of new technologies is similar to large Western EU markets;

+ brain drain of health care professionals (and researchers) from East to West;

+ less tradition for transparent and justified policy decisions

⇩

CEE countries are in higher need of evidence-based health policy decisions;

Western health policies and care solutions may be not implementable in CEE countries.

CEE in the periphery of EU health research and development

A recent H2020 project investigated 101 integrated care programs for multimorbid patients in the EU:

- 84% of the investigated models were from the EU-15
- No models could be included from Poland, Czech Republic, Slovakia, Hungary, Romania
- No consortium partner from the CEE region

ICARE4EU

http://www.icare4eu.org/pdf/Innovating-care-for-people-with-multiple-chronic-conditions-in-Europe.pdf

FP7/H2020 health research grants, 2007 – 2016

	EU-15	CEE
Population	79.4%	20.6%
Number of participations	92.9%	7.1%
Consortium coordination	97.9%	2.1%
Total grant amount	96.9%	3.1%
Average grant amount per beneficiary	475,048 EUR	217,031 EUR
Average participation per beneficiary, 2007-2016	3.6	2.1

Kaló Z, van den Akker LHM, Vokó Z, Csanádi M, Pitter JG. Fair allocation of healthcare research funds by the European Union? PlosOne. 2019. 15;14(4):e0207046.

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Evidence based approach to transfer integrated care programs from other countries

Main dimensions of the transferability

1. Transferability of integrated care programs
2. Transferability of performance assessment for integrated care models
   - Transferability of program's performance
   - Transferability of relative importance of the evaluation criteria
   - Transferability of decision criteria
3. Transferability of integrated care payment methods

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The SELFIE solution:
a carefully designed transferability approach

1. Reasonable economic diversity of countries in the consortium (i.e. Croatia & Hungary from CEE region; South & North & West EU)
2. 4 of 17 investigated models from CEE countries
3. Transferability work package
   - Multi-stakeholder survey to identify key barriers of integrated care in CEE
   - CEE workshops on potential solutions for key barriers, in specific case studies
   - Transferability guidance development, with contribution from 10+ CEE countries
4. Consideration of transferability aspects upfront in all relevant Work Packages

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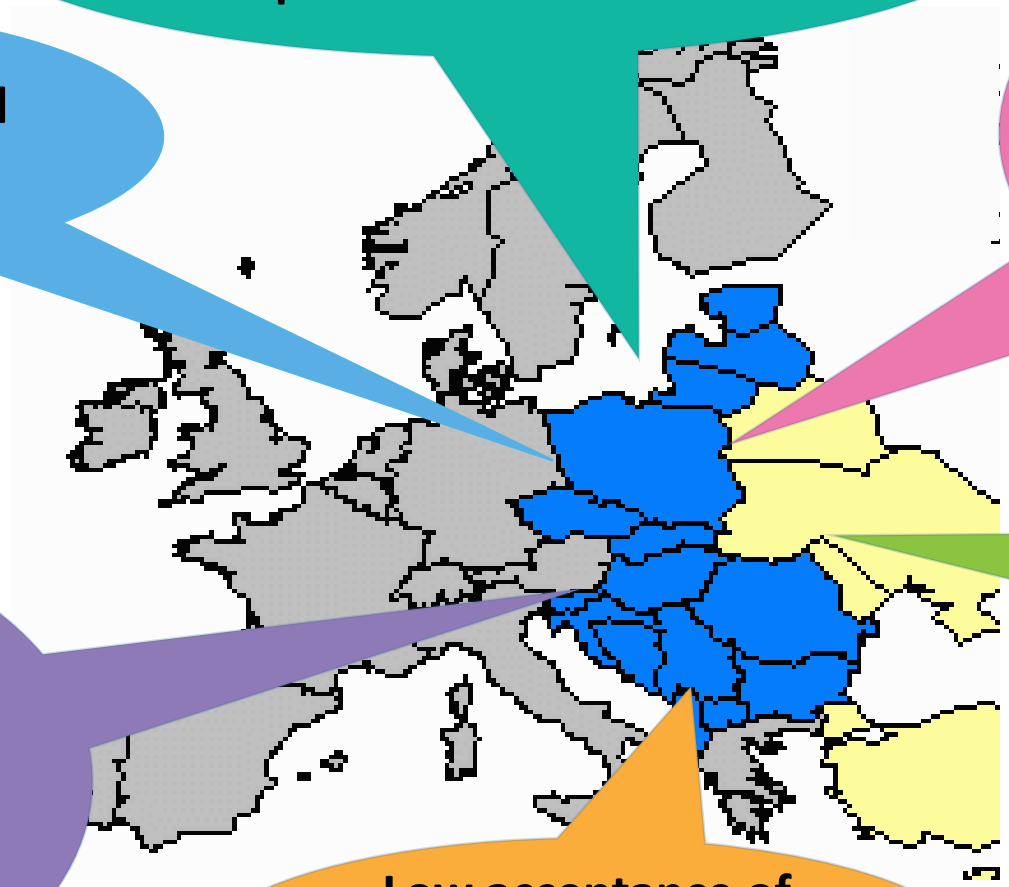
CEE stakeholder survey: perceived key barriers of integrated care



Separate health and social care systems & budgets; poor cooperation across sectors

Insufficient macro-level political support

Insufficient human resources;
Poor acceptance of new professional roles
(especially for non-physicians)

Limited access of researchers and evaluators to patient-level data

Unpredictable financial sustainability; no financial incentives for the new roles; patient co-payment is unacceptable

Low acceptance of patient E-health tools in the care process

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CEE stakeholder workshops: how to overcome key barriers? (examples)

…

…

Select a location where human resources are concentrated; empower family and patient peers; power distance and non-acceptance of new roles is less critical in rare diseases: an emerging best practice?

Start with an existing financing pillar & grow incrementally; Part-time jobs paid from different sectors; attract extra resources e.g. from research grants, pharma, coffee shop at reception desk, etc.

…

…

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Transferability guidance, step 1:

Could this model be started in my country?

dentify the reported barriers of implementation from the literature.

Survey local stakeholders about relative importance of barriers, and focus on the critical ones.

Organize a local multi-stakeholder workshop
- to discuss potential solutions for the critical barriers,
- to conclude on the feasibility of local implementation.

Publish your conclusions and rationale for knowledge sharing with other CEE countries / programs.

Transferability guidance, step 2:

Would this model perform well in my country?

o not transfer models without sound and positive performance assessment in the original country.

Select models with benefits in the locally most important outcomes (e.g. hard clinical outcomes and costs).

Judge the transferability of key outcome parameters. Cost outcomes can be especially different across countries.

Transferability guidance, step 2 (continued): Would this model perform well in my country?

Apply the local routine method for outcome aggregation. Apply weights approved by local policymakers if MCDA is approached.

Determine the local decision rule, before knowing the aggregated results.

Monitor your local model, and consider adjustment or even termination if local performance is below expectation.

Transferability guidance, step 3:
How to set the payment scheme for this model in my country?

f the financing methods are not transferable, a local financing scheme should be developed.

The new, local financing scheme should ensure adequate

- fund raising,
- allocation of resources, and
- financial incentives for care providers.

Plan resources not only for model set-up and initiation, but also for long-term operation, if justified by positive performance monitoring findings.

Discussion with the panel and the audience

SELFIE Final conference, 13th of June

Payer
Karlie van Kuijk
VGZ Health Insurance, The Netherlands

Provider/Entrepreneur
Helmut Hildebrandt
Optimedis AG, Germany

Informal caregiver
Vlasta Zmazek
Debra Croatia, Croatia

Scientific researcher
Apostolos Tsiachristas
International Foundation of Integrated Care and University of Oxford, United Kingdom

Patient representative
Martin Rathfelder
Manchester Health & Care Commissioning, United Kingdom

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Bundling payments for integrated care: too much to expect?

Matt Sutton and Milad Karimi

SELFIE Final conference, 13th of June

Payment mechanisms and integration

- Integrated care means multiple providers contribute to shared outcome
- Typical, separate, payment mechanisms do not encourage individual providers to take account of this interdependency
  - for example, English hospitals paid for activity and general practices paid for population
  - incentives are not aligned to reduce admissions
- One proposed solution: Integrated organisations, population budget
  - consider costs in whole system and want to generate savings
  - but challenge is to ensure quality and outcomes

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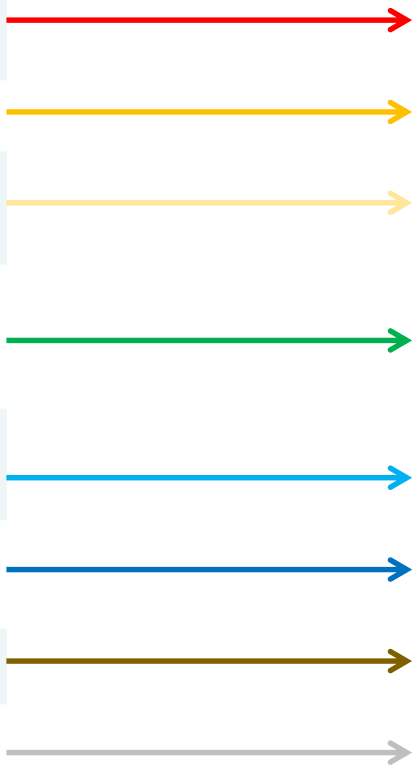
Mapping payment mechanisms in SELFIE

Unit of Payment	Common Term
1. Per time period	Budget and salary
2. Per beneficiary	Capitation
3. Per recipient†	Contact capitation
4. Per episode	Case rates, payment per stay, and bundled payments
5. Per day	Per diem and per visit
6. Per service	Fee-for-service
7. Per dollar of cost	Cost reimbursement
8. Per dollar of charges	Percentage of charges

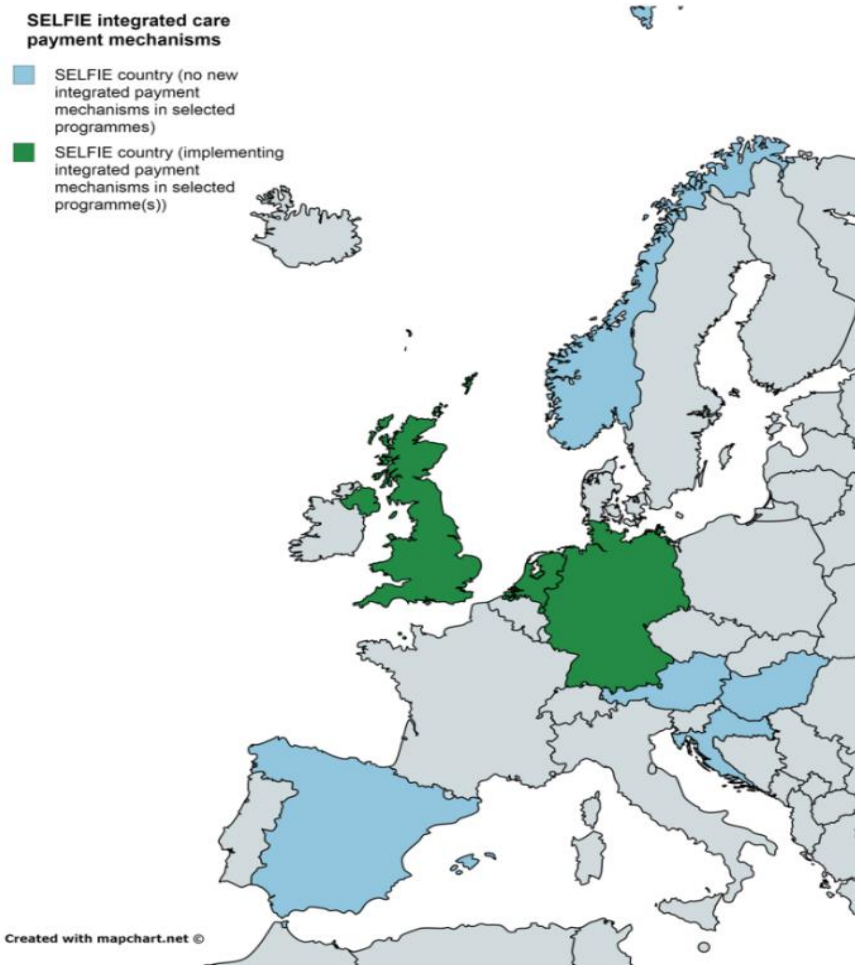


Payer(s)	Mechanism	Provider(s)	Details of payment mechanisms (classified according to Quinn 2015)
NHS England		*Primary care practices (independent practices)*	1) *Per beneficiary (w%) – weighted capitation system paid yearly* 2) *Per service (x%) – FFS (QOF) payments for completion of process/outcome targets for specific chronic diseases. Paid yearly (in retrospect) up to maximum of £x* 3) *Per service (y%) – Enhanced services incentivise national and local priorities* 4) **Per dollar of cost (z%) – additional funding through integrated care scheme to reimburse period of physician's time spent on Symphony-specific work**
Yeovil Hospital Symphony Programme (including Vanguard, CCG, and other new model funding)		**Symphony Healthcare Services Ltd. (integrated primary care practices) - GMS & PMS payments continue to run directly to practice, with other funding options through new owner**	1) *Per beneficiary (w%) – weighted capitation system paid yearly* 2) *Per service (x%) – FFS (QOF) payments for completion of process/outcome targets for specific chronic diseases. Paid yearly (in retrospect) up to maximum of £x* 3) *Per service (y%) – Enhanced services incentivise national and local priorities* 4) **Per dollar of cost (z%) – additional funding through integrated care scheme to reimburse period of physician's time spent on Symphony-specific work**
		Complex Care Hub	1) **Per time-period (x%) – fixed block contract for services**

Bold = new as part of integrated care programme
Italics = existing regular services

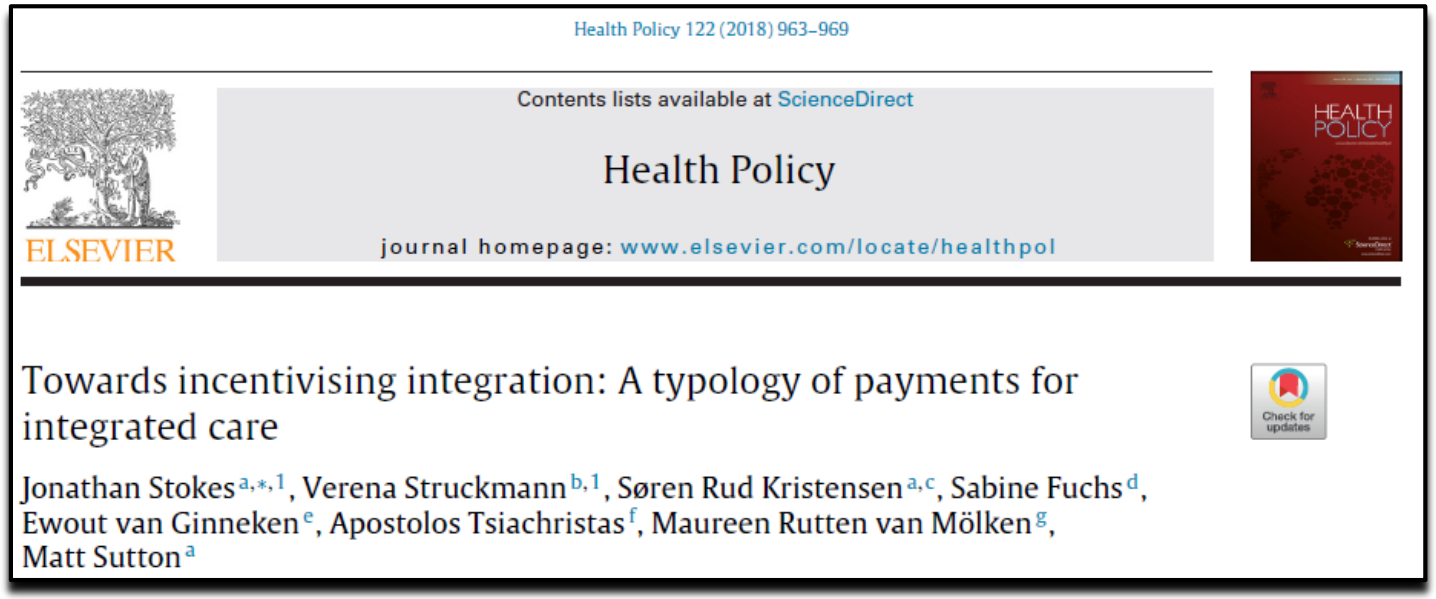
Payment mechanisms in the SELFIE programmes

- Only 6 of the 17 SELFIE programmes changed provider payments



Country	Programme	New payment mechanisms?
Germany	Casaplus	No
	Gesundes Kinzigtal	Yes
Netherlands	U-PROFIT	Yes
	Care Chain Frail Elderly	Yes
	Better Together	Yes
UK	Salford	Yes
	South Somerset	Yes

Our classification of payment methods based on SELFIE programmes and literature



Health Policy 122 (2018) 963–969

Contents lists available at ScienceDirect

Health Policy

journal homepage: www.elsevier.com/locate/healthpol

Towards incentivising integration: A typology of payments for integrated care

Jonathan Stokes[a,*,1], Verena Struckmann[b,1], Søren Rud Kristensen[a,c], Sabine Fuchs[d], Ewout van Ginneken[e], Apostolos Tsiachristas[f], Maureen Rutten van Mölken[g], Matt Sutton[a]

- *Population*
- *Time*
- *Sectors*
- *Providers*
- *Pooling*
- *Income*
- *Diseases*
- *Quality*

- Challenges to implementing new payments in practice
- Risks associated with the introduction of new payments
- No recommendation on ‘best’ payment mechanism

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Using payment mechanisms instead of organisational change

- Organisational integration may not be efficient
  - Internal coordination problems
  - Potential loss of benefits from specialisation
    - Primary, secondary and social care require different types of input and different types of capital
- *Can payment mechanisms for separate organisations produce the outcomes desired from an integrated care organisation?*

How to get GPs to help reduce use of hospitals?

- Some historical experiments in England
  - GP budget-holding (*fundholding*)
  - Payment for performance in managing long-term conditions
  - Payment for engaging in activities that reduce admissions
  - Group budget-holding
  - Vertically integrated organisations

Estimated impacts (from literature and SELFIE)

Intervention	**“Outcome”**	**Estimated effects**
Budget-holding	Planned admissions	-3.5% to -4.9% (after 2 years)
Payment for care quality	ACSC emergency admissions	-8.0% to -10.9% (after 4 years)
Payment for prevention activities	ACSC emergency admissions	-8.0% (after 2 years)
Integrated organisation	Emergency admissions	-3.1% (after 3 years)

- Effects are substantial but small
- Magnitudes are in similar ball-park
- Payment reforms may be quicker and simpler to implement

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Country work on estimating impacts

- Three countries
  - Norway – Co-payments and penalties for municipalities
  - England – Pooled health and social care funding
  - The Netherlands – Bundled payments for chronic diseases

Pooled budgets in England

- *Better Care Fund*
- Mandated pooling of proportion of health and social care funds
- Meant to stimulate joint working


Contents lists available at ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

Does pooling health & social care budgets reduce hospital use and lower costs?

Jonathan Stokes[a,*], Yiu-Shing Lau[a], Søren Rud Kristensen[a,b], Matt Sutton[a]

- We found:
  - No changes in seven different hospital outcome measures
  - Small increases in hospital bed days for patients with multimorbidity

Lessons learned

- A lot more theory than action
  - where there is action, this was helped by macro direction
- Any benefits take time to emerge
- Payment mechanisms may be an alternative to re-organisation
- No clear ‘best practice’
  - results are not as good as predictions
  - trade-offs, not panacea

Discussion with the panel and the audience

SELFIE Final conference, 13th of June

Policy maker
Loukianos Gatzoulis
European Commission, DG Health and Food safety, Belgium

Payer
Karlie van Kuijk
VGZ Health Insurance, The Netherlands

Primary care physician, scientist (em.)
Jan de Maeseneer
Department of Family Medicine and Primary Health Care, University of Gent, Belgium

Scientific researcher
Apostolos Tsiachristas
International Foundation of Integrated Care and University of Oxford, United Kingdom

Policy maker
Juan Carlos Contel
Department of Health, Generalitat de Catalunya, Spain

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Erasmus School of Health Policy & Management

Value-based integrated care: what do patients and other stakeholders really value

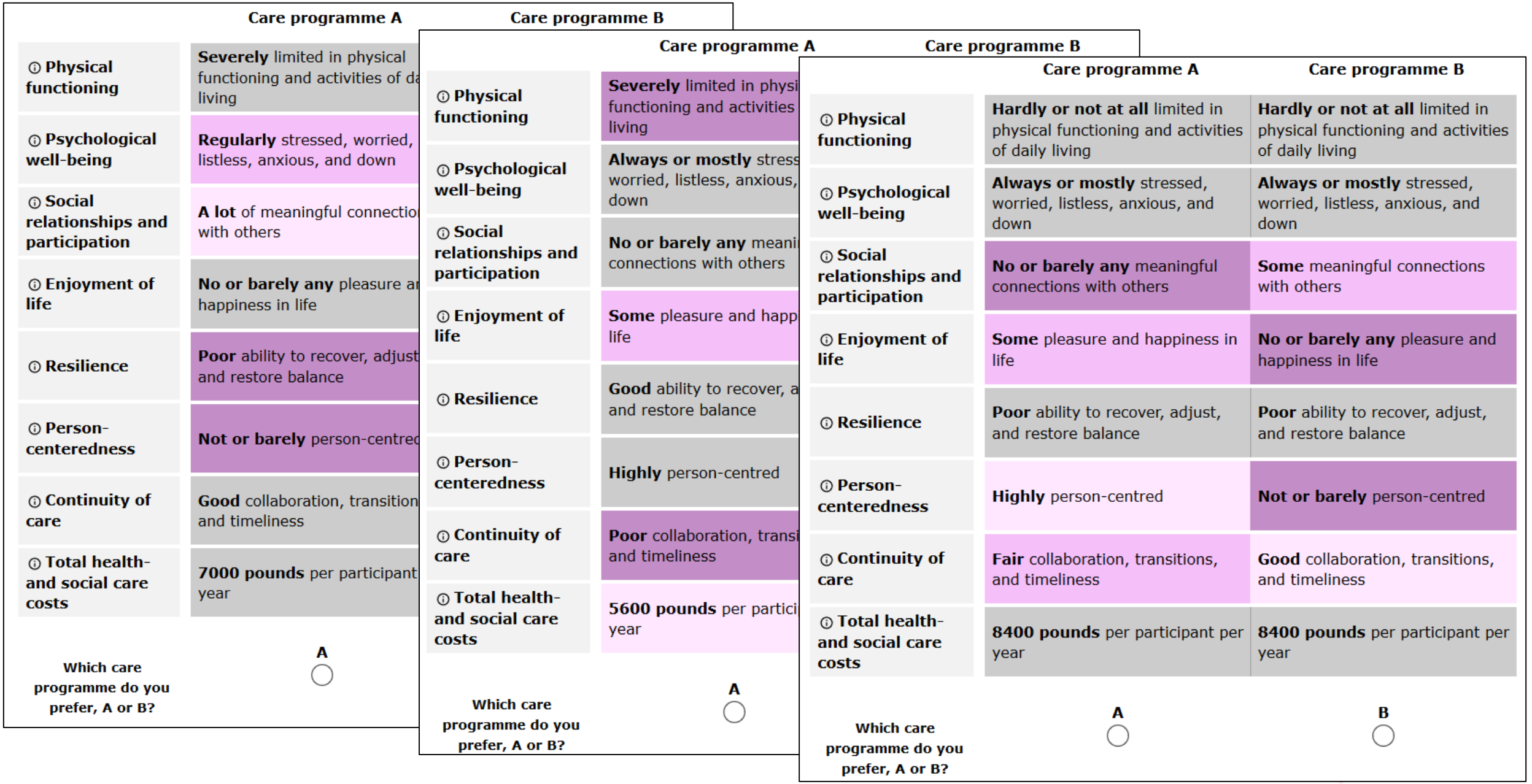
Maureen Rutten-van Mölken and Runa Langaas

SELFIE Final conference, 13th of June

https://www.selfie2020.eu/

	Care programme A	Care programme B
ⓘ Physical functioning	**Moderately limited** in physical functioning and activities of daily living	**Hardly or not at all limited** in physical functioning and activities of daily living
ⓘ Psychological wellbeing	**Seldom or never** stressed, worried, listless, anxious, and down	**Regularly** stressed, worried, listless, anxious, and down
ⓘ Social relationships and participation	**Some** meaningful connections with others	**Some** meaningful connections with others
ⓘ Enjoyment of life	**Some** pleasure and happiness in life	**Some** pleasure and happiness in life
ⓘ Resilience	**Fair** ability to recover, adjust, and restore balance	**Fair** ability to recover, adjust, and restore balance
ⓘ Person-centeredness	**Highly** person-centred	**Somewhat** person-centred
ⓘ Continuity of care	**Good** collaboration, transitions, and timeliness	**Good** collaboration, transitions, and timeliness
ⓘ Total health- and social care costs	**7000 Euro** per participant per year	**5500 Euro** per participant per year
Which care programme do you prefer, A or B?	◯ **A**	◯ **B**

Discrete Choice Experiment to elicit weights for the outcomes



	Care programme A	Care programme B
Physical functioning	**Severely** limited in physical functioning and activities of da living	**Severely** limited in physi functioning and activities living
Psychological well-being	**Regularly** stressed, worried, listless, anxious, and down	**Always or mostly** stress worried, listless, anxious, down
Social relationships and participation	**A lot** of meaningful connectio with others	**No or barely any** meani connections with others
Enjoyment of life	**No or barely any** pleasure a happiness in life	**Some** pleasure and happ life
Resilience	**Poor** ability to recover, adjust and restore balance	**Good** ability to recover, a and restore balance
Person-centeredness	**Not or barely** person-centrec	**Highly** person-centred
Continuity of care	**Good** collaboration, transition and timeliness	**Poor** collaboration, transi and timeliness
Total health- and social care costs	**7000 pounds** per participant year	**5600 pounds** per partici year

Which care programme do you prefer, A or B? A

	Care programme A	Care programme B
Physical functioning	**Hardly or not at all** limited in physical functioning and activities of daily living	**Hardly or not at all** limited in physical functioning and activities of daily living
Psychological well-being	**Always or mostly** stressed, worried, listless, anxious, and down	**Always or mostly** stressed, worried, listless, anxious, and down
Social relationships and participation	**No or barely any** meaningful connections with others	**Some** meaningful connections with others
Enjoyment of life	**Some** pleasure and happiness in life	**No or barely any** pleasure and happiness in life
Resilience	**Poor** ability to recover, adjust, and restore balance	**Poor** ability to recover, adjust, and restore balance
Person-centeredness	**Highly** person-centred	**Not or barely** person-centred
Continuity of care	**Fair** collaboration, transitions, and timeliness	**Good** collaboration, transitions, and timeliness
Total health- and social care costs	**8400 pounds** per participant per year	**8400 pounds** per participant per year

Which care programme do you prefer, A or B? A B

Why these outcomes?

