Evaluating an integrated care programme for frail elderly using Multi-Criteria Decision Analysis

The design of a case study in SELFIE

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Background

- Elderly are stimulated to live independently at home for as long as possible, with the support of primary care, home care providers, and informal caregivers

- Rising need for integrated care programmes for frail elderly

- Reimbursement decisions remain difficult → decision-makers require evidence on the effectiveness

- Methodological challenges in measuring (cost-)effectiveness

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Methodological challenges

- Complex interventions
- No randomizati n possible
- Multiple outcor mportant
- Target group: fra y
- Difficult to find a trol group

  - No randomization
  - Hard to identify elderly that are just as frail

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Aim

- To provide an innovative study design to evaluate an integrated care programme for frail elderly

- Case study: Care Chain Frail Elderly in Southeast Brabant

The CCFE aims to support frail elderly by delivering individualised, integrated care, so that elderly can live at home independently.

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Methods (1)

Multi-criteria decision analysis (MCDA)

- Method to aid decision-making that makes the impact that multiple criteria have on a decision, and their relative importance, explicit.
- Suited for complex interventions where multiple, sometimes conflicting, criteria play a role, such as integrated care
- **Goal**: to improve transparency, credibility, acceptability, and accountability of the decision-making process.

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Methods (2)

7 steps in MCDA:

1) Understanding the programme and decision context

2) Identify and structure outcomes

3) Determine the ***performance*** on outcomes

4) Determine the ***weights*** of the outcomes

5) Create an overall value score

6) Perform sensitivity analyses

7) Interpret results

Step 1: Understanding the programme and decision context (1 – theory)

- Understand the intervention – in theory and in practice
  - Method: Thick description

- Results:
  - Extensive description of the intervention and the macro level context;
  - Results inform the study design;
  - Stakeholders identified relevant to decision making;
  - Decisions are related to reimbursement, continuation, and/or wider implementation.

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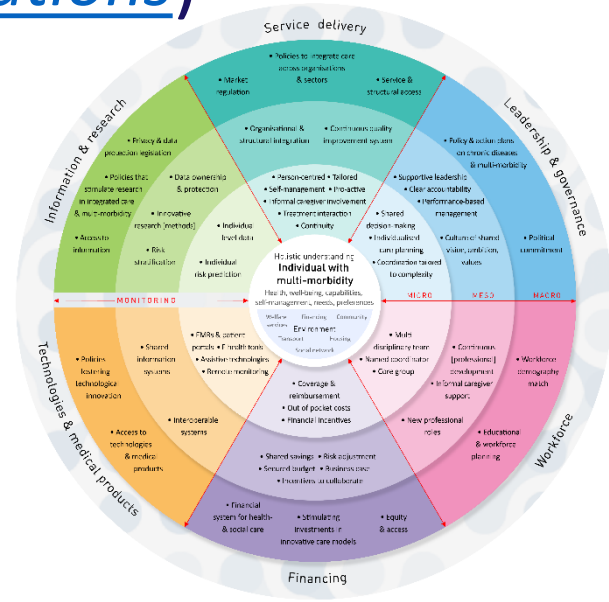
Step 1: Understanding the programme and decision context (2 – case study)

- Thick description report (*see: www.selfie2020.eu/publications*)
  - Macro level description
  - Document analyses and interviews with stakeholders



- Example theory vs. practice:
  - Patient present at multidisciplinary team meeting

- Example understanding decisions regarding sustainability:
  - Discussions continuation + wider implementation financing: bundled payment

Care Chain Frail Elderly – care process

Main focus areas:

- Community network
- Transfer care
- Advanced care planning
- Polypharmacy

Case finding

By 'primary care core group' (GP, nurse practitioner elderly care, district nurse) that meet every 4-6 weeks

Holistic assessment

Nurse practitioner elderly care visits frail elderly at home to make an inventory of problems, existing care and personal goals which results in a draft individualised care plan

Multidisciplinary team meeting

With GP, nurse practitioner elderly care, elderly care physician, other relevant professionals, patient, informal caregiver to discuss individualised care plan

Care coordination

By nurse practitioner elderly care, organises multidisciplinary team meetings, maintains individualised care plan

Case management

By either nurse practitioner elderly care, district nurse, or case worker dementia; provides tailored and integrated care, monitors, provides support