Health & well-being		Physical functioning	Acceptable physical health and being able to do daily activities without needing assistance
		Psychological well-being	Absence of stress, worrying, listlessness, anxiety, and feeling down
		Social relationships & participation	Having meaningful connections with others as desired
		Enjoyment of life	Having pleasure and happiness in life
		Resilience	The ability to recover from or adjust to difficulties and to restore ones equilibrium
Experience		Person-centeredness	Care that matches an individual's needs, capabilities, and preferences and jointly making informed decisions
		Continuity of care	Good collaboration, smooth transitions between caregivers, and no waste of time
Costs		Costs	Per participant (this varied by country and was **not** to be paid out of pocket)

How was the core set of outcomes selected?

- Selection based on:
  - Focus groups in patients with multi-morbidity in 8 countries *(Leijten et al, BMJ Open 2018; 8:e021072)*
  - National workshops with representatives from the 5 P's in 8 countries
  - Outcomes being measured in the selected programmes
  - Literature review

- Resulting long-list of outcomes was shortened by applying several criteria
  - Preference independence

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Aim of weight-elicitation study

- what outcomes of integrated care do persons with multi-morbidity value?
- whether different stakeholders think differently about the importance of outcomes

Stakeholders 5P's

- **P**atients with multi-morbidity
- **P**artners and other informal caregivers
- **P**rofessionals
- **P**ayers
- **P**olicy makers

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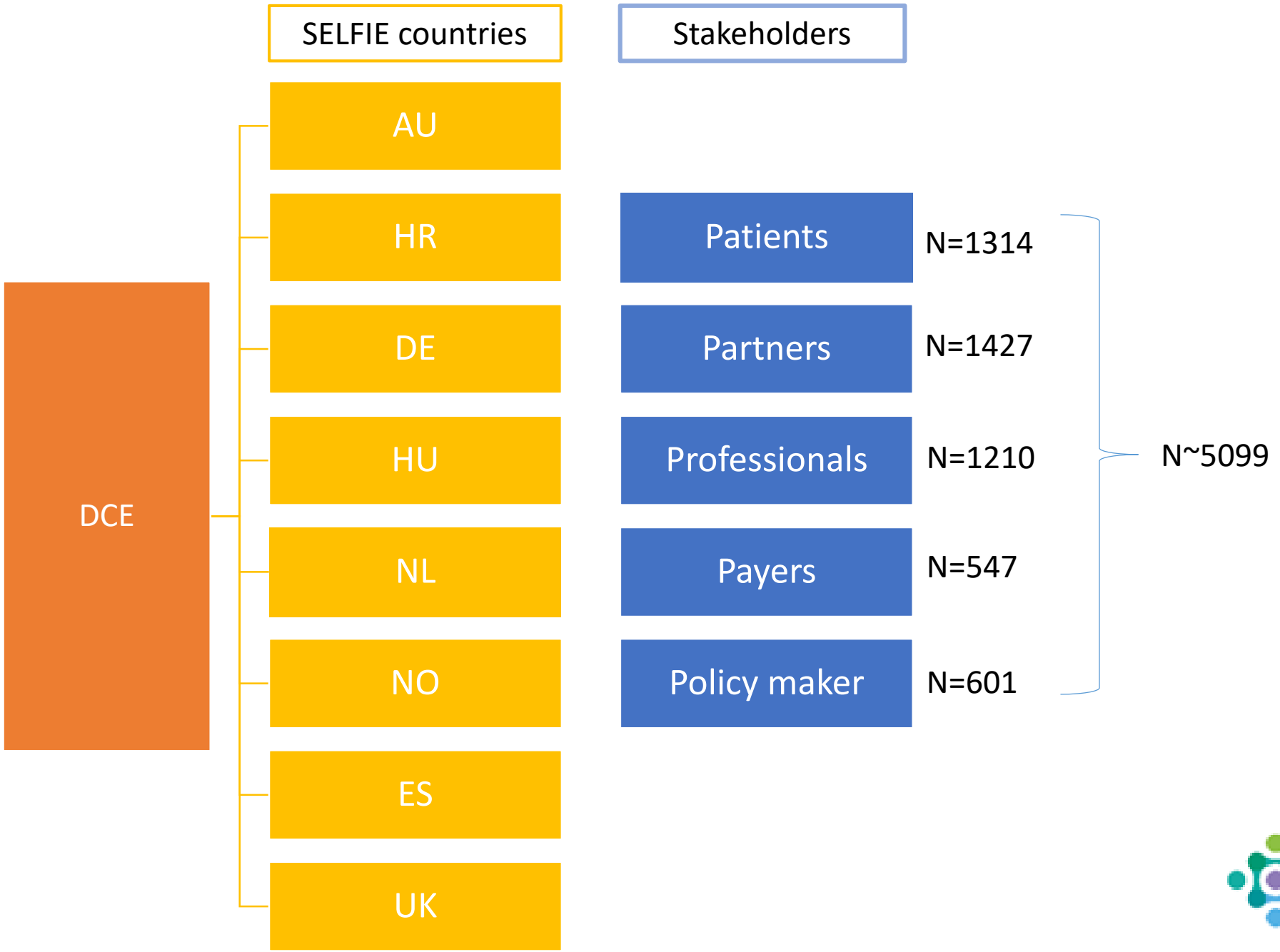
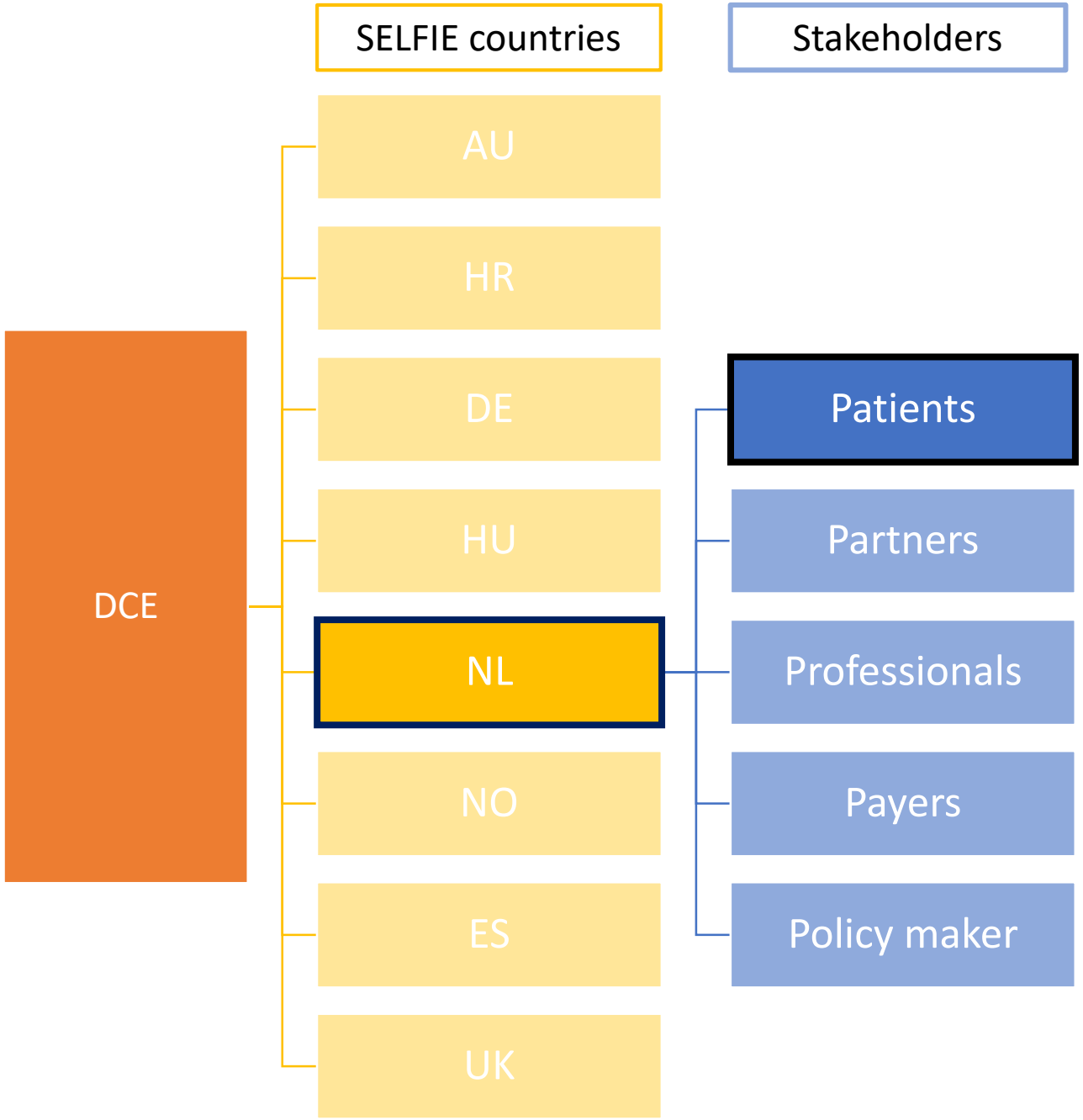
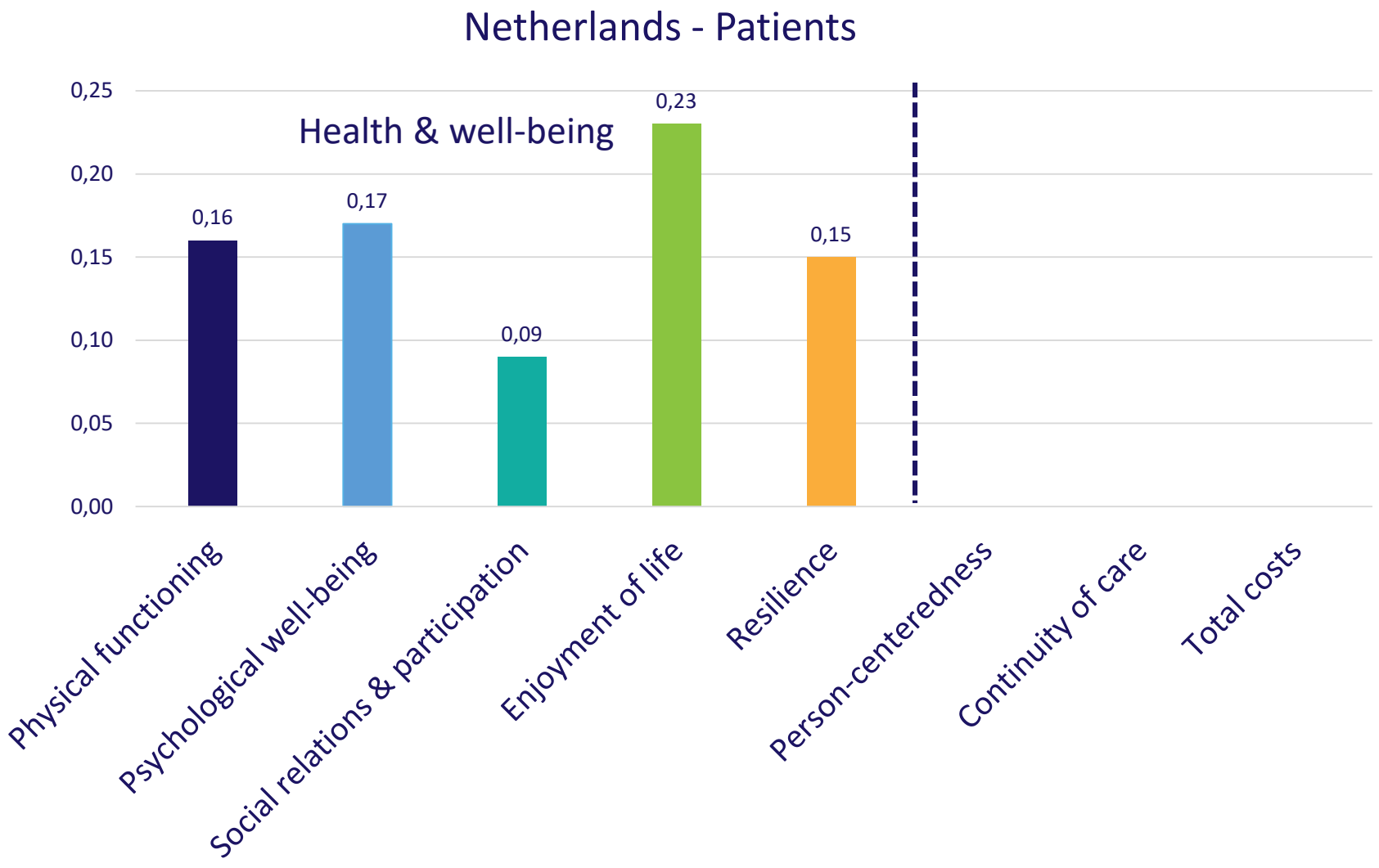

SELFIE countries
Stakeholders
DCE
AU
HR
DE
HU
NL
NO
ES
UK
Patients
N=1314
Partners
N=1427
Professionals
N=1210
Payers
N=547
Policy maker
N=601
N~5099


SELFIE countries
Stakeholders
AU
HR
DE
HU
DCE
NL
NO
ES
UK
Patients
Partners
Professionals
Payers
Policy maker

Relative DCE weights for patients in the Netherlands



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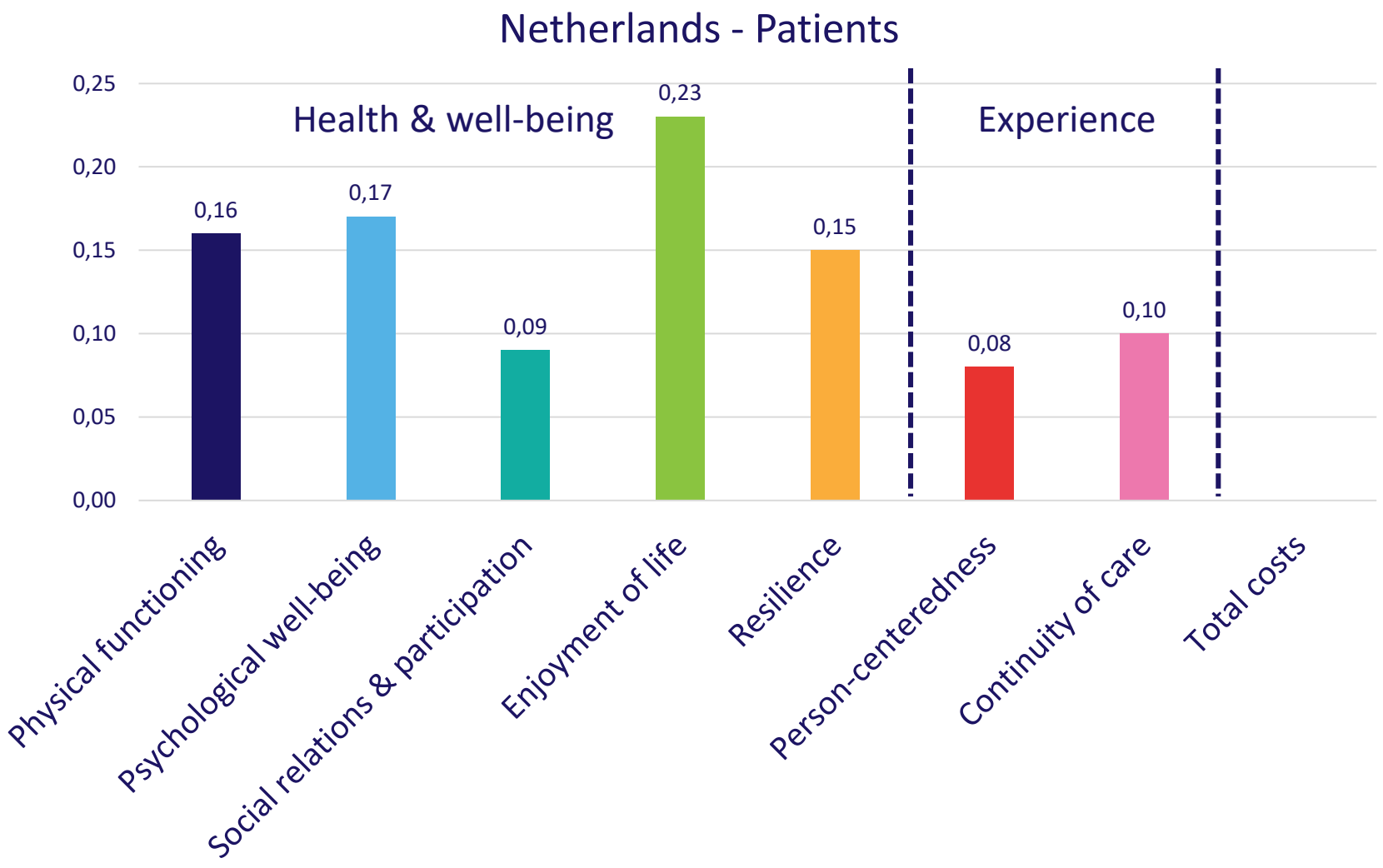
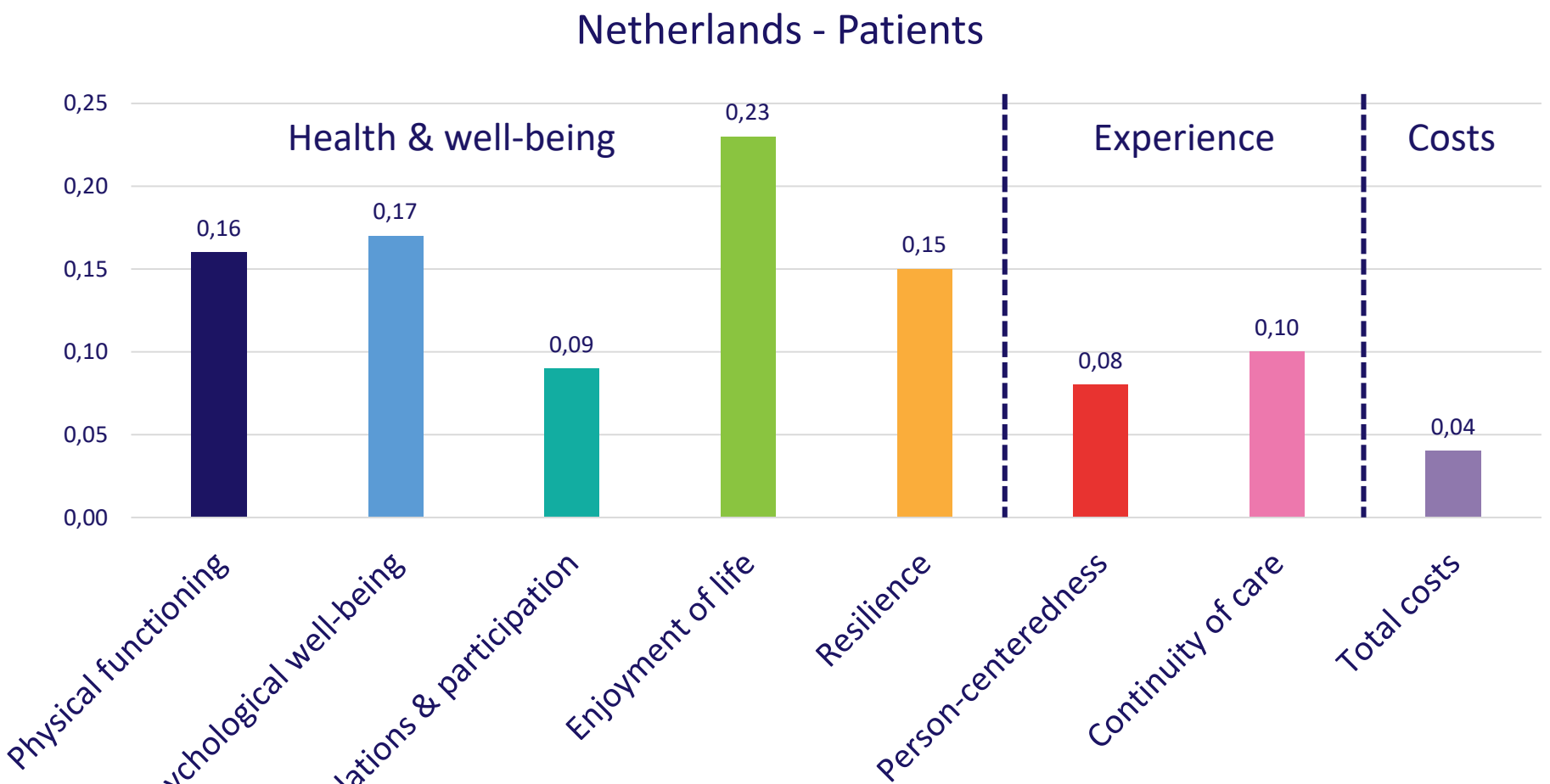
Relative DCE weights for patients in the Netherlands



Relative DCE weights for patients in the Netherlands



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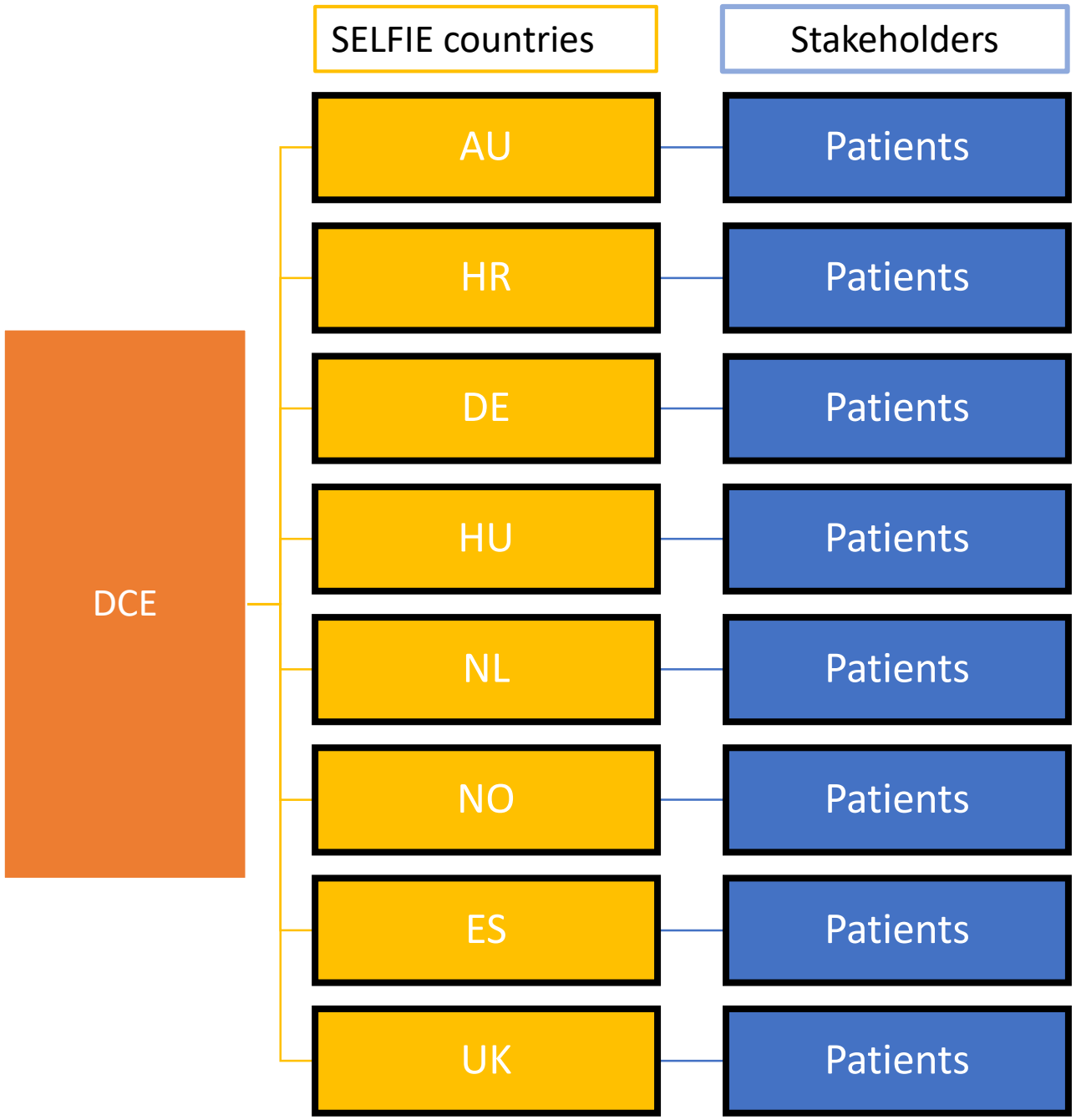
SELFIE countries
Stakeholders
DCE
AU
HR
DE
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NO
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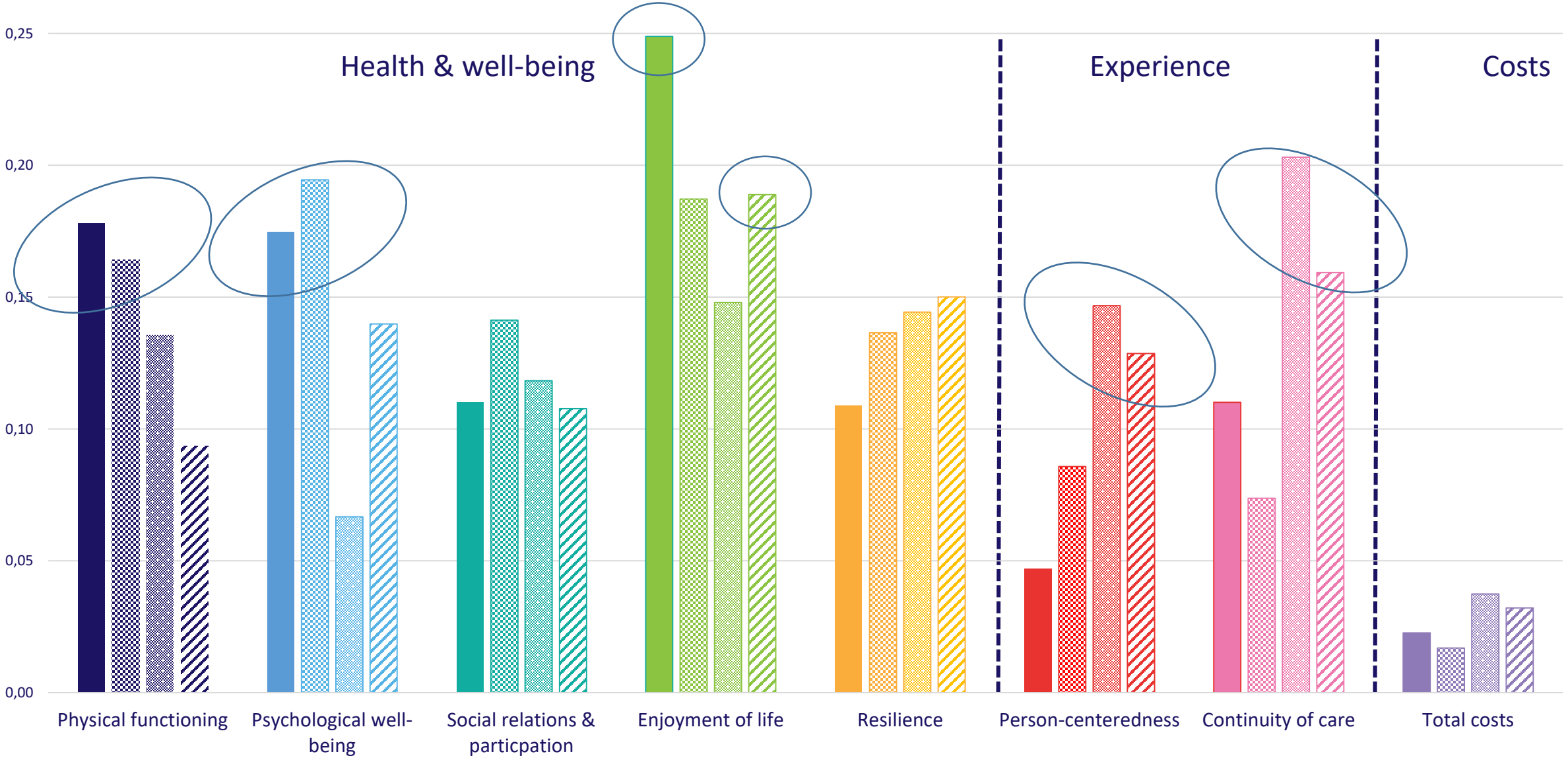
UK
Patients
Patients
Patients
Patients
Patients
Patients
Patients
Patients

Comparing relative DCE weights of Patients between countries



1st Norway, 2nd Spain, 3rd Hungary, 4th Croatia

Why did we put so much effort into measuring these weights?

- Because we are going to use them in the **multi-criteria decision analyses** (MCDA)
- MCDA was the method used in the empirical evaluation studies of the 17 integrated care programmes

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What is MCDA?

- An **umbrella term** for a series of methods to aid decision-making that is based on more than 1 criterion, in which the relative impact of each criterion on the decision is made explicit
- Offer a means to consider a **comprehensive set** of, sometimes conflicting, decision **criteria** ***(criteria were defined in terms of outcome measures)***
- **Engage stakeholders** in a dialogue about decision criteria and their importance for the decision at hand
- In SELFIE, the decisions relate to sustainability of programmes, i.e. reimbursement, continuation, extension, and/or wider implementation

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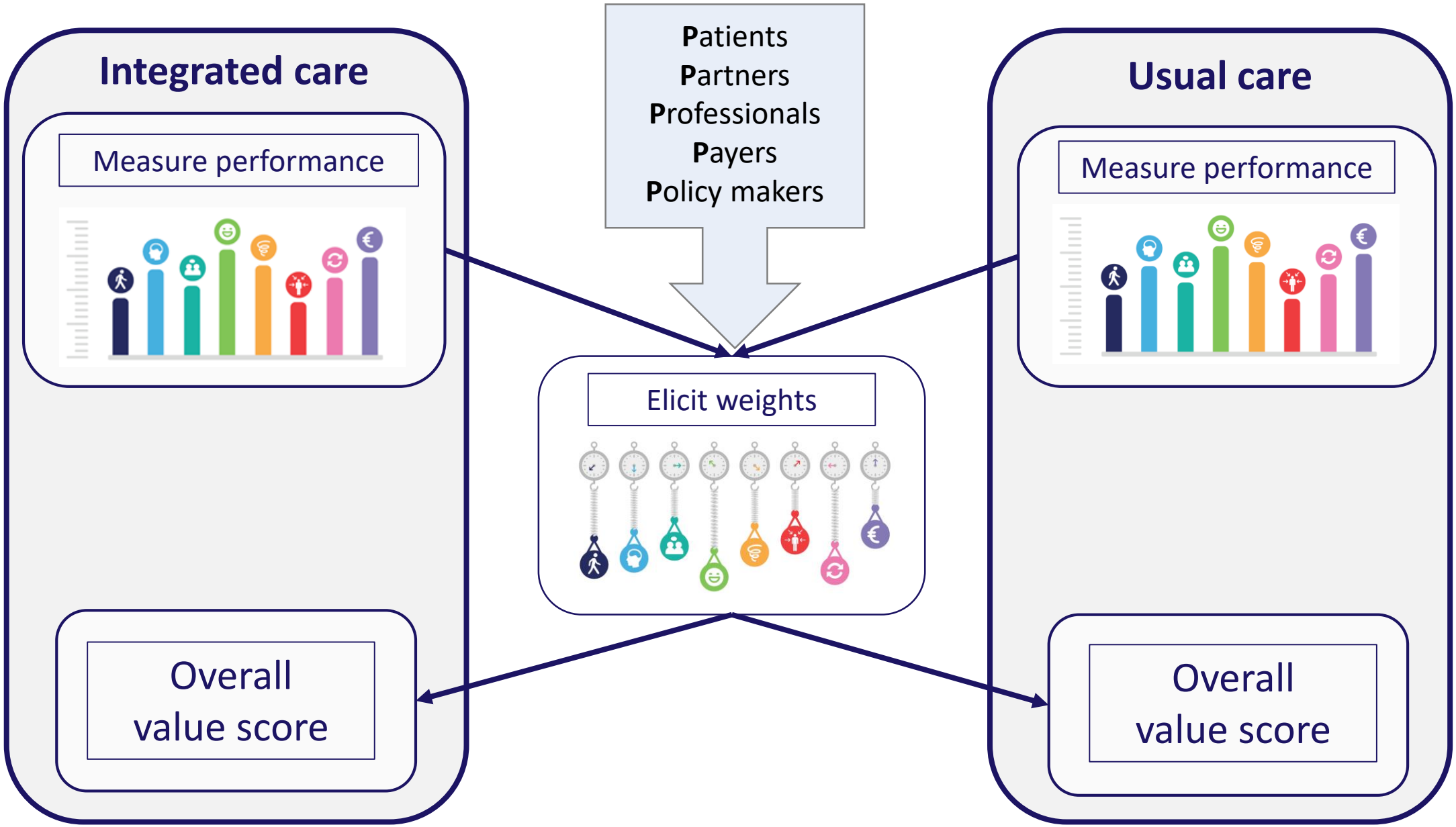
Why MCDA?

- When we adopt a more person-centered, integrated approach to care,
- we also need to use a broader, more inclusive approach to evaluation.
- An approach that adopts a more holistic, person-centered understanding of ‘value’.

There is more to value than health

Essence of MCDA: estimate overall value score



How did we measure performance of programmes on criteria?

- In quasi-experimental studies comparing intervention and control group
- Combination of prospective data collection with repeated measurement plus retrospective data extraction from secondary sources

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How did we measure performance?

		Core set of outcomes	Recommended questionnaires
Health & well-being		Physical functioning	SF-36, Katz15
		Psychological well-being	MHI-5
		Social relationships & participation	IPA
		Enjoyment of life	ICECAP-O, Q-LES-Q
		Resilience	BRS
Experience		Person-centeredness	P3CEQ
		Continuity of care	NCQ, CPCQ
Costs		Costs	iMTA_MCQ

+ programme-type specific outcomes

SF-36: Short Form 36, Katz 15 for ADL, MHI: Mental Health Inventory, IPA: Impact on Participation and Autonomy (social life and relationships domain), ICECAP-O: Investigating Choice Experiments for the preferences of Older people CAPability measure ((item on enjoyment and pleasure), Q-LES-Q: Quality of Life, Enjoyment and Satisfaction Questionnaire (item on life satisfaction), BRS: Brief Resilience Scale, P3CEQ: Person-centered Coordinated Care Experience Questionnaire (experience of person-centered care domain), NCQ: Nijmegen Continuity Questionnaire (Team and cross boundary continuity domain) , CPCQ: Client Perceptions of Coordination Questionnaire (item on waiting for appointment/treatment), iMTA_MCQ: iMTA Medical Consumption Questionnaire

Standardising performance scores

			Unstandarized		Standardized	
	Instrument	**Scale**	**Integrated**	**Usual**	**Integrated**	**Usual**
Experience						
	P3CEQ	0-18 (best)	16	10	0,85	0,53
	NCQ + CPCQ	1-5 (best)	5	4	0,78	0,62

Formula relative standardisation:
(with 2 alternatives):

$$S_{aj} = \frac{x_{aj}}{(x^2{}_{aj} + x^2{}_{bj})^{1/2}}$$

x = outcome score (on the natural scale)
a = alternative a
b = alternative b
j = outcome j

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Example of relative DCE weights of patients in the Netherlands

	Weight Patients	Weight Payers
Health/wellbeing		
	0,16	0,14
	0,17	0,18
	0,09	0,10
	0,23	0,24
	0,15	0,12
Experience		
	0,08	0,06
	0,10	0,08
Cost		
	0,04	0,07

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Partial value score

	Standardized		Weight	Partial value	
	Integrated	Usual	Patients	Integrated	Usual
Health/wellbeing					
	0,77	0,64	0,17	0,13	0,11

Total value score

	Standardized		Weight	Partial value	
	Integrated	Usual	Patients	Integrated	Usual
Health/wellbeing					
	0,68	0,73	0,16	0,11	0,12
	0,77	0,64	0,17	0,13	0,11
	0,34	0,25	0,09	0,03	0,02
	0,80	0,60	0,23	0,18	0,14
	0,78	0,62	0,15	0,12	0,09
Experience					
	0,85	0,53	0,08	0,06	0,04
	0,78	0,62	0,10	0,08	0,07
Cost					
	0,20	0,40	0,04	0,01	0,01
Total value score				**0,71**	**0,59**

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Repeat with weights from different stakeholders

	Standardized		Weight	Weight	Partial value Patients		Partial value Payers	
	Integrated	Usual	Patients	Payers	Integrated	Usual	Integrated	Usual
Health/wellbeing								
	0,68	0,73	0,16	0,14	0,11	0,12	0,10	0,10
	0,77	0,64	0,17	0,18	0,13	0,11	0,14	0,12
	0,34	0,25	0,09	0,10	0,03	0,02	0,03	0,03
	0,80	0,60	0,23	0,24	0,18	0,14	0,19	0,14
	0,78	0,62	0,15	0,12	0,12	0,09	0,09	0,07
Experience								
	0,85	0,53	0,08	0,06	0,06	0,04	0,05	0,03
	0,78	0,62	0,10	0,08	0,08	0,07	0,06	0,05
Cost								
	0,20	0,40	0,04	0,07	0,01	0,01	0,01	0,03
Total value score					**0,71**	**0,59**	**0,68**	**0,57**

Welcome to the SELFIE Multi-Criteria Decision Analysis tool

Why Multi-Criteria Decision Analyses (MCDA)?

a) Because it offers the means to consider a more comprehensive set of outcomes compared to conventional health technology assessment (HTA) methods while still summarising these outcomes in a single value score.
b) To inform decision making about implementation, continuation, and reimbursement of person-centred integrated care for people with multi-morbidity, from multiple perspectives.
c) To improve transparency, consistency, accountability and acceptability of decision making.

Who could use the MCDA tool?

a) Researchers, payers and policy makers that want to compare 2 or 3 alternative (integrated) care models or programmes, for example integrated care versus usual care.

What does this MCDA tool have to offer?

a) Importance-weights of eight outcome measures that cover the Triple Aim of improvements in health/well-being, experience with the care process and costs.
b) Importance weights from up to 5 different groups of stakeholders in 8 countries.
c) A simple calculator that combines the effects of integrated care and the importance-weights into a single value score.

What do you need to use the SELFIE MCDA tool?

a) Data on the relative effectiveness of the integrated care model(s) or programme(s) of interest on at least 3 out of the 8 outcome measures in this tool.
b) Outcome measures that conceptually match the outcome measures in this tool.

For more detailed information on the implementation of MCDA in SELFIE, click here to see the SELFIE MCDA paper in BMC Health Services Research.

Steps undertaken in the MCDA tool

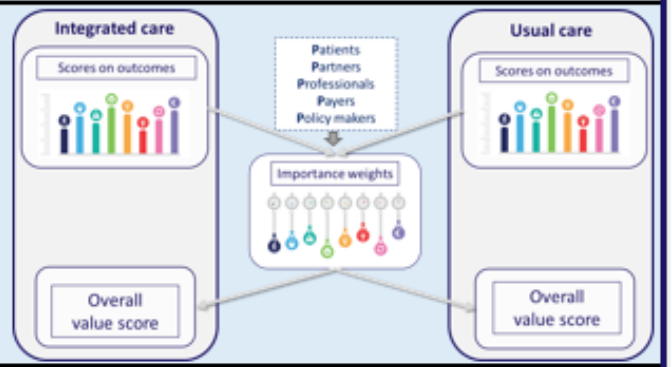
1) Map your outcome measures onto the eight outcome measure in this MCDA tool

2) Standardise your outcome scores

3) Select a country to use its weight set that reflects the relative importance of the outcomes

4) Calculate the partial and overall MCDA values

5) Interpet the MCDA results



Go to the sheet 'MCDA Tool' to start

Please remember to enable macros before you can use this worksheet

The Sustainable intEgrated care models for multi-morbidity: delivery, Financing and performancE (SELFIE) project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 634288. The content of this tool reflects only the SELFIE groups' views and the European Commission is not liable for any use that may be made of the information contained herein.

www.selfie2020.eu

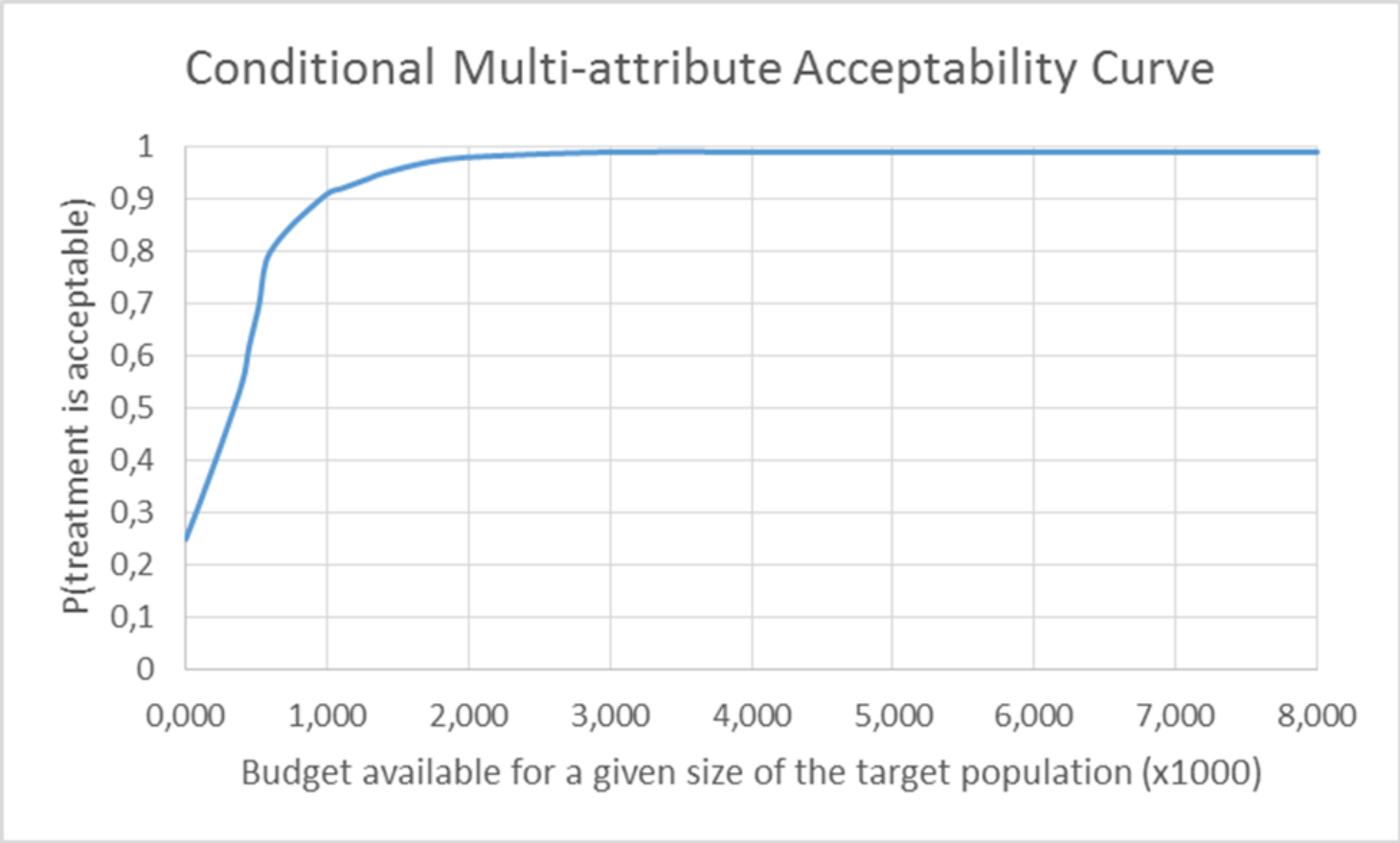
From standardization of performance scores to final table with MCDA results

https://www.selfie2020.eu/MCDA-tool/

Sensitivity analyses

- Deterministic: e.g. use Swing Weights instead of DCE weights, use global ranging standardization instead of relative standardization
- Probabilistic: Monte Carlo simulation to take the joint uncertainty in performance and weights into account (uncertainty in programme-costs and size of target population can be addresses as well)

Conditional Multi-attribute Acceptability Curve (CMAC)



P(intervention) acceptable:

- Diff in overall value > 0
- Size target population x mean costs pp < available budget

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Conclusion

- MCDA is an approach with great potential to improve value-based integrated care and value-based payments because it includes a wide range of outcomes, and weights them from multiple perspectives.
- The methods and weights we applied in SELFIE can be used by stakeholders (e.g. commissioners, insurers, local authorities, providers) in future evaluations and monitoring studies of integrated care.

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Rutten-van Mölken *et al. BMC Health Services Research* (2018) 18:576
https://doi.org/10.1186/s12913-018-3367-4

BMC Health Services Research

RESEARCH ARTICLE Open Access

Strengthening the evidence-base of integrated care for people with multi-morbidity in Europe using Multi-Criteria Decision Analysis (MCDA)

Maureen Rutten-van Mölken[1,2*], Fenna Leijten[1], Maaike Hoedemakers[1], Apostolos Tsiachristas[1,3], Nick Verbeek[1], Milad Karimi[1], Roland Bal[1], Antoinette de Bont[1], Kamrul Islam[4], Jan Erik Askildsen[4], Thomas Czypionka[5], Markus Kraus[5], Mirjana Huic[6], János György Pitter[7], Verena Vogt[8], Jonathan Stokes[9], Erik Baltaxe[10] and on behalf of the SELFIE consortium

https://www.selfie2020.eu/2019/05/27/webinar-multi-criteria-decision-analysis-of-integrated-care/

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Spotlight on Multi-Criteria Decision Analyses of integrated care for person with multi-morbidity

1: Care Chain Frail Elderly, the Netherlands
2: Mobile Palliative Care Support Team, Croatia
3: Salford Together, United Kingdom

SELFIE Final conference, 13th of June

Erasmus School of Health Policy & Management

MCDA case study: Care Chain Frail Elderly

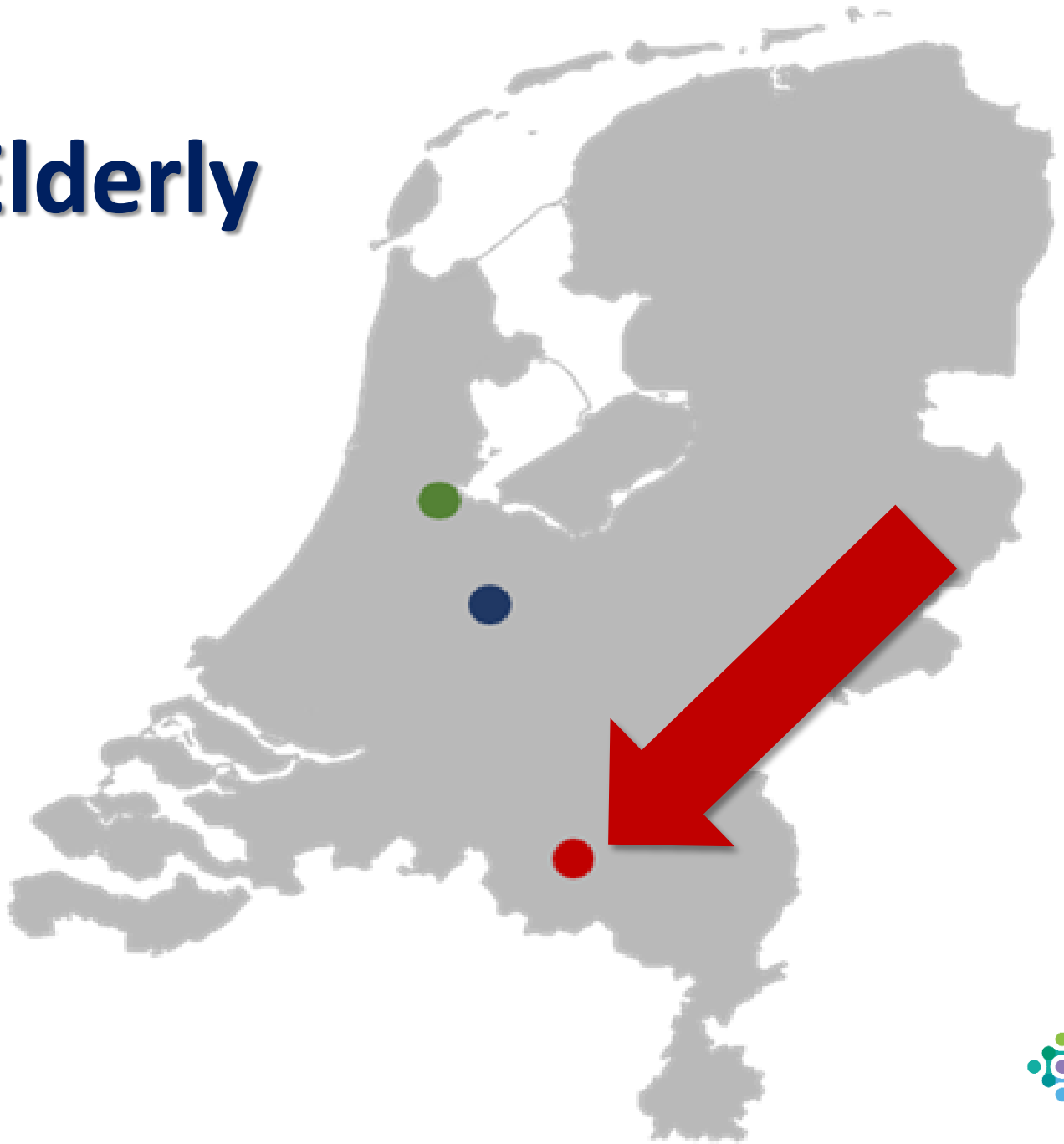
Maaike Hoedemakers, Milad Karimi, Willemijn Looman,

Maureen Rutten-van Mölken

SELFIE Final conference, 13th of June

https://www.selfie2020.eu/

Care Chain Frail Elderly

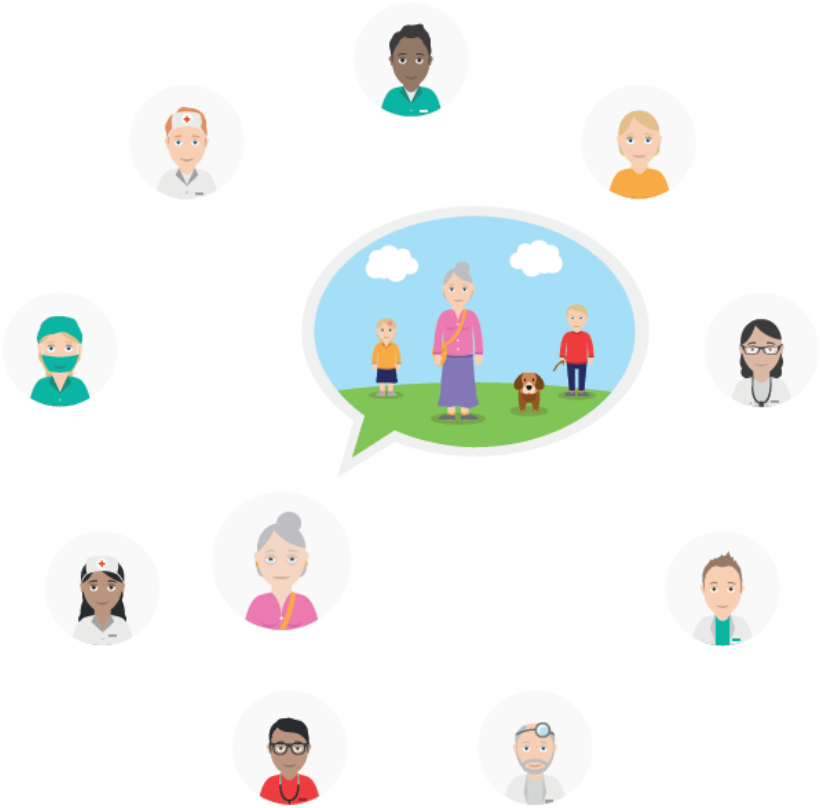


Target group

Community-dwelling frail elderly with complex care needs

Aim

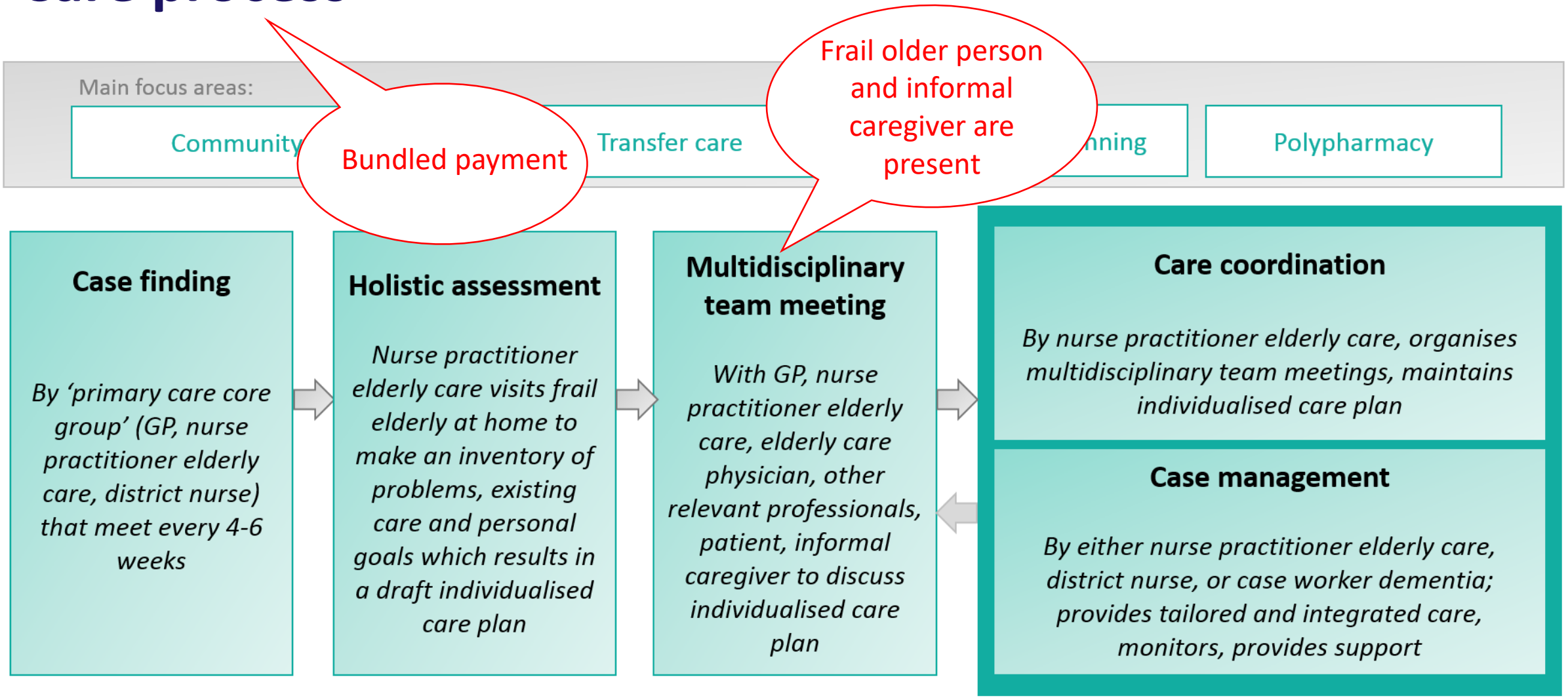
- To **support frail elderly** in **living at home** with the support of primary care, home care, social care and informal care to optimize their **quality of life**



And, from the payers' perspective:

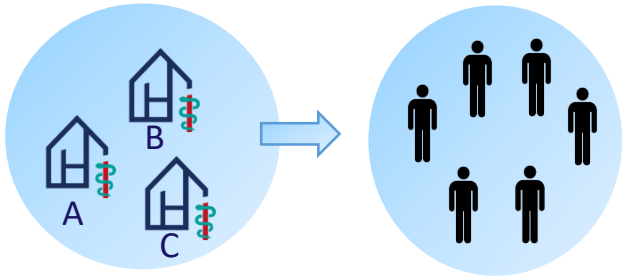
- To deliver **structured multidisciplinary (primary) care** that:
  - decreases the demand for secondary care
  - postpones nursing home admissions
  - reduces health care costs

Care process

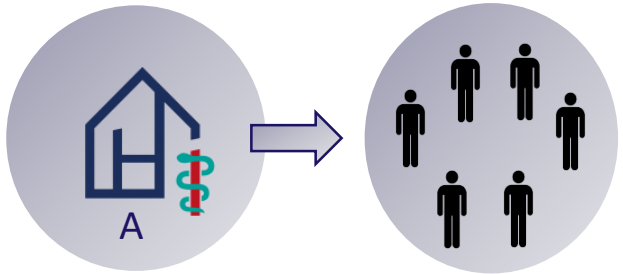


Methods – study design

Intervention group



Control group



- ❑ Baseline
- ❑ 6 months
- ❑ 12 months

Methods – outcome measures

		Core set	Programme type specific: Frail elderly
Triple aim	Health & well-being	Physical functioning Psychological well-being Social relations & participation Enjoyment of life Resilience	❖ Autonomy
	Experience	Person-centeredness Continuity of care	❖ Burden of medication ❖ Burden of informal caregiving
	Costs	Total health- and social care costs	❖ Long-term institution admissions ❖ Falls leading to hospital admissions

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Methods – analysis

- Propensity score matching on
  - age, gender, marital status, living situation, education, smoking, outcome measures at baseline, costs 3 month prior to start
- Linear mixed models with random intercept for continuous outcomes after Inverse Probability Weighting (IPW)

$$Y_{it} = \beta_0 + \beta_1\, time + \beta_2\, intervention + \beta_3\, age + \beta_4\, time{*}intervention + u_i + e_{it}$$

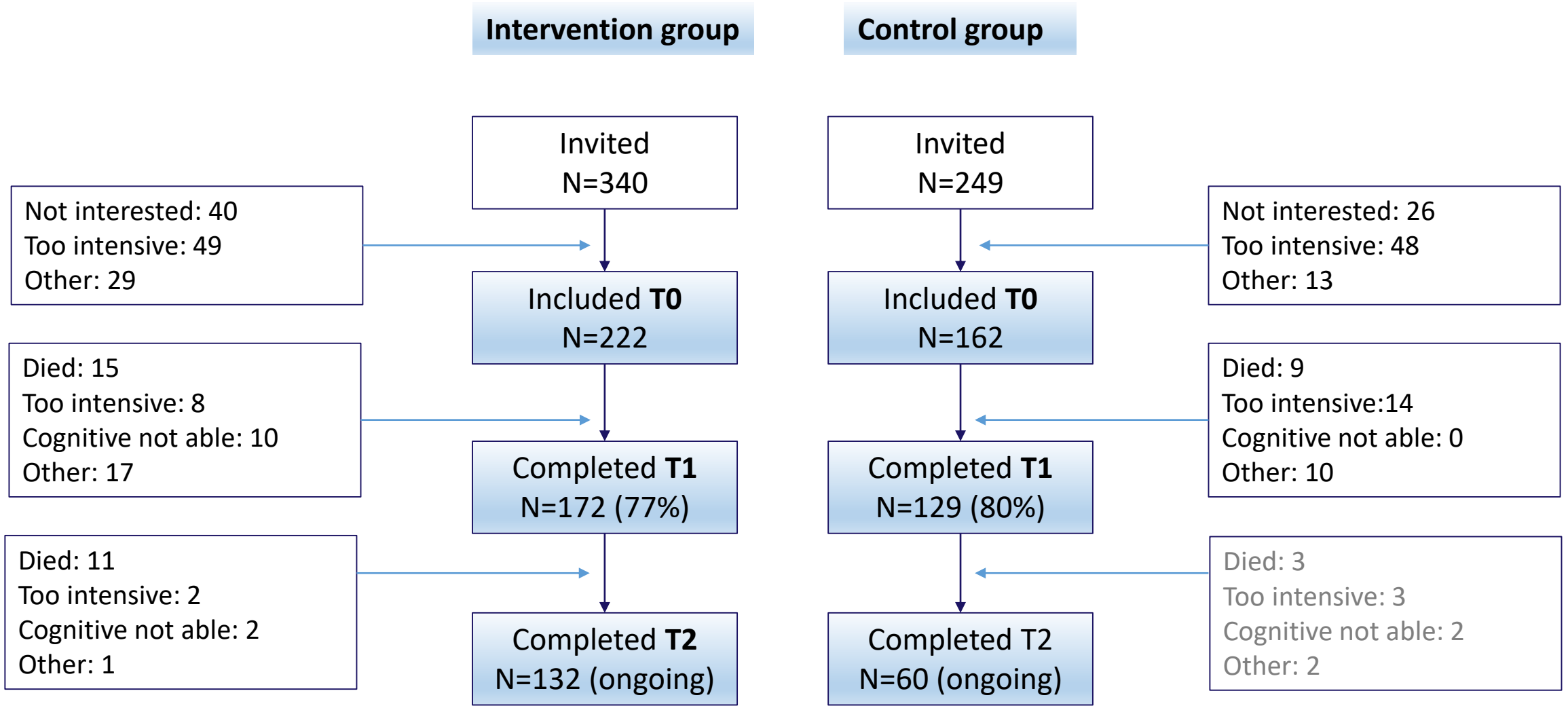
- Ordered logit regression for enjoyment of life, after IPW
- Models used to predict absolute values of the outcomes in intervention and control group
- As part of the MCDA all predicted outcomes were standardized into the same numeric range from 0-1, where a higher score indicates a better performance
- MCDA: weighted aggregation of outcomes into overall value score

Total health- and social care costs

	Intervention group	Control group
Measured with medical consumption questionnaire	General practitioner	General practitioner
	Paramedical (e.g., physiotherapist)	Paramedical (e.g., physiotherapist)
	Medical specialist	Medical specialist
	Outpatient daycare activities	Outpatient daycare activities
	Emergency room visits	Emergency room visits
	Hospital admissions	Hospital admissions
	Nursing home admissions (and other admissions)	Nursing home admissions (and other admissions)
	Home care	Home care
	Informal care	Informal care
Registry data	Medication	Medication
	Cost of the frail elderly care programme (mean of three care groups)	Cost of other (single disease) chronic care programmes, e.g. diabetes, COPD, VRM based on % of patients in particular care programme

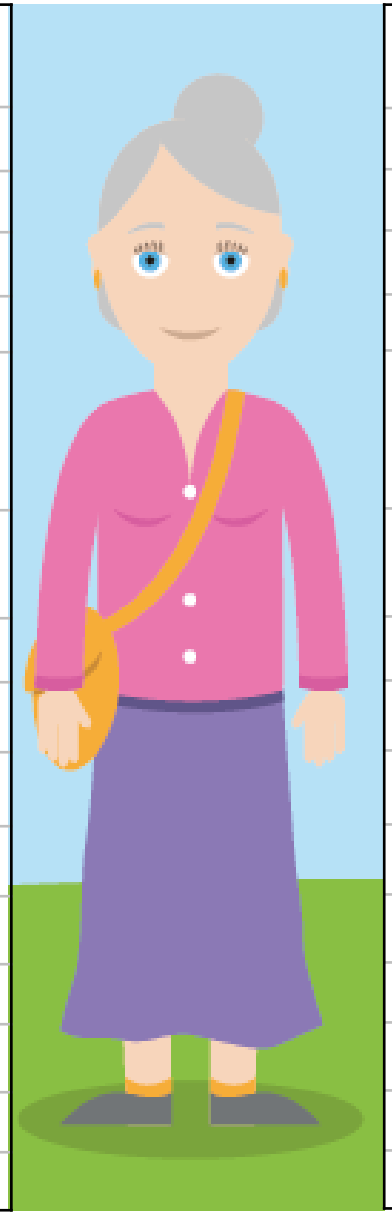
(Preliminary) results

Patient flow



Baseline characteristics before & after matching

	Intervention (n=222)	Control (n=162)	
		Before PSM	After PSM
Age (yrs)	83.5	84.7	83.8
Gender (female)	64.1%	66.1%	66.8%
Married or with partner	43.5%	38.7%	43.8%
Living situation: Independent	**50.0%**	**58.6%**	**53.6%**
With others	**46.0%**	**38.8%**	**42.6%**
Nursing home	3.4%	2.5%	3.9%
Education: Low	70.3%	70.4%	72.1%
High	**9.5%**	**14.9%**	**12.0%**
Smokers	**14.0%**	**7.7%**	**13.6%**
Physical functioning (0-15)	4.9	4.7	4.3
Psychological wellbeing (0-100)	71.3	71.2	71.6
Enjoyment of life (1-4)	2.9	2.9	2.9
Social relat. & part. (7-35)	**9.2**	**8.2**	**8.8**
Resilience (6-30)	19.4	19.0	19.4
Autonomy (7-35)	22.1	22.2	22.2
Person-centeredness (0-18)	12.4	12.6	12.0
Continuity of care (1-5)	3.8	3.8	3.7



	Before	After
Mean bias	10.1	6.0
Rubin's B	54.6	**26.1**
Rubin's R	1.27	**1.25**

Estimated treatment effects after 6 months

Outcome	Scale	Estimated treatment effect	95% Confidence interval
Physical functioning^	0-15	**0.39**	-0.02 : 0.79
Psychological well-being	0-100	**0.01**	-3.49 : 3.55
Enjoyment of life (odds ratio)	-	**1.61**	0.82 : 3.20
Social relationships and participation^	0-28	**0.27**	-0.49 : 0.99
Resilience	6-30	**0.42**	-0.36 : 1.21
Person-centeredness	0-18	**1.04***	0.11 : 1.97
Continuity of care	1-5	**0.12**	-0.06 : 0.29

^ = higher score indicates a worse performance
* = p<0,05

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Estimated treatment effects after 12 months

Outcome	Scale	Estimated treatment effect	95% Confidence interval
Physical functioning^	0-15	**0.23**	-0.38 : 0.83
Psychological well-being	0-100	**-1.11**	-6.48 : 4.33
Enjoyment of life (odds ratio)	-	**1.95**	0.87 : 4.39
Social relationships and participation^	0-28	**-0.14**	-1.18 : 0.90
Resilience	6-30	**0.11**	-0.97 : 1.19
Person-centeredness	0-18	**2.07***	0.28 : 3.79
Continuity of care	1-5	**0.18**	-0.10 : 0.45

^ = higher score indicates a worse performance

* = p<0,05

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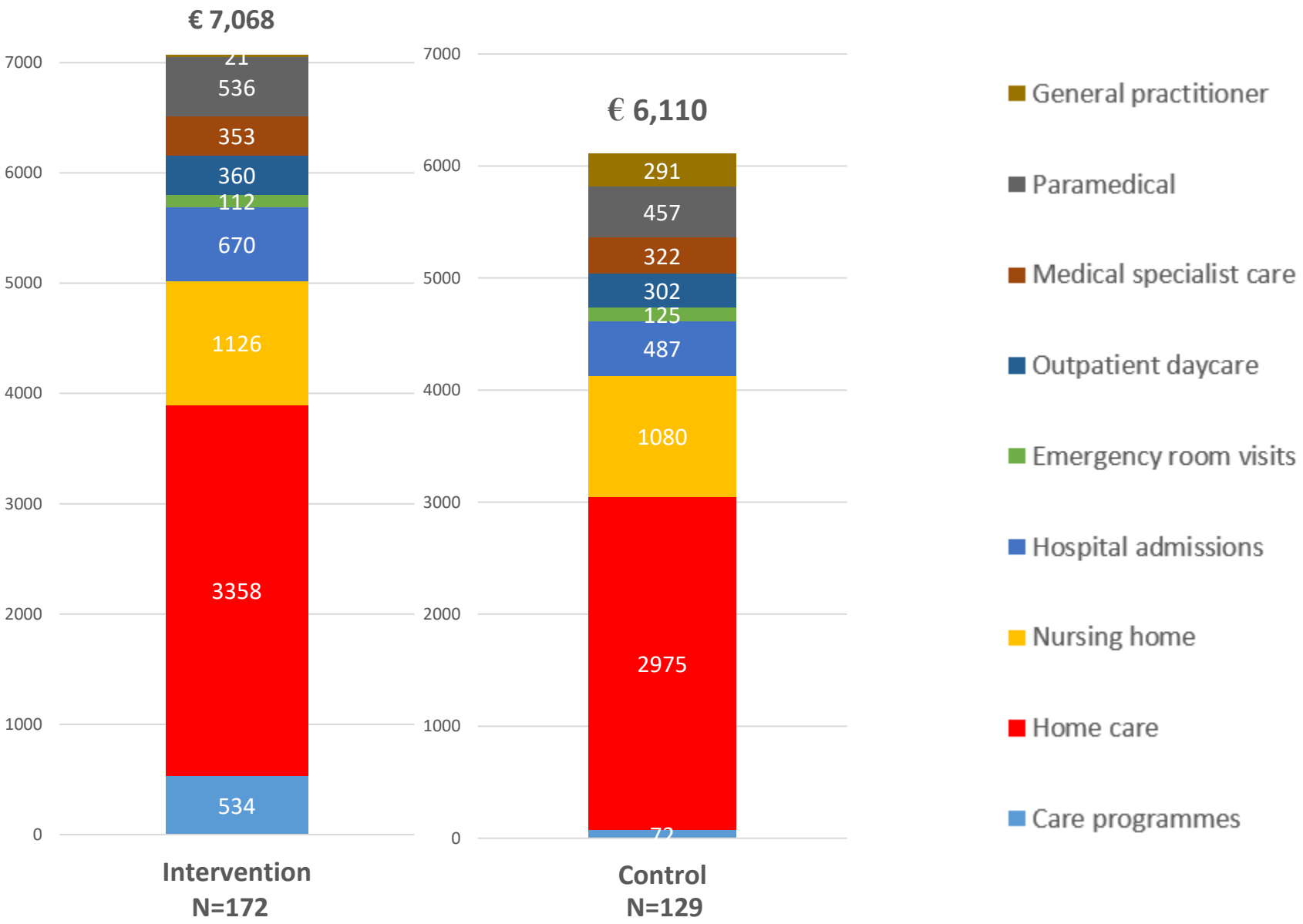
Costs health care perspective: month 1-6



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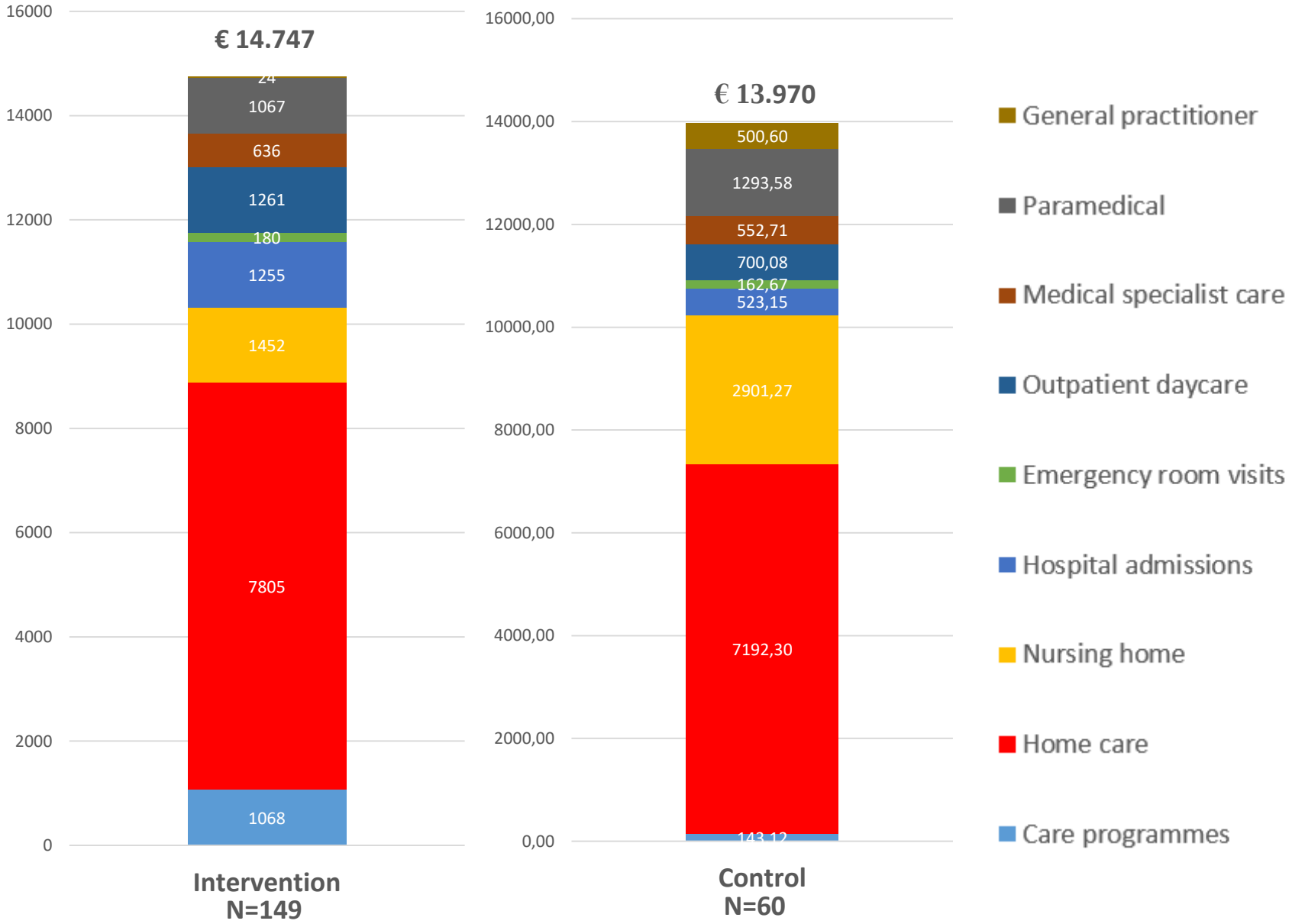
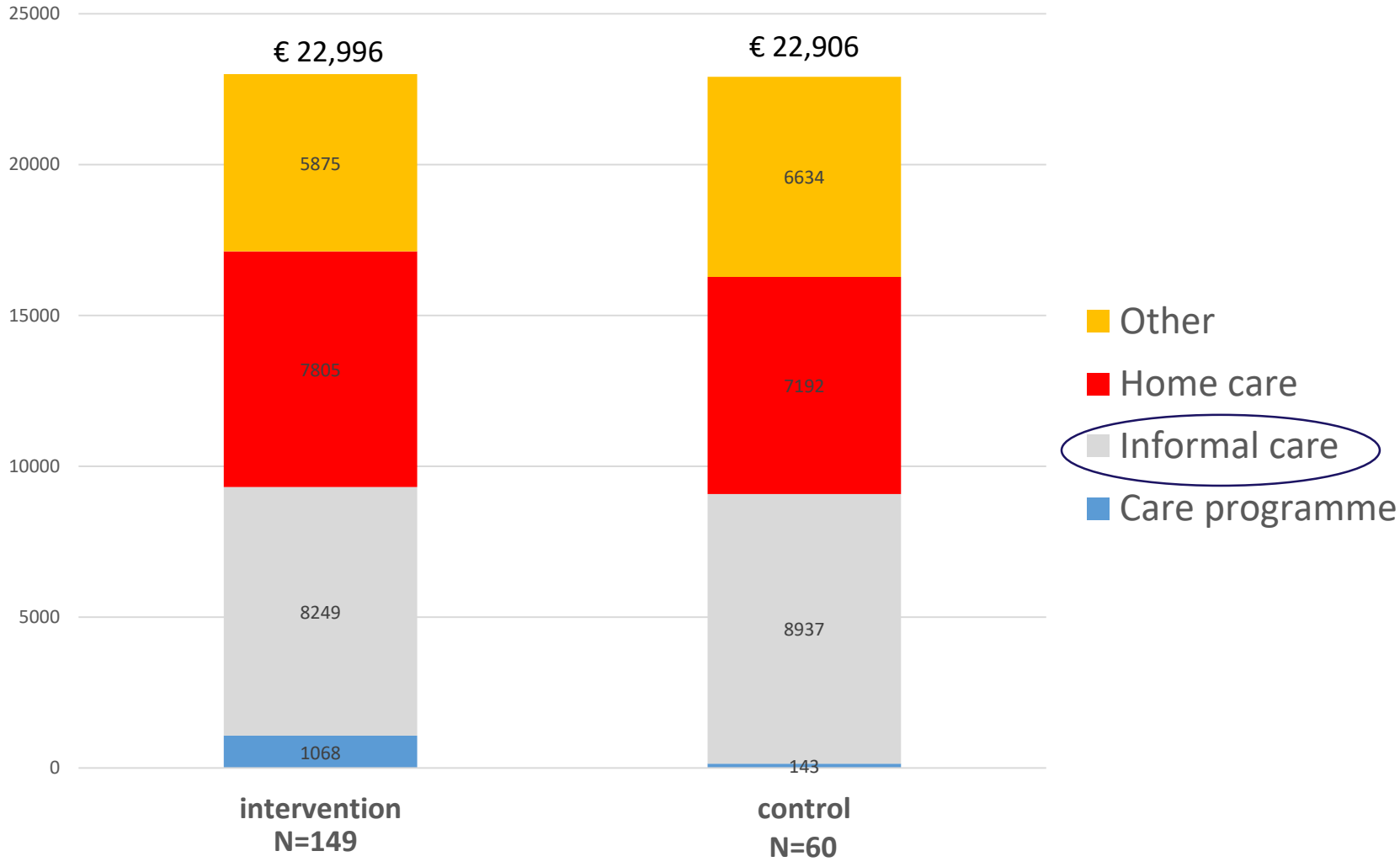
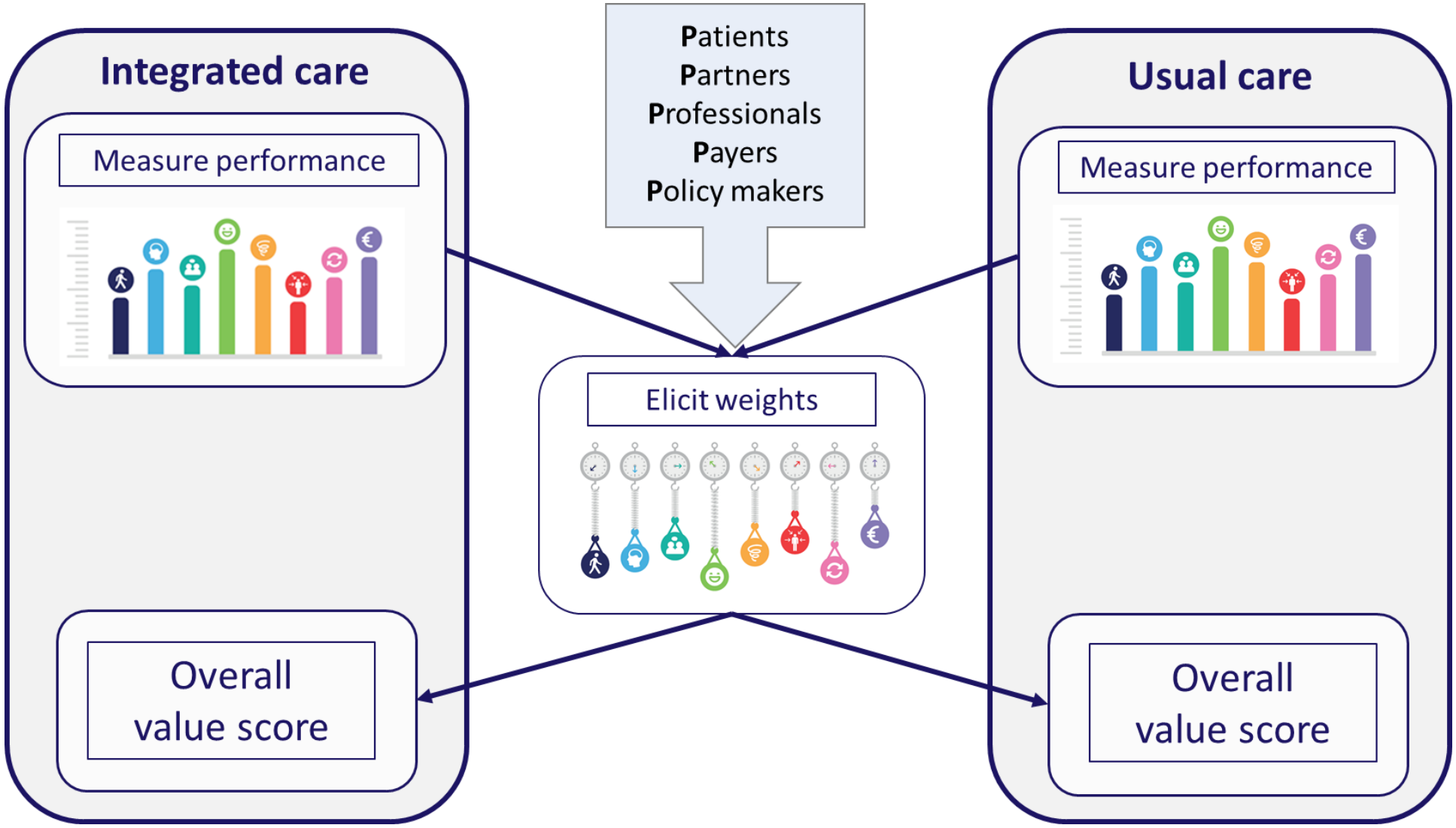
Costs health care perspective: month 1-12



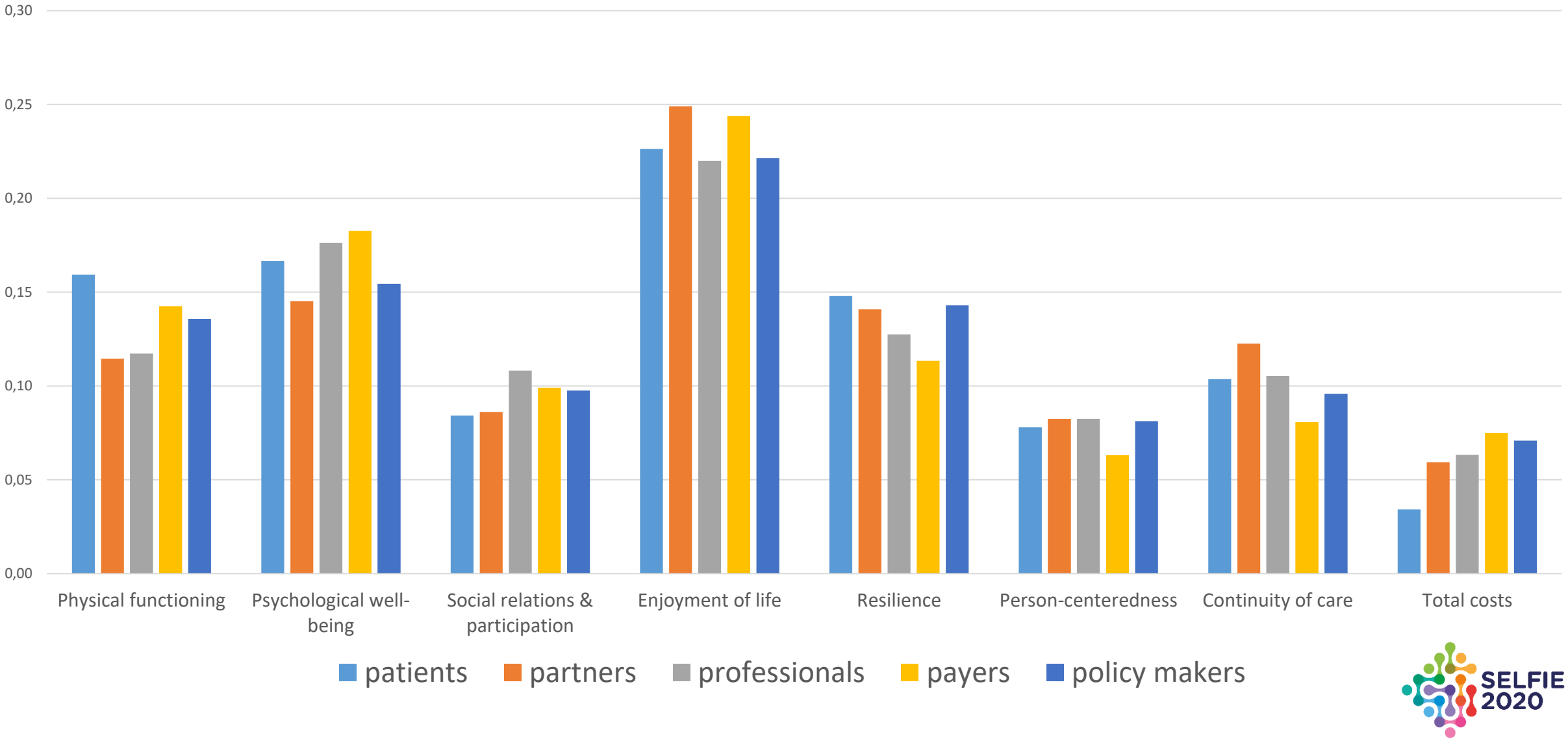
Costs Societal perspective month 1-12



MCDA


Integrated care
Measure performance
Overall value score
Patients
Partners
Professionals
Payers
Policy makers
Elicit weights
Usual care
Measure performance
Overall value score

Dutch weights for 5 stakeholder groups



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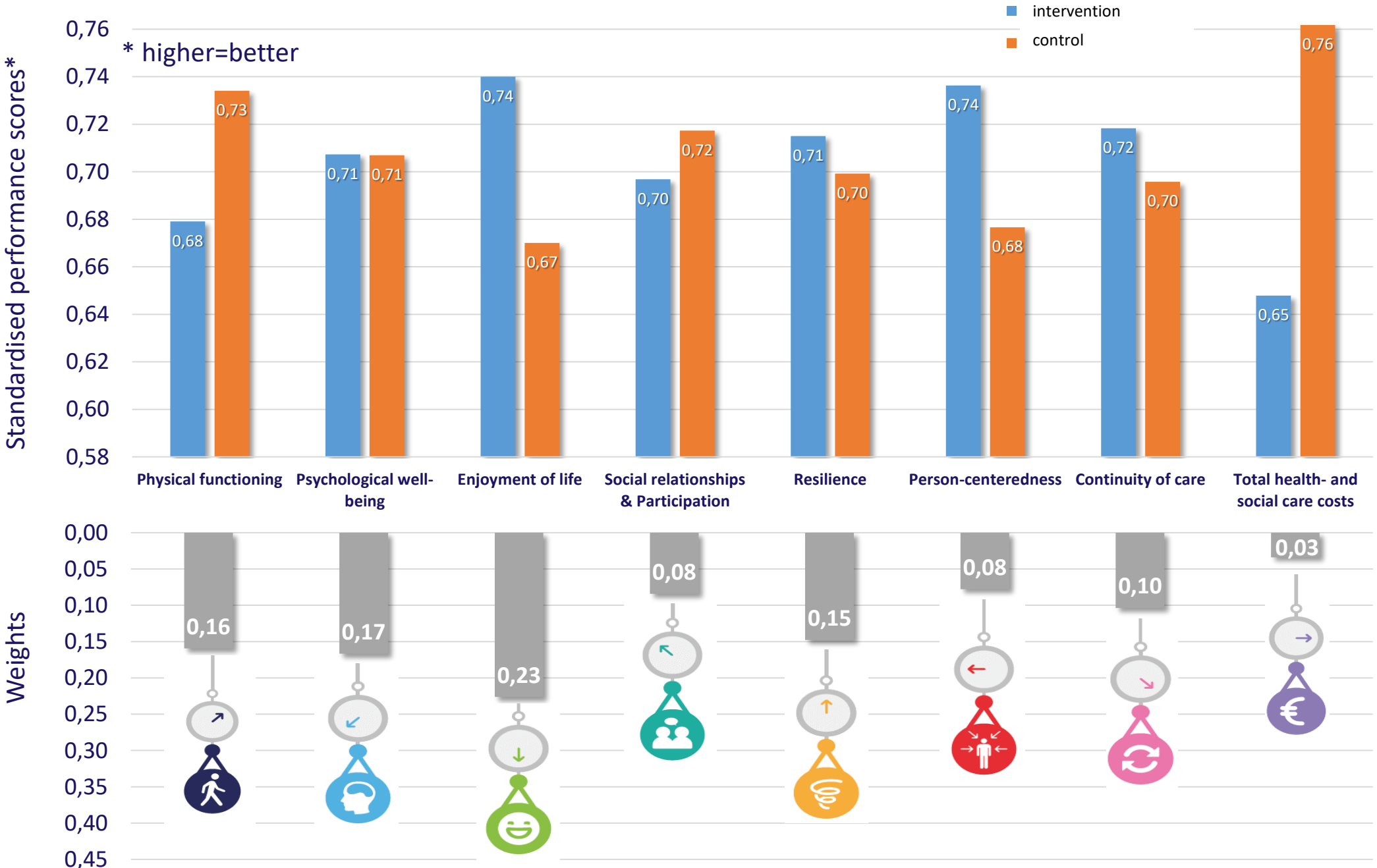
MCDA Graph 6 months



MCDA Table (6 months, health care persp.)	Standardised performance score		Patients		Partners		Professionals		Payers		Policy makers	
			Weighted score		Weighted score		Weighted score		Weighted score		Weighted score	
	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control
Health & well-being												
Physical functioning	0,68	0,73	0,11	0,12	0,08	0,08	0,08	0,09	0,10	0,10	0,09	0,10
Psychological well-being	0,71	0,71	0,12	0,12	0,10	0,10	0,12	0,12	0,13	0,13	0,11	0,11
Enjoyment of life	0,74	0,67	0,17	0,15	0,19	0,17	0,16	0,15	0,18	0,16	0,16	0,15
Social relationships & participation	0,70	0,72	0,06	0,06	0,06	0,06	0,08	0,08	0,07	0,07	0,07	0,07
Resilience	0,71	0,70	0,11	0,10	0,10	0,10	0,09	0,09	0,08	0,08	0,10	0,10
Experience with care												
Person-centeredness	0,74	0,68	0,06	0,05	0,06	0,06	0,06	0,06	0,05	0,04	0,06	0,05
Continuity of care	0,72	0,70	0,07	0,07	0,09	0,09	0,08	0,07	0,06	0,06	0,07	0,07
Costs												
Total costs	0,65	0,76	0,02	0,03	0,04	0,05	0,04	0,05	0,05	0,06	0,05	0,05
Overall value scores			**0,71** 0,70-0,73	0,70 0,68-0,71	**0,71** 0,70-0,73	0,70 0,68-0,71	**0,71** 0,70-0,73	0,70 0,68-0,71	**0,71** 0,70-0,73	0,70 0,68-0,72	**0,71** 0,70-0,73	0,70 0,68-0,71
% overall value score intervention > control			**86%**		**89%**		**86%**		**82%**		**85%**	

MCDA Table (12 months, health care persp.)	Standardised performance score		Patients		Partners		Professionals		Payers		Policy makers	
			Weighted score		Weighted score		Weighted score		Weighted score		Weighted score	
	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control
Health & well-being												
Physical functioning	0,69	0,72	0,11	0,11	0,08	0,08	0,08	0,08	0,10	0,10	0,09	0,10
Psychological well-being	0,70	0,71	0,12	0,12	0,10	0,10	0,12	0,13	0,13	0,13	0,11	0,11
Enjoyment of life	0,76	0,65	0,17	0,15	0,19	0,16	0,17	0,14	0,19	0,16	0,17	0,14
Social relationships & participation	0,71	0,70	0,06	0,06	0,06	0,06	0,08	0,08	0,07	0,07	0,07	0,07
Resilience	0,71	0,71	0,10	0,10	0,10	0,10	0,09	0,09	0,08	0,08	0,10	0,10
Experience with care												
Person-centeredness	0,76	0,65	0,06	0,05	0,06	0,05	0,06	0,05	0,05	0,04	0,06	0,05
Continuity of care	0,72	0,69	0,07	0,07	0,09	0,08	0,08	0,07	0,06	0,06	0,07	0,07
Costs												
Total costs	0,69	0,73	0,02	0,02	0,04	0,04	0,04	0,05	0,05	0,05	0,05	0,05
Overall value scores			**0,72**	0,69	**0,72**	0,69	**0,72**	0,69	**0,72**	0,69	**0,72**	0,69

Conclusion

- CCFE **improved patient-centeredness**
- However, this has little impact on the overall value score because the weight of this outcome is relatively low

- **Overall value score is higher** in the intervention group than in the control group, for all stakeholder groups
- This is mainly caused by (the high weight of) enjoyment of life
- However, differences are very small and not significant,
- Although they tend to increase between 6 and 12 months?

Discussion

- Preliminary results because data collection ongoing
  - Medication costs – ongoing
  - Nursing home admissions – check
- External validity: difficulty of measuring outcomes in frail elderly
  - of the total number of 570 enrolled in CCFE we invited 340 and included 222
- Self-reported care utilization
- Useful to inform decision making

MCDA case study:
Palliative Care – Croatia

Mirjana Huić, Romana Tandara Haček, Darija Erčević, Renata Grenković, Marta Čivljak, Tina Poklepović Peričić, Livia Puljak, Ana Utrobičić, Ana Jerončić

SELFIE Final conference, 13th of June

Palliative Care Model → Model of **integrated chronic care** for **palliative patients**

- ***Strategic Plan for Palliative Care 2014–2016***
- ***National Development Program for Palliative Care in Croatia 2017–2020***
- Structured palliative care system with the provision of **organized**, **appropriate care** for **terminal patients** and **support** for **their family members**
- **Holistic assessment of patient** and **interdisciplinary approach to treatment**

→ **vertical, horizontal** and **intersectoral collaboration**

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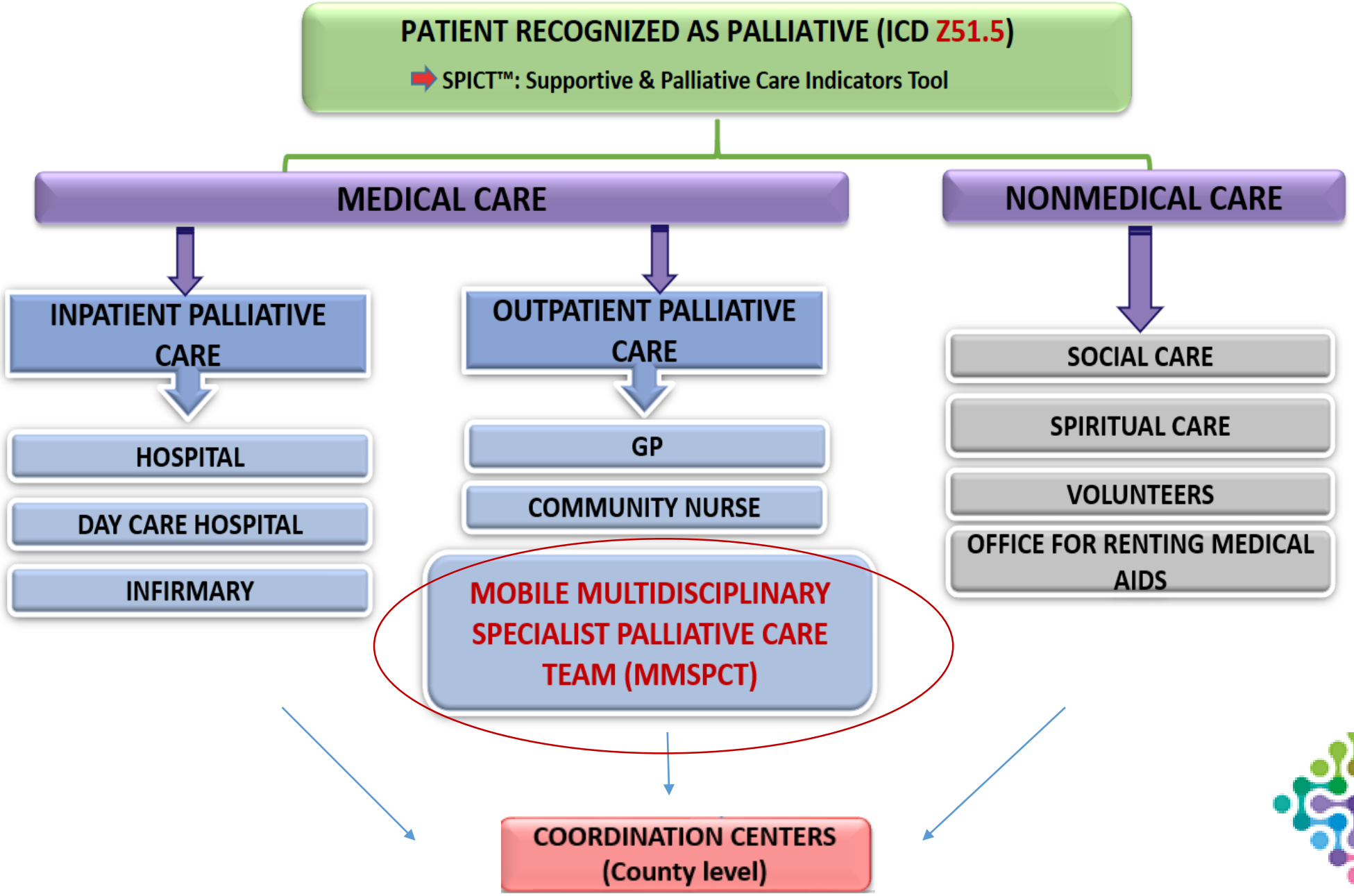
ORGANIZATION OF PALLIATIVE CARE SYSTEM IN CROATIA



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MOBILE MULTIDISCIPLINARY SPECIALIST PALLIATIVE CARE TEAM (MMSPCT)

- **Primary level of care → 24/7 care** for **palliative patients at their home**; **support** for the **families**
  - → **multidisciplinary** and **interdisciplinary** work with other services in providing **continuous** and **complete** palliative care

CORE TEAM
(education in palliative care/adequate work experience in palliative care)

- **Medical Doctor - Specialist**
- **Two nurses**

ADDITIONAL TEAM MEMBERS - External associates

- Oncologist
- Neurologist
- Psychiatrist
- Surgeon
- Dentist
- Psychologist
- Pharmacist
- Social Worker
- Volunteer
- Priest

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Primary study on Palliative Care Model – Aim and research question

How the "Palliative Care Model", specifically treatment by a MMSPCT, affects health and well-being, experience of care, resource utilization and costs, in comparison to usual care?

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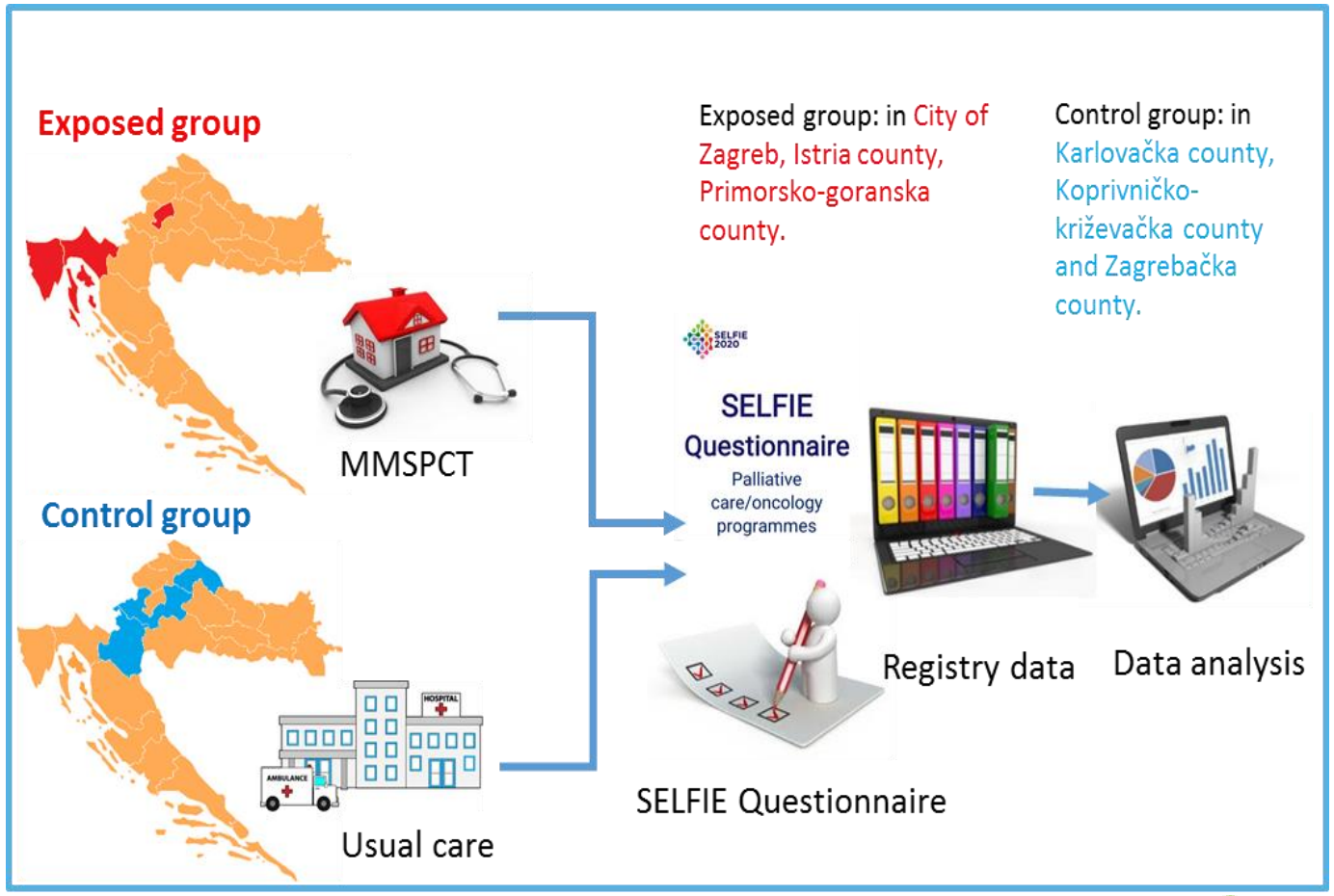
Methods - Study protocol

Study design: Prospective cohort study with **6 months follow-up**
Measurement times: 3
T0 =at enrolment
T1 =after **1 month**
T2 =after **3 months**

Sample size
Exposed group: **150-200 palliative care patients**
Control group: **150-200 palliative care patients**

DATA ANALYSIS
MCDA



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Inclusion criteria:

- Palliative care patients (SPICT™ and ICD-10: Z51.5)
- 18 years or older
- With a life expectancy ranging from 1 to 6 months

Informed Consent form

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Agency for Quality and Accreditation in Health Care and Social Welfare

European Commission

OBRAZAC INFORMIRANOG PRISTANKA ZA SUDJELOVANJE U SELFIE ISTRAŽIVANJU –

Prospektivno opservacijsko kohortno istraživanje unutar hrvatskog Modela palijativne skrbi

Exclusion criteria:

- Patients and/or families who **refuse further care by the MMSPCT** or **usual care**
- Patients who are **not able to give answers in questionnaires** (have a cognitive condition or are unresponsive or nonverbal)
- Patients **unlikely to survive more than 1-month** based on their clinicians' judgments
- Patients who **do not want to sign informed consent**

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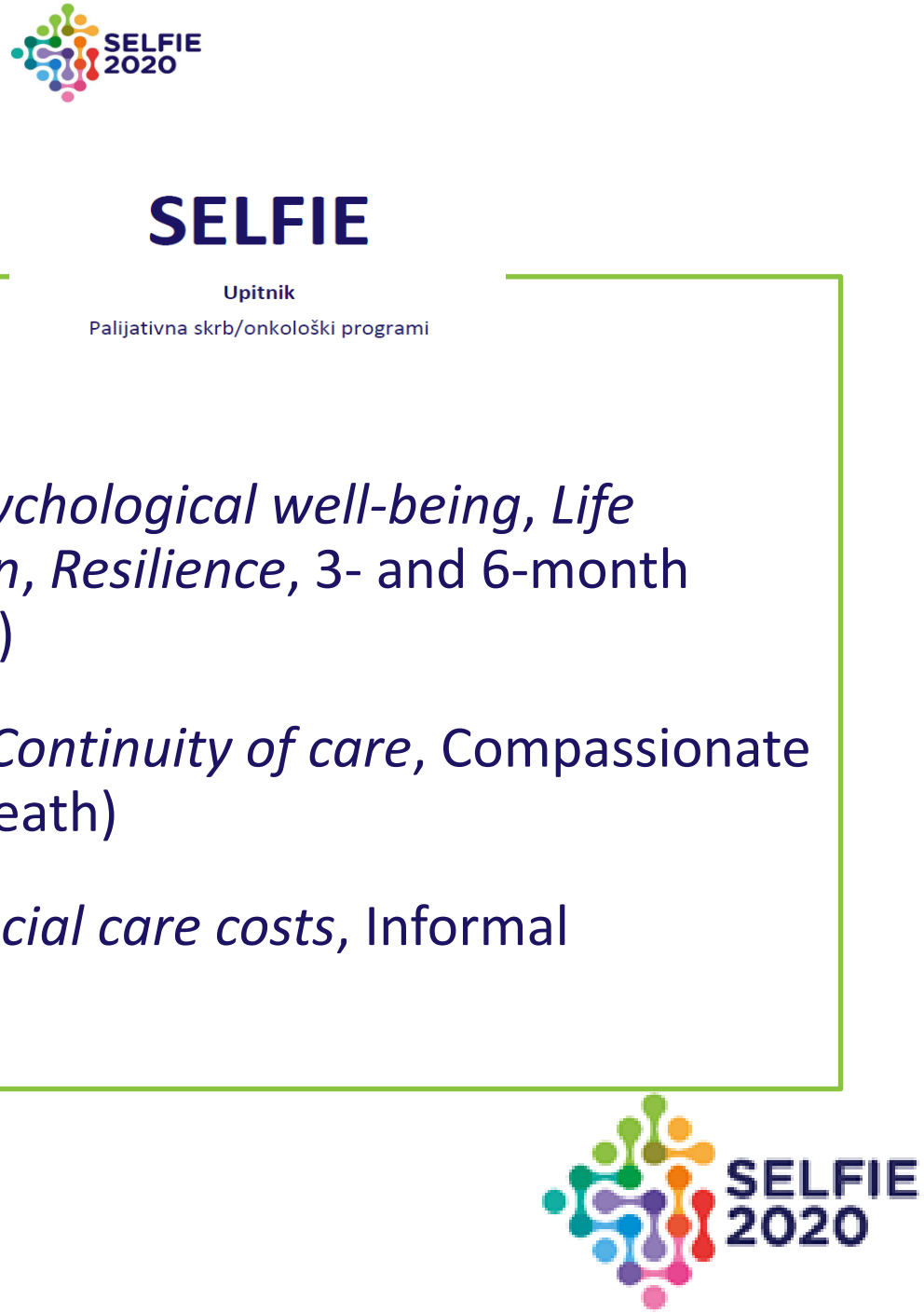
DATA COLLECTION

SELFIE Questionnaire

Outcomes related to:

- **I Health/well-being** (*Activities of daily living*, *Psychological well-being*, *Life satisfaction*, *Social relationship and participation*, *Resilience*, 3- and 6-month overall mortality rate, Pain and other symptoms)
- **II Experiences with care** (*Person-centeredness*, *Continuity of care*, Compassionate care, Timely access to care, Preferred place of death)
- **III Resource utilization and costs** (*Health and social care costs*, Informal caregiving)



Data analyses and **MCDA**

Propensity score matching

- Propensity score matching using kernel matching method (Epanechnikov kernel and bandwidth of 0.06)
- Balance of propensity scores checked by checking common support assumption, testing covariate imbalance at baseline, and calculating overall measures of covariate imbalance (Pseudo R2, median bias, Rubin's B and R)
- Covariate selection was guided by trade-offs between variables' effects on bias and efficiency

MCDA: weighted aggregation of outcomes into overall value score

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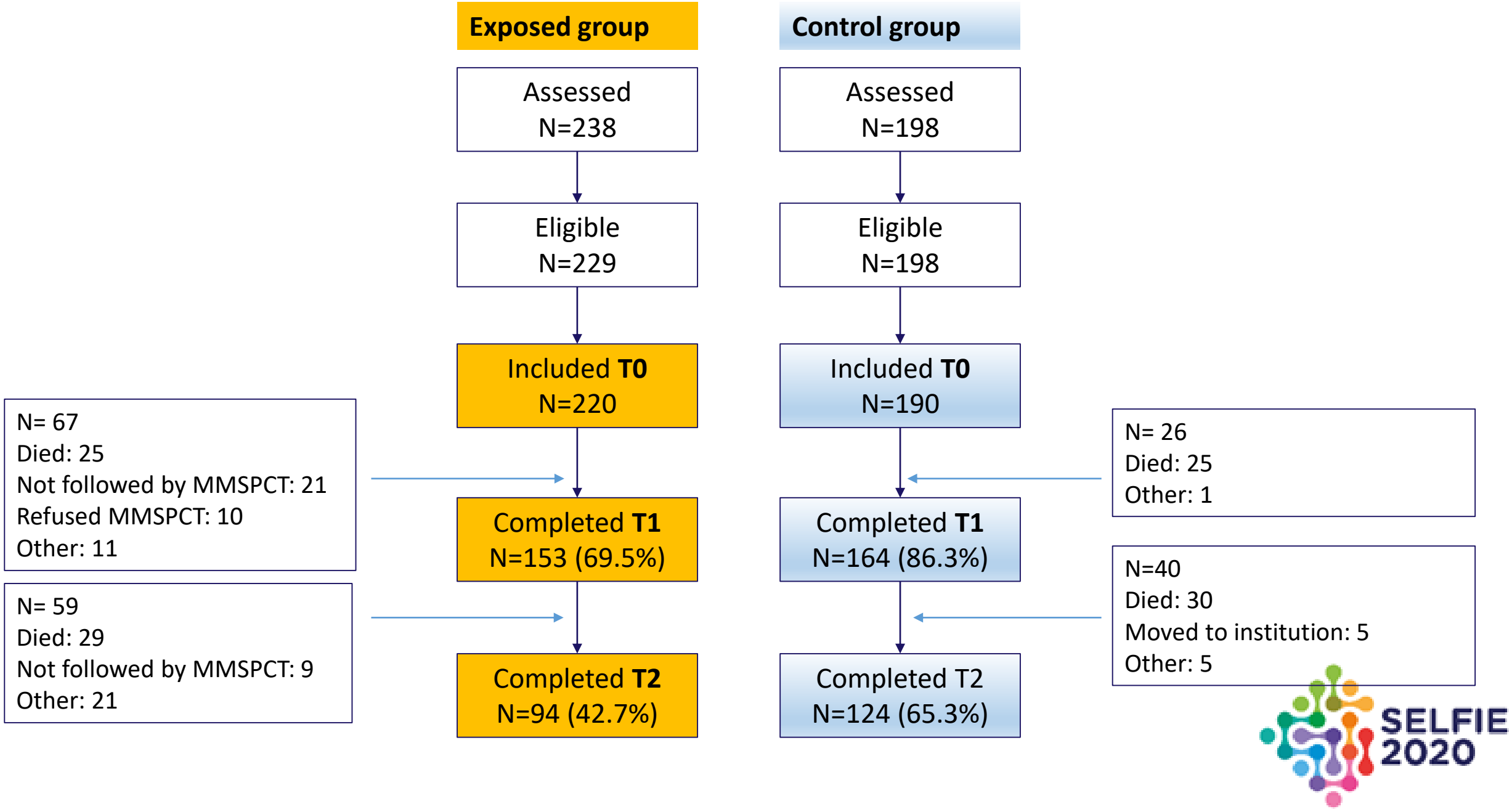
(Preliminary) Results

- Participants flow
- PSM results
- MCDA overall value table

Patient flow



PSM - Covariates used (including the baseline core outcome variables)

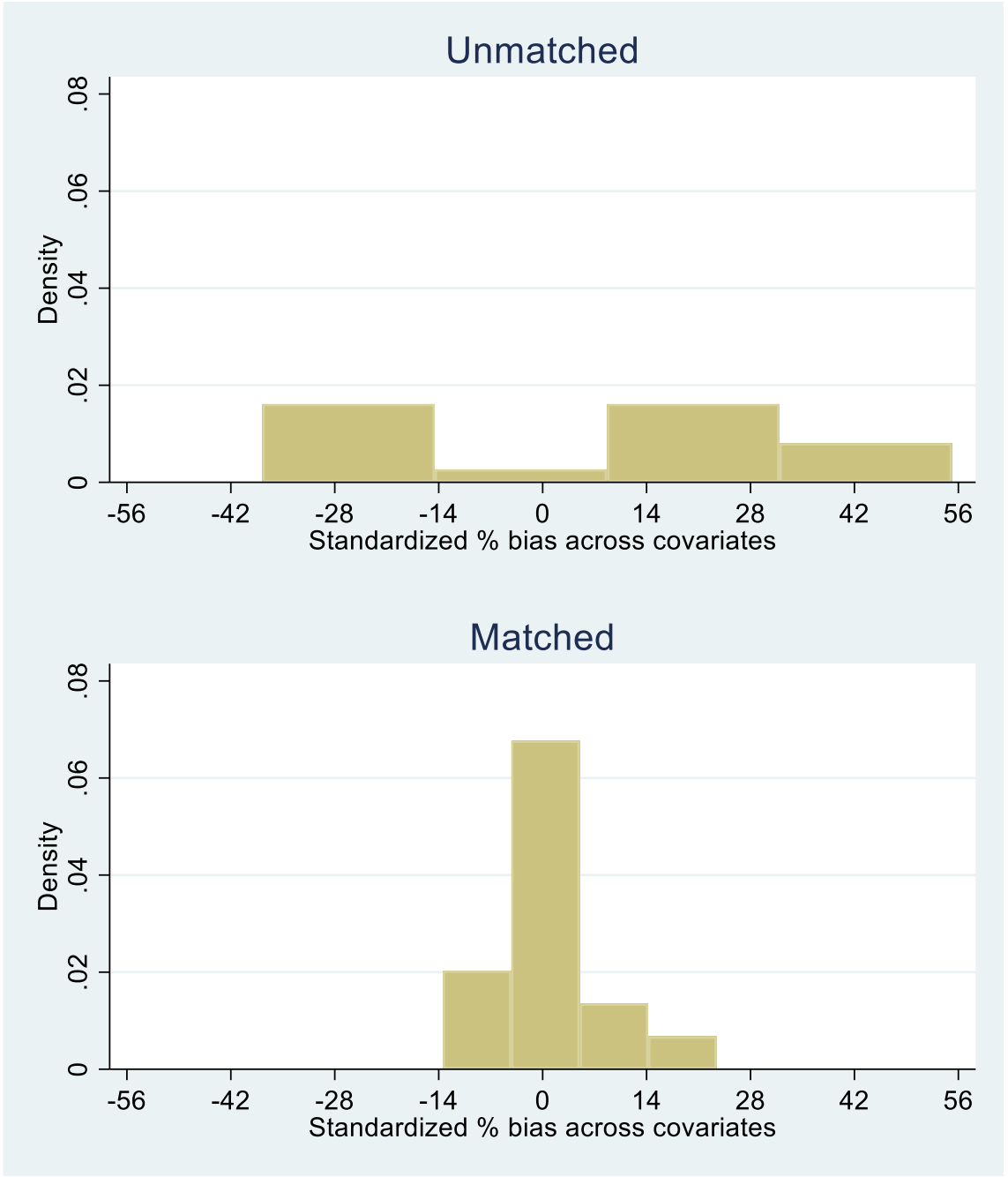
Covariates:

- Age
- Gender
- Education
- Marital status
- Living situation (reclassified as *Independent*, *With others*, and *Care/nursing home*)
- Smoking
- Number of conditions reported

and

- Core outcome variables at baseline

Graphical summary of covariate imbalance, showing the distribution of the standardised percentage bias across covariates – before and after the matching



Baseline comparison – after PSM

	Intervention	Control
Female (%)	50%	50%
Age	72	72
Low education	82%	84%
Middle education	15%	13%
Married	61%	58%
Widower	26%	35%
Living with partner/children	86%	79%
Living in care/nursing home	0.5%	3%
Multimorbidity (No of conditions)	24%	21%

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Core set of outcomes - Results after 1 month

Outcome	Scale	Estimated treatment effect, 95% CI
Physical functioning^	0-15	0.30 (-0.88, 1.37)
Psychological well-being	0-100	-0.59 (-5.61, 3.56)
Social relationships and participation^	0-28	0.04 (-1.23, 1.27)
Life satisfaction	1-5	-0.05 (-0.35, 0.23)
Resilience	6-30	-0.22 (-1.58, 1.16)
Person-centeredness	0-18	0.82 (-0.08, 1.55)
Continuity of care	1-5	0.06 (-0.07, 0.19)

^ = higher score indicates a worse performance

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Core set of outcomes - Results after 3 months

Outcome	Scale	Estimated treatment effect, 95% CI
Physical functioning^	0-15	-0.29 (-1.71, 1.24)
Psychological well-being	0-100	3.90 (-2.86, 9.34)
Social relationships and participation^	0-28	-0.97 (-2.45, 0.61)
Life satisfaction	1-5	-0.05 (-0.35, 0.23)
Resilience	6-30	-0.11 (-1.47, 1.77)
Person-centeredness	0-18	**1.61 (0.54, 2.64)**
Continuity of care	1-5	0.21 (-0.06, 0.39)

^ = higher score indicates a worse performance

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Programme specific outcomes - Results after 1 month and 3 months

Outcome	Estimated treatment effect after **1 month**, 95% CI	Estimated treatment effect after **3 months**, 95% CI
Physical functioning	-1.80 (-8.35, 6.75)	3.11 (-6.43, 13.33)
Emotional functioning	2.35 (-4.49, 8.89)	6.84 (-0.83, 13.64)
Fatigue	3.84 (-2.35, 9.80)	1.00 (-7.43, 11.18)
Pain	**-8.35 (-14.63, -0.07)**	-9.21 (-16.27, 1.45)
Quality of life	3.49 (-2.80, 8.39)	**7.04 (0.47, 17.53)**
Nausea and vomiting	2.87 (-2.00, 10.54)	-1.61 (-7.32, 4.42)
Dyspnoea	-2.24 (-9.76, 6.51)	-7.43 (-18.24, 1.59)
Insomnia	1.09 (-5.45, 8.91)	-0.86 (-9.50, 7.75)
Appetite loss	4.77 (-2.87, 11.77)	-3.89 (-11.76, 6.47)
Constipation	4.29 (-2.80, 10.97)	-5.57 (-13.85, 4.51)

Programme specific outcomes - Results after 1 month and 3 months

Outcome	Estimated treatment effect after **1 month**, 95% CI	Estimated treatment effect after **3 months**, 95% CI
Compassionate care	2.86 (-0.83, 7.29)	4.68 (-0.16, 10.30)
Alive after 3 months	NA	-0.05 (-0.17, 0.06)
Preferred place of death		
At home	NA	0.033 (-0.03, 0.13)
Home for elderly	NA	**-0.07 (-0.11, -0.03)**
Other	NA	0.04 (-0.05, 0.11)
Preferred vs actual place of death	NA	**0.23 (0.04, 0.47)**

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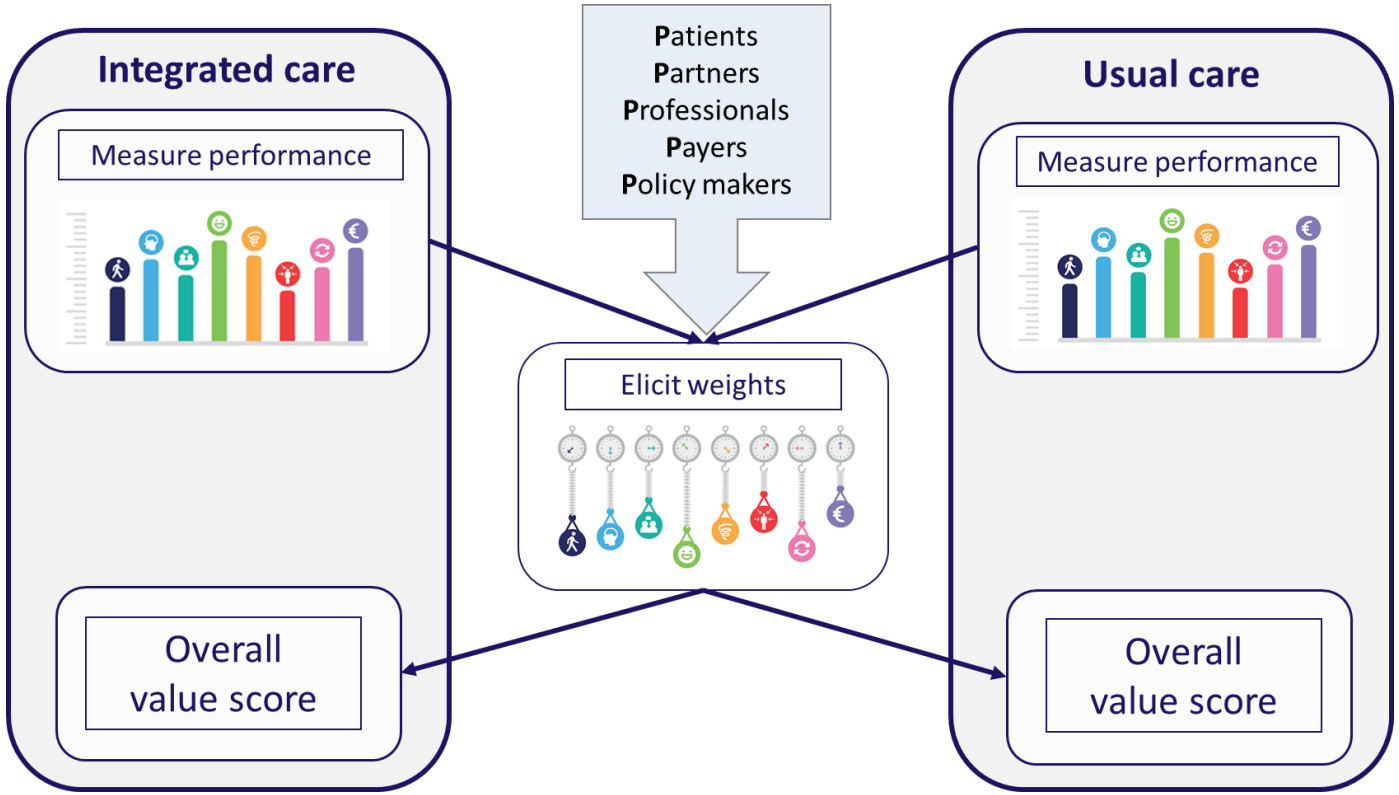
MCDA



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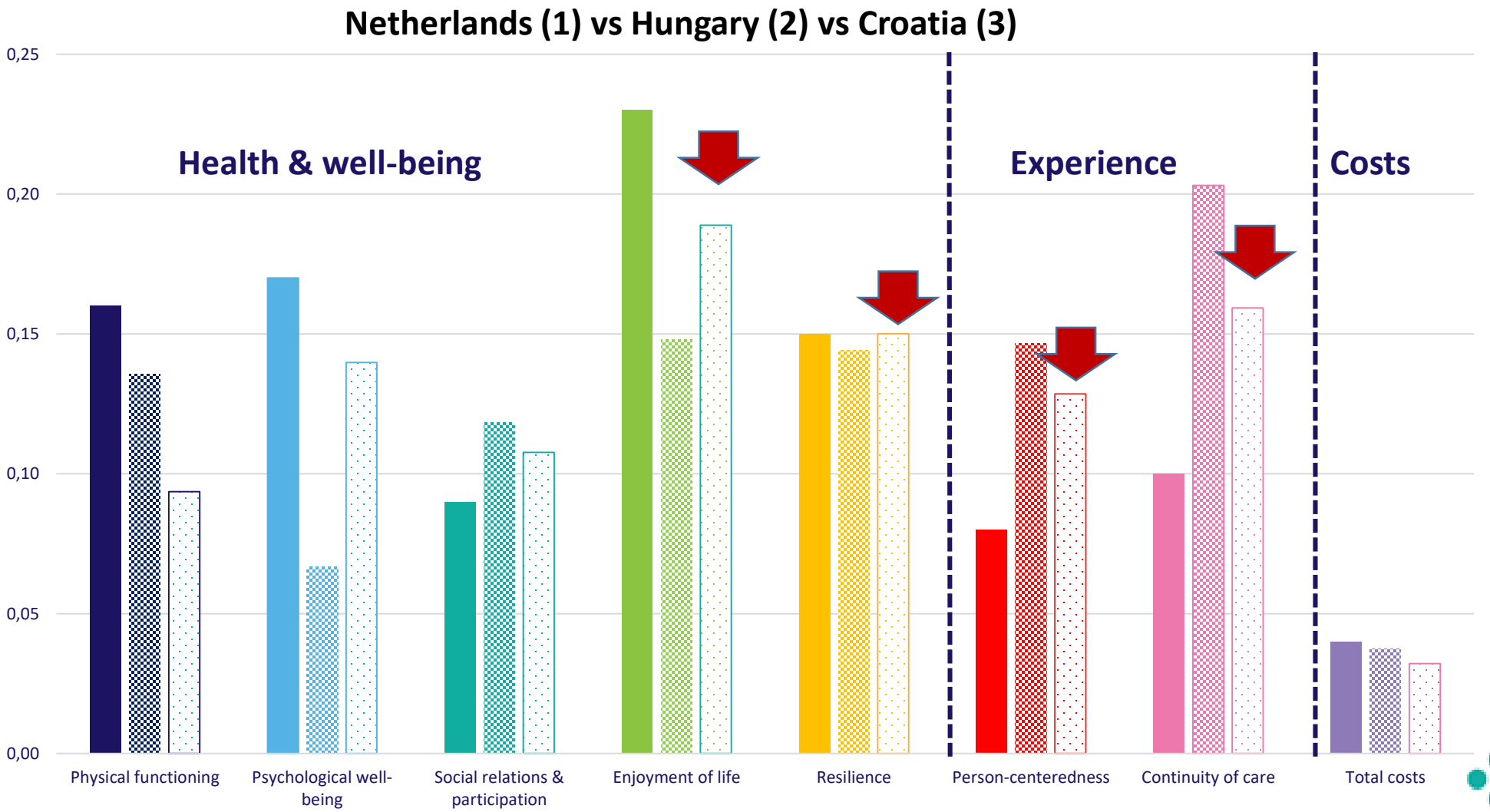
Weight elicitation results - Croatia

→ Relative weights of outcomes used in MCDA (Patients and Partners)

Relative weights (0-1)	Patients	Partners
Physical functioning	0.09	0.08
Psychological well-being	0.14	0.14
Social participation & relationships	0.11	0.10
Enjoyment of life	0.19	0.19
Resilience	0.15	0.12
Person-centeredness	0.13	0.14
Continuity of care	0.16	0.19
Total costs	0.03	0.04

Relative DCE weights for patients: NL vs HU vs HR



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MCDA overall value table at 1 month (Patients/Partners)

	Standardised performance score		Patients/Partners Weighted score	
	IC	UC	IC	UC
Health & well-being				
Physical functioning	0.73	0.69	0.07/0.06	0.07/0.06
Psychological well-being	0.70	0.72	0.10/0.10	0.10/0.10
Social relationships and participation	0.71	0.71	0.08/0.07	0.08/0.07
Life satisfaction	0.71	0.71	0.14/0.14	0.14/0.14
Resilience	0.71	0.71	0.11/0.09	0.11/0.09
Experience with care				
Person-centeredness	0.73	0.68	0.10/0.11	0.09/0.10
Continuity of care	0.71	0.70	0.12/0.14	0.12/0.14
Overall value scores			**0.71/0.70**	**0.71/0.70**

Relative standardisation is used to standardise the outcomes on a scale from 0-1

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MCDA overall value table at 3 months (Patients/Partners)

	Standardised performance score		Patients/Partners Weighted score	
	IC	UC	IC	UC
Health & well-being				
Physical functioning	0.74	0.67	0.07/0.06	0.06/0.06
Psychological well-being	0.72	0.70	0.10/0.10	0.10/0.10
Social relationships and participation	0.73	0.68	0.08/0.07	0.07/0.07
Life satisfaction	0.70	0.72	0.13/0.13	0.14/0.14
Resilience	0.70	0.71	0.11/0.08	0.11/0.08
Experience with care				
Person-centeredness	0.75	0.66	0.10/0.11	0.08/0.10
Continuity of care	0.73	0.69	0.12/0.14	0.11/0.13
Costs	0.74	0.63	0.02/0.03	0.02/0.03
Overall value scores			**0.72/0.72**	**0.69/0.69**

Relative standardisation is used to standardise the outcomes on a scale from 0-1

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Costs (drugs, med. devices, hospitalisation - acute and chronic) at 3 months in EUR

Group	Exposed	Control	Diff.
Drugs	44.635,99	42.248,22	2.387,77
Medical devices	30.805,53	23.642,04	7.163,49
Acute Hospitalisation	164.396,09	134.803,08	29.593,01
Chronic Hospitalisation	11.652,43	51.947,73	**-40.295,3**
Total costs	**251.490,03**	**252.641,07**	**-1.151,04**

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Discussion

- **Exposed group scores a higher overall value** for **two stakeholder groups** (**Patients** and **Partners**) at 3 months
- Differences are mainly **caused by Person-centeredness** and **Continuity of care**
- Demonstration of application of **MCDA to combine various outcomes**
- **Exposed (MMSPCT**) group - **Costs saving in relation to chronic hospitalisation**
- **Analysis still ongoing** (95% CI around the overall value score; MCDA with weights for the other 3P's…)

- **Limitations: short period of follow-up**

Noticed problem in Palliative care in Croatia

Palliative patients are **still refered rather late to MMSPCT → finding of the solution**

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Thanks for your attention!

Questions?

Acknowledgements

Department for Development, Research and HTA, Agency for Quality and Accreditation in Health Care and Social Welfare (on 01/01/2019 merged with MoH), Zagreb, Croatia conducted this primary research in collaboration with relevant **partners on counties level** (**City of Zagreb**, **Istria**, **Primorje-Gorski Kotar**, **Karlovac**, **Koprivnica-Križevci**, and **Zagreb Counties**), **Ministry of Health**, **Ministry of Demography, Family, Youth and Social Policy**, and **Croatian Health Insurance Fund**.

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MCDA case study: Salford Together Programme

Jonathan Stokes

(on behalf of UNIMAN)

SELFIE Final conference, 13th of June

https://www.selfie2020.eu/

Outline

- The Salford Together programme
- Analysis approach
- Outcomes
- UK Weights
- Results
- Discussion

The Salford Together programme

- Population health management programme (~250,000)
  - Initially over 65, later expanded to all adults
- Organisational changes – Integrated Care Organisation; Integrated medical record; Pooled health and social care funding

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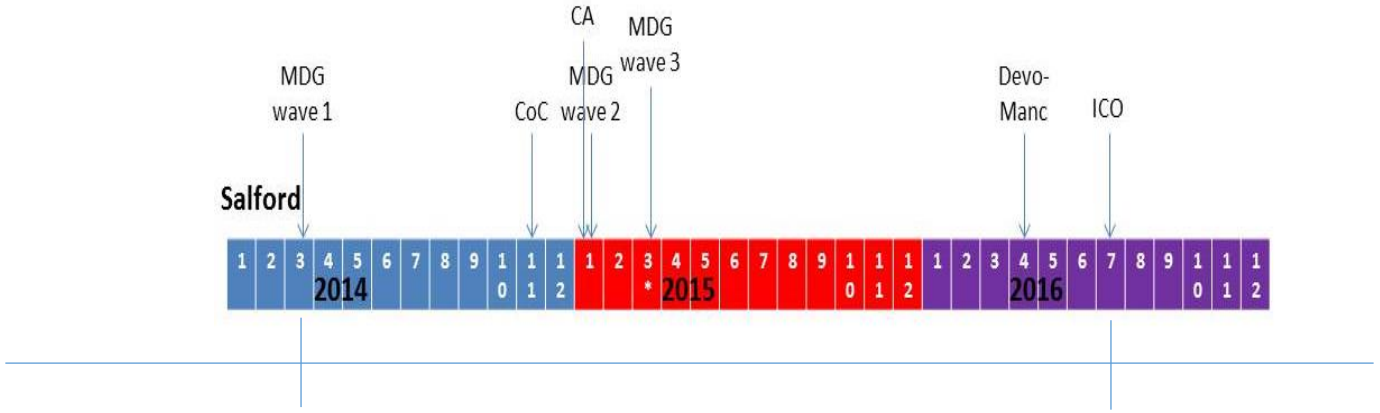
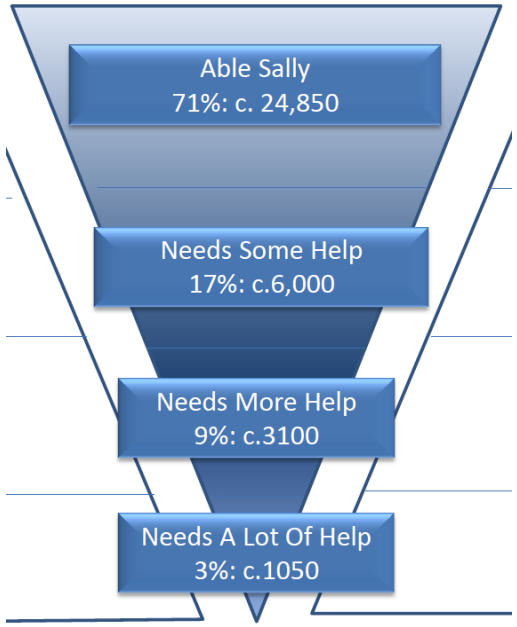
The Salford Together programme

- Three overarching interventions
  - MDT case management of the highest-risk patients by neighbourhood groups
  - Centre of contact – a centralised telephone hub to help with navigating services and self-management (via health coaching)
  - Community assets – investment in community resources to promote social interaction and active lifestyle later in life



Pre-period

Service delivery changes



Service delivery + Organisational changes

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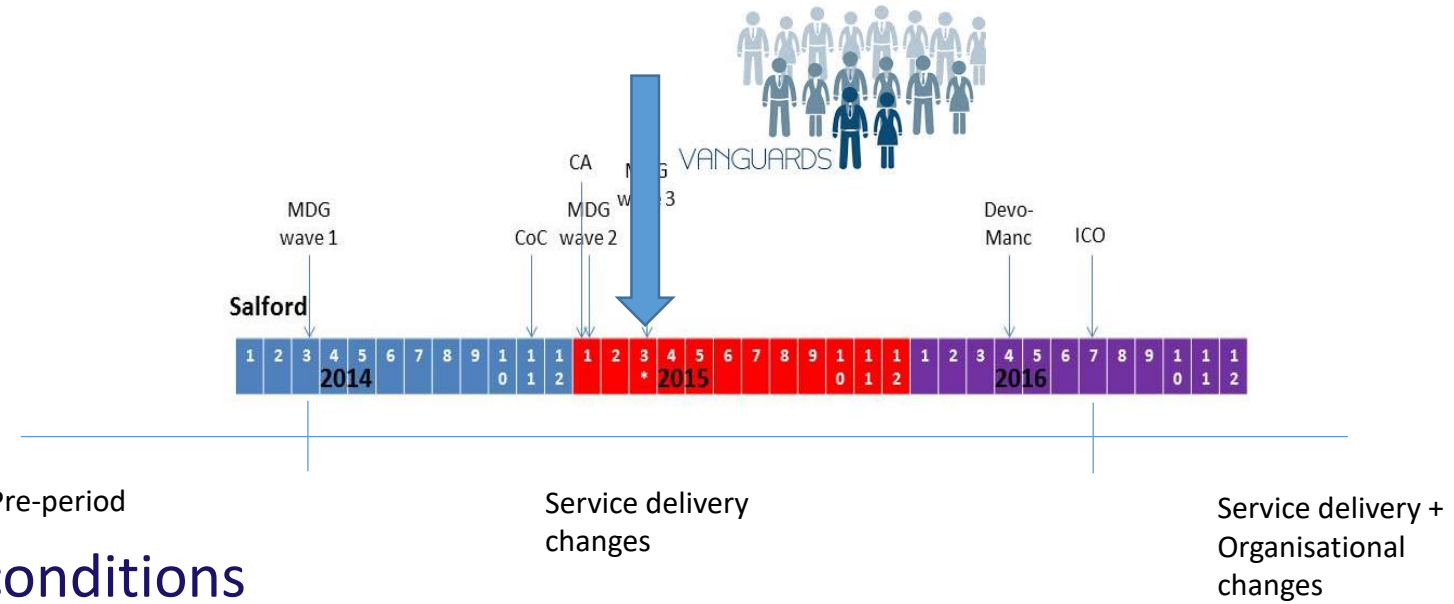
Analysis approach

- Choose ‘start date’
  - NHS Vanguard, + ~£5m per year
- Choose ‘population’
  - Multimorbid, 2 or more chronic conditions
  - More likelihood of being directly ‘treated’
  - But, in any case, trying to change population-level outcomes
- Difference-in-difference + IPW/ LDV approach (robust statistical techniques)
  - Compare to ‘rest of England’ control, before (from 2012-2015) and after (2015-mid-2017)



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Outcomes

- Population-level analysis, rely on readily available datasets
  - GP Patient Survey (survey, 2 million randomly selected from all GP practices England)
  - Hospital Episode Statistics (all hospital contacts with NHS)
  - (CLASSIC dataset, cohort of 3000 patients over 65 in Salford – no control group)

Outcome	Dataset
Physical functioning	GPPS
Psychological well-being	GPPS
Enjoyment of life	CLASSIC
Social relationships and participation	CLASSIC
Resilience	GPPS
Person-centeredness	GPPS
Continuity of care	GPPS
Total secondary care costs	HES

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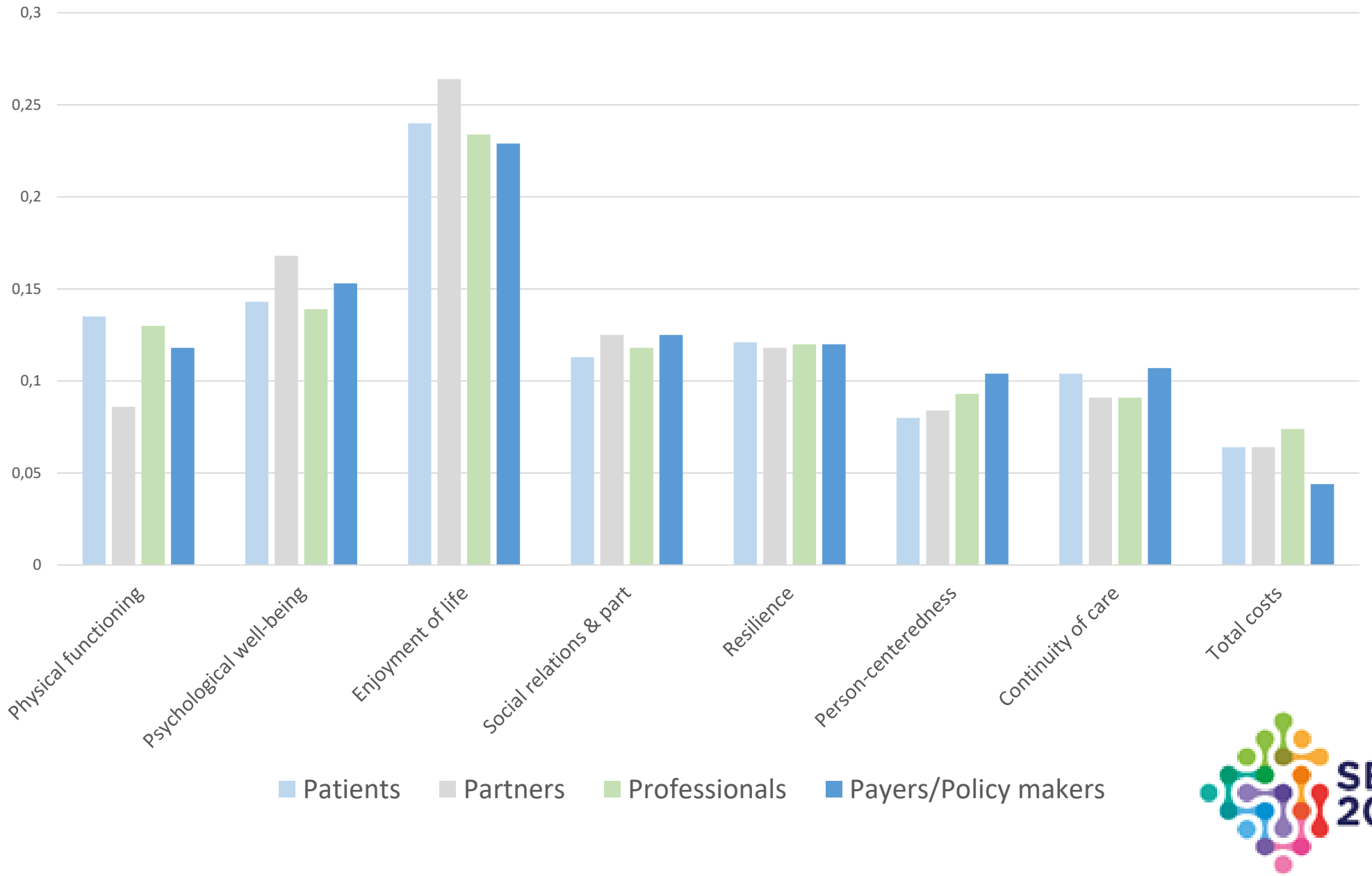
UK Weights



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(Preliminary) Results

Core outcomes	Scale	Estimated effect of the program	Confidence interval
Health/Well-being			
Physical functioning	1-15	0.006	[-0.114 ; 0.126]
Psychological well-being	1-5	0.019	[-0.024 ; 0.063]
Enjoyment of life	1-5	-0.047	[-0.110 ; 0.014]
Social relationships and participation	0-13	**0.339****	[0.148 ; 0.530]
Resilience	1-9	0.03	[-0.041 ; 0.100]
Experience of care			
Person-centeredness	1-27	0.046	[-0.190 ; 0.282]
Continuity of care	1-5	0.012	[-0.063 ; 0.088]
Costs			
Total secondary care costs #	-	-1.312	[-3.124; 0.502]

**=p<0.05; #=estimate to be updated before final report, currently 1 year post

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Results

	Standardised performance score		Patients		Partners		Professionals		Payers/ Policy makers	
			Weighted score		Weighted score		Weighted score		Weighted score	
	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control
Health & well-being										
Physical functioning	0.709	0.705	0.096	0.095	0.061	0.061	0.092	0.092	0.084	0.083
Psychological well-being	0.709	0.705	0.102	0.101	0.118	0.118	0.099	0.098	0.109	0.108
Enjoyment of life	0.702	0.712	0.168	0.171	0.186	0.189	0.164	0.166	0.161	0.164
Social relationships & participation	0.785	0.619	0.089	0.070	0.097	0.077	0.093	0.073	0.098	0.077
Resilience	0.709	0.705	0.086	0.085	0.084	0.083	0.085	0.085	0.086	0.085
Experience with care										
Person-centeredness	0.708	0.706	0.057	0.057	0.059	0.059	0.066	0.066	0.073	0.073
Continuity of care	0.708	0.706	0.074	0.073	0.064	0.064	0.064	0.064	0.076	0.076
Costs										
Total costs #	0.733	0.680	0.047	0.044	0.047	0.044	0.056	0.052	0.032	0.029
Overall value scores			**0.718**	0.696	**0.717**	0.694	**0.718**	0.695	**0.718**	0.695

#=estimate to be updated before final report, currently 1 year post. Inverted, higher score = better performance.

Discussion - Limitations

- Capturing effects on those directly ‘treated’?
  - Population health management
- Treating as too much of a black box?
  - (Separate analysis, we look at specific intervention effects; MDGs in Salford)
- Outcome measures close enough to conceptual?
  - e.g. ‘continuity of care’ measures how often the patient speaks to or sees their preferred GP; ‘resilience’ captures activities of daily living and confidence in managing own care
- Sensitivity analysis
  - Drop and re-weight outcomes that are less in line with conceptual/ CLASSIC
  - Re-run on MM 3+ patients
  - Estimate uncertainty on overall value score

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Discussion

- Social relationships outcome good indication for longer-term?
  - "Participation in community assets is associated with substantially higher HRQoL but is not associated with lower healthcare costs." (Munford et al., 2017)
  - (caution: simple, before-after analysis on CLASSIC data)
- What effect do we expect in two years?
- Relative effects of service delivery interventions versus organisational changes?

> *"I think the model that we're putting in will help because it's facilitating the services to work differently in specific areas. But the real efficiencies...so that's a different way of working, but the efficiencies have to come through the integrated care organisation [ACO-type organisation], I believe"* (Salford interviewee)

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Discussion with the panel and the audience

SELFIE Final conference, 13th of June

Column by Prof. (em) Jan de Maeseneer

- Director at the International Centre for Primary Health Care and Family Medicine – Ghent University
- Family Physician at the Community Health Centre WGC Botermarkt

GHENT UNIVERSITY

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Policy maker
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International Foundation of Integrated Care and University of Oxford, United Kingdom

Patient representative
Martin Rathfelder
Manchester Health & Care Commissioning, United Kingdom

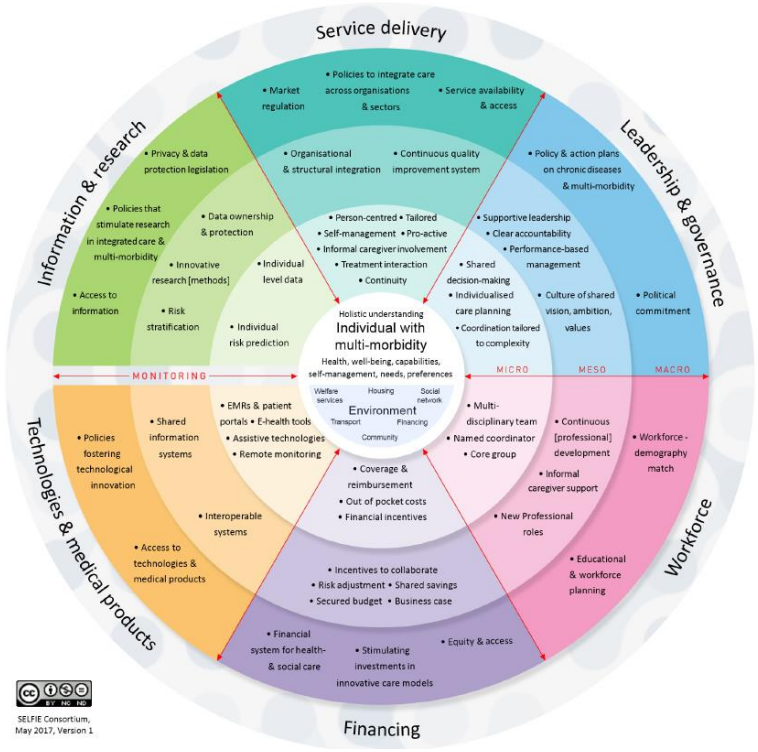
Primary care physician, scientist (em.)
Jan de Maeseneer
Department of Family Medicine and Primary Health Care, University of Gent, Belgium

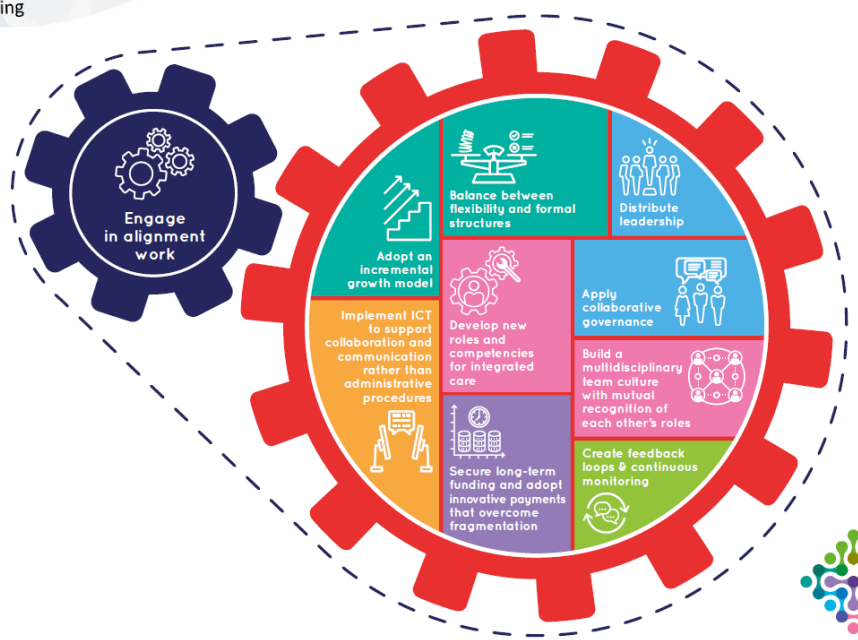
The future of integrated care: take home messages and policy recommendations

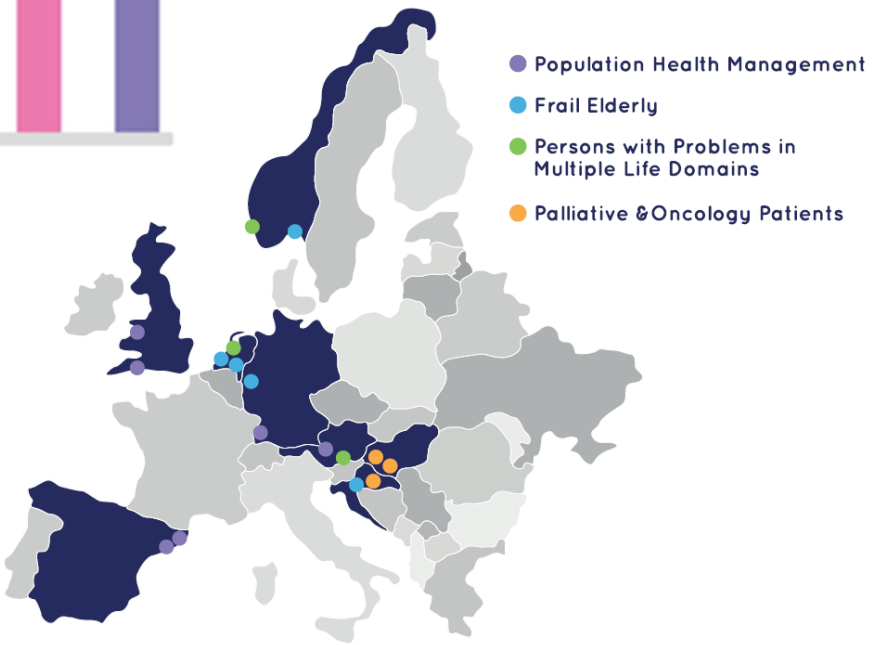
Reinhard Busse

SELFIE Final conference, 13th of June

A really full day …







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My reflections …

- Multi-morbidity is the most prevalent disease – a wonder why it has not received more attention for so long
- Multi-morbid people combine different needs – thus patient-centred, "integrated" and high performing care for them should therefore be seen as a litmus test for health systems
- Think globally (and be aware of frameworks and international evidence), but act locally (i.e. implement integrated care in a context-sensitive and target group-specific way)

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The litmus test: bundled payments for single diseases do not work for multimorbid patients – maybe they should be abandoned altogether?

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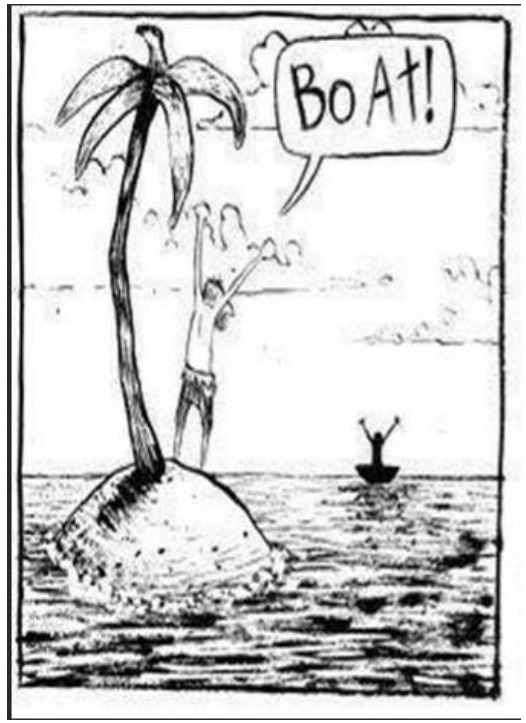
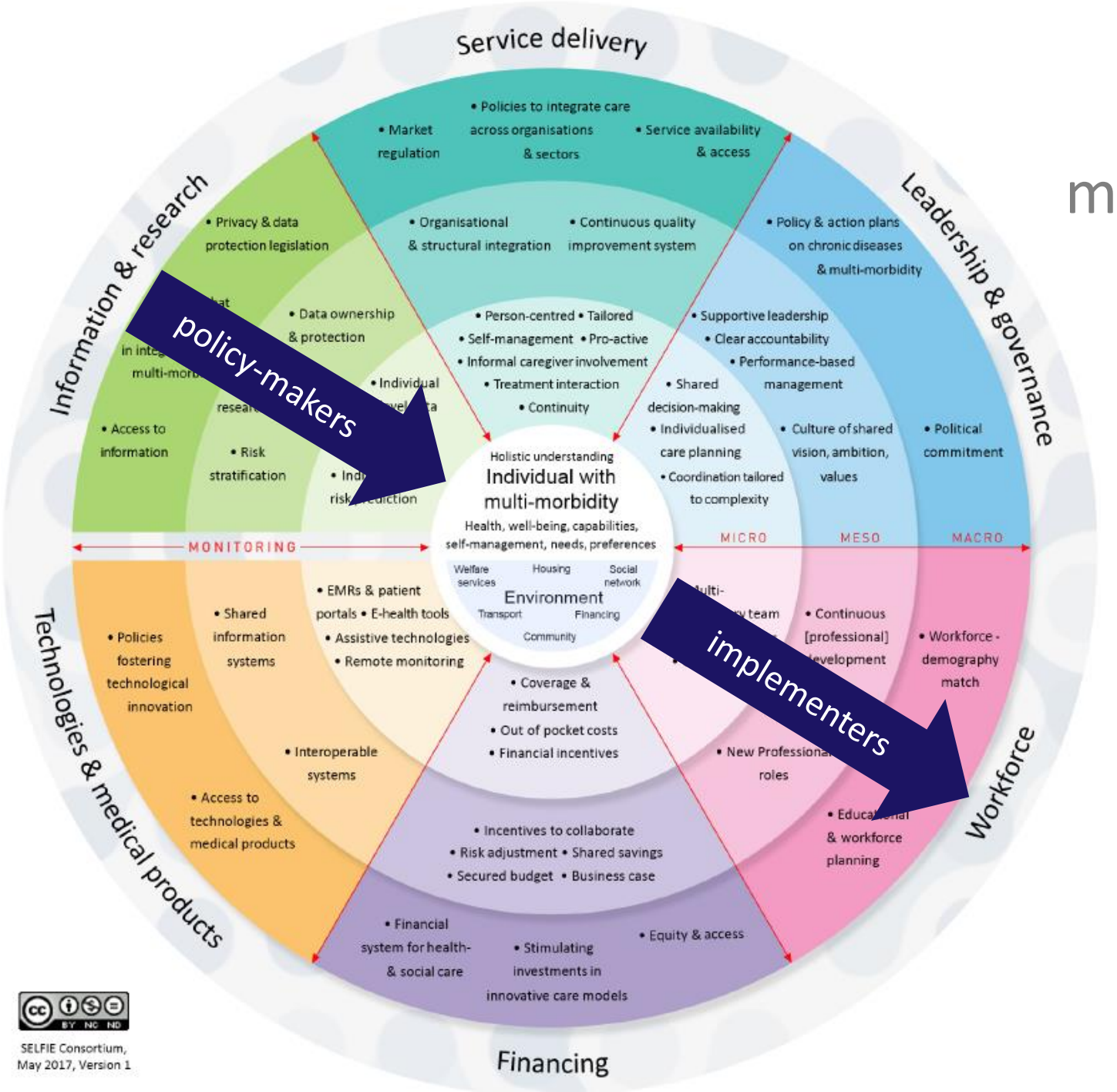


Acknowledge that realities may be different



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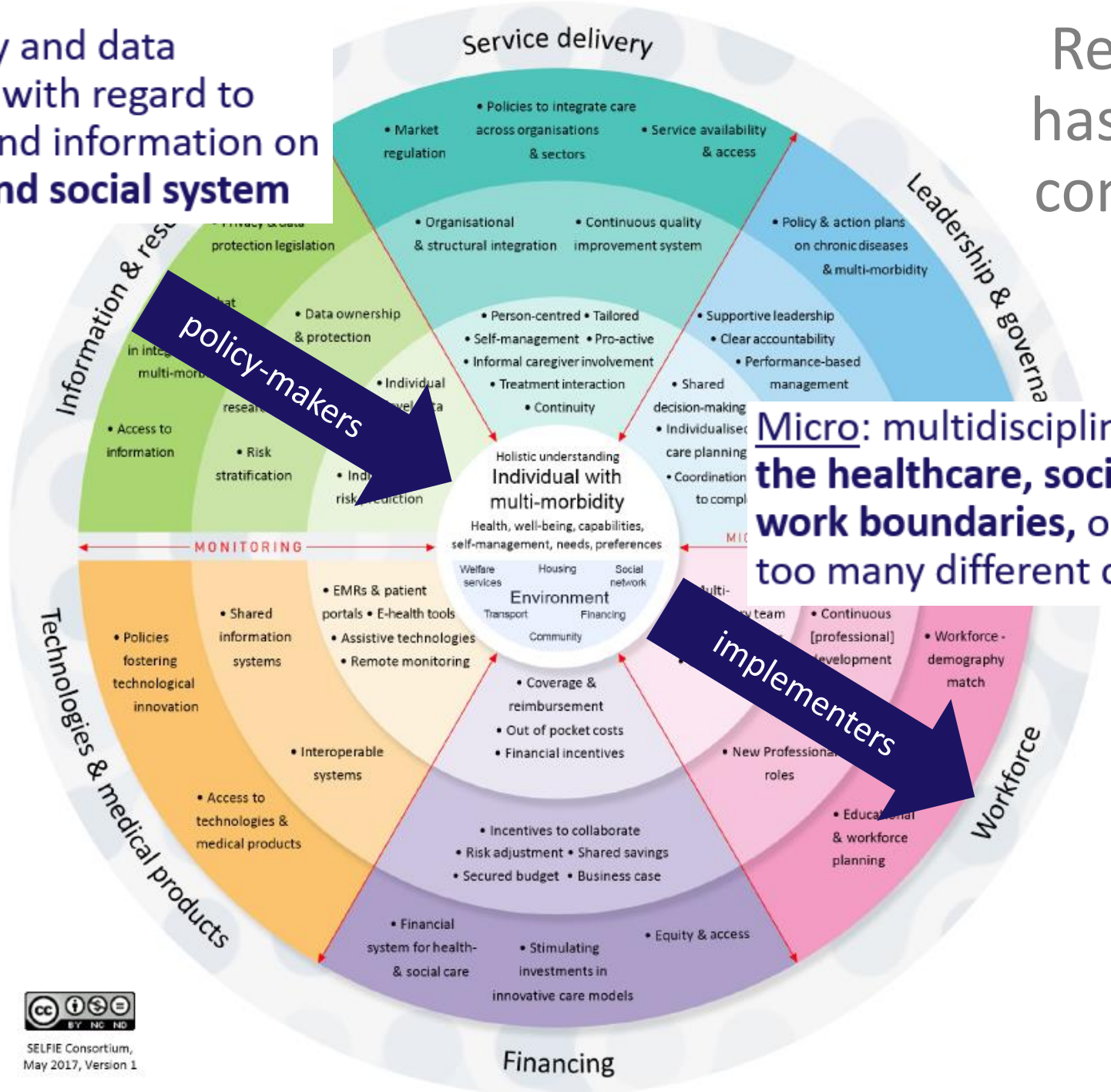
Macro: ensure privacy and data protection legislation with regard to information sharing and information on **navigating the care and social system**

Realise that each has another – but complementary – task



Micro: multidisciplinary team **that crosses the healthcare, social care, and volunteer work boundaries,** one contact person, not too many different carers, care coordinator

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But there are more target groups … and all have their role(s), often jointly

- Policy maker
- Payer
- Provider
- Professional
- Partner
- Patient

- Start-up funding
- Long-term contracts
  - Collaborative governance involving payers
- Payment models incentivizing integration

Leadership was distributed across different levels: national, regional, organisational and unit level.

Examples:
- Elected management board of programme
- Local champions within teams

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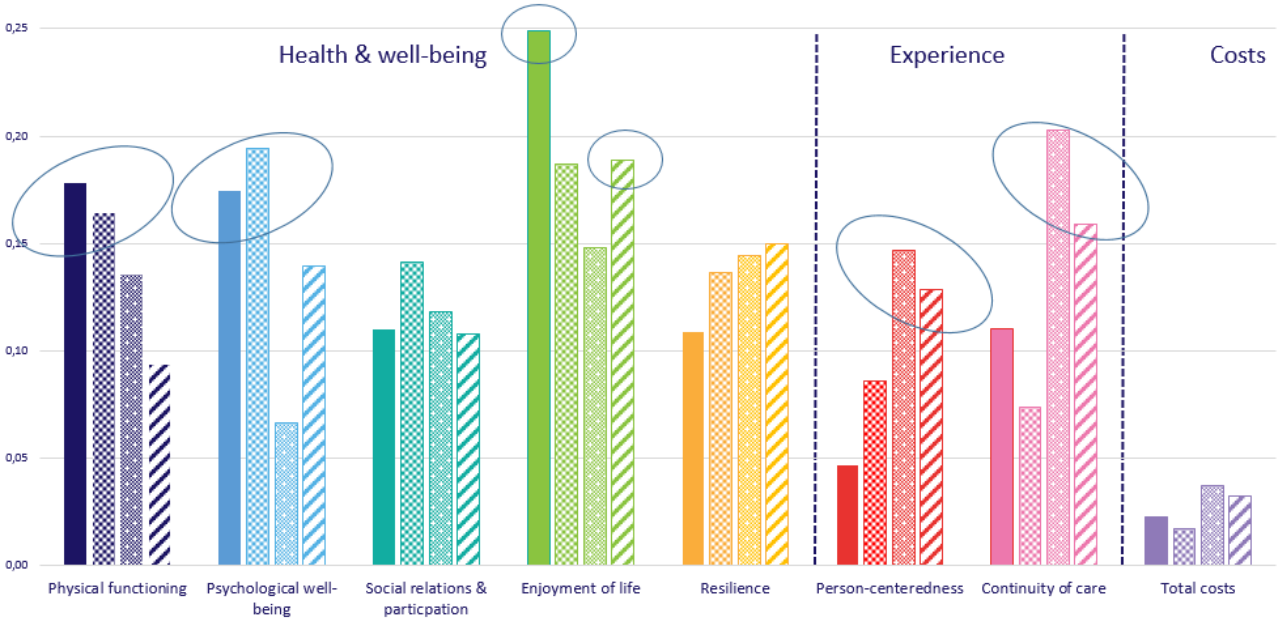
… while often having different priorities

Comparing relative DCE weights between stakeholders in Germany

Comparing relative DCE weights of Patients between countries



1st Norway, 2nd Spain, 3rd Hungary, 4th Croatia

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So what about the future?

- SELFIE 2020 was a good start, producing and providing lots of evidence
- Necessary to make different groups in various countries aware of it (but we know that dissemination is not enough) …

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Transferability guidance, step 1:

Could this model be started in my country?

dentify the reported barriers of implementation from the literature.

Survey local stakeholders about relative importance of barriers, and focus on the critical ones.

Organize a local multi-stakeholder workshop
- to discuss potential solutions for the critical barriers,
- to conclude on the feasibility of local implementation.

Publish your conclusions and rationale for knowledge sharing with other CEE countries / programs.

So what about the future?

- SELFIE 2020 was a good start, producing and providing lots of evidence
- Necessary to make different groups in various countries aware of it (but we know that dissemination is not enough) …
- and find cross-group consensus of priorities, policies, models and implementation modes
- Discuss implications for other population/ patient groups!

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