Step 2: Identify and structure outcomes

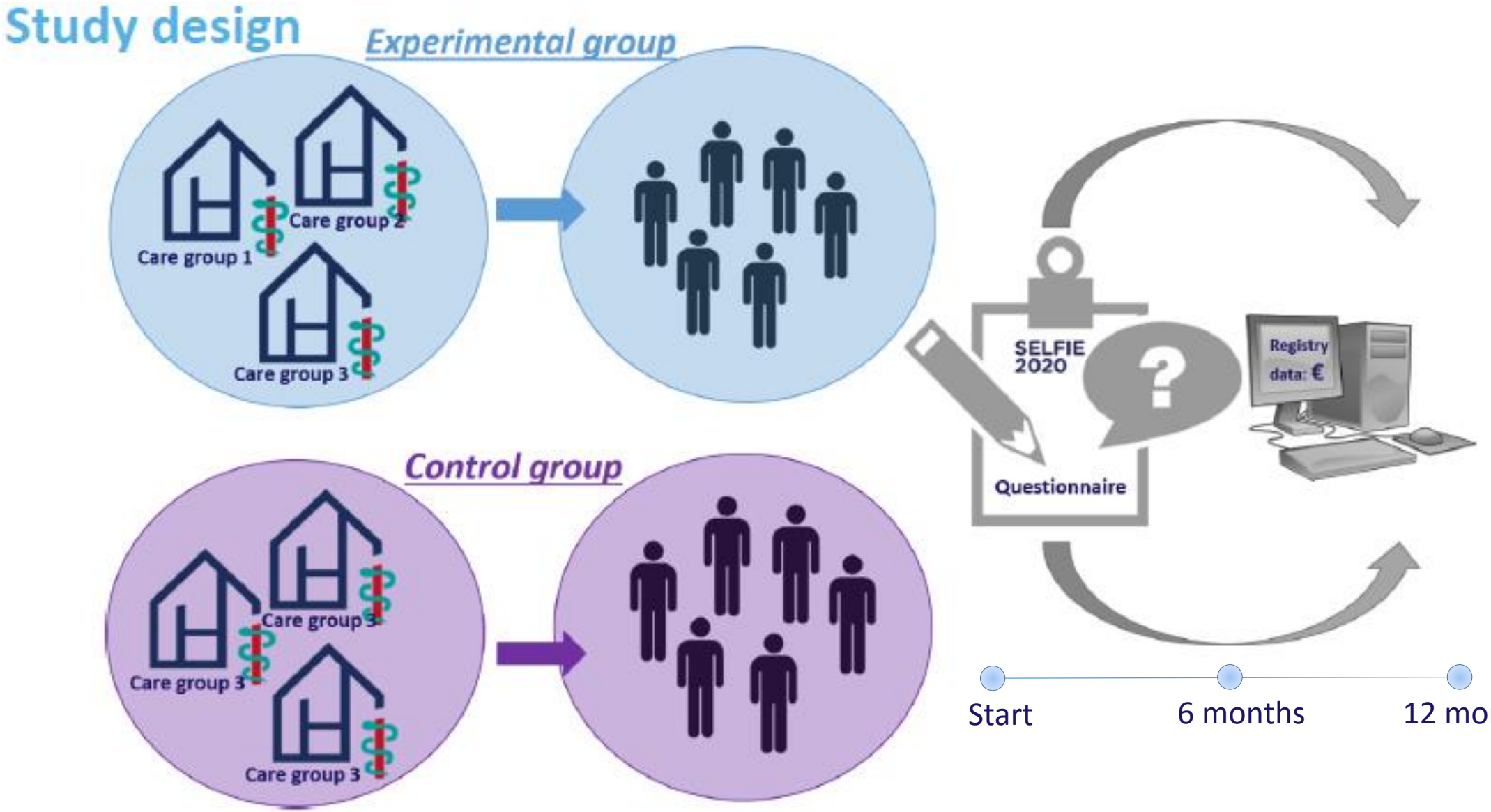
Triple aim	Outcomes
	Core set
Health & well-being	Physical functioning Psychological well-being Social relations & participation Enjoyment of life Resilience
Experience	Person-centeredness Continuity of care
Costs	Total health- and social care costs

Step 3: Determine the *performance* on the outcomes (1)

- Quasi-experimental studies with intervention + control group

- Outcomes measured with SELFIE questionnaire

Step 3: Determine the *performance* on the outcomes (2)



Step 3: Baseline results

		Intervention (n=228)	Control (n=143)	P-value
Female	*N (%)*	143 (62.7%)	91 (63.6%)	.859
Age	*Mean (SD)*	84 (6.3)	85 (5.7)	.098
	Min-Max	67-98	71-100	
Method of administering				.577
Telephone	*N (%)*	14 (6.1 %)	11 (7.7%)	
Home visit	*N (%)*	212 (93.0%)	132 (92.3%)	
On paper	*N (%)*	2 (0.9%)	-	
Marital status				.729
Singe (never married)	*N (%)*	9 (3.9%)	6 (4.2%)	
Married / Long-term rel.	*N (%)*	100 (43.9%)	63 (44.1%)	
Widow / widower	*N (%)*	103 (45.2%)	68 (47.6%)	
Divorced	*N (%)*	16 (7.0%)	6 (4.2%)	
Living situation				.655
Independent, alone	*N (%)*	116 (51.1%)	79 (55.2%)	
With others (partner, children)	*N (%)*	102 (44.9%)	61 (42.7%)	
(Residential) Care home	*N (%)*	8 (3.5%)	3 (2.1%)	
Nursing home	*N (%)*	1 (0.4%)	-	
Education				.778
Low	*N (%)*	159 (69.7%)	104 (72.7%)	
Medium	*N (%)*	47 (20.6%)	19 (13.3%)	
High	*N (%)*	22 (9.6%)	20 (14%)	
Smoking				.184
Current smoker	*N (%)*	33 (14.5%)	12 (8.4%)	
Ex-smoker	*N (%)*	112 (49.1%)	71 (49.7%)	
Never smoker	*N (%)*	83 (36.4%)	60 (42.0%)	

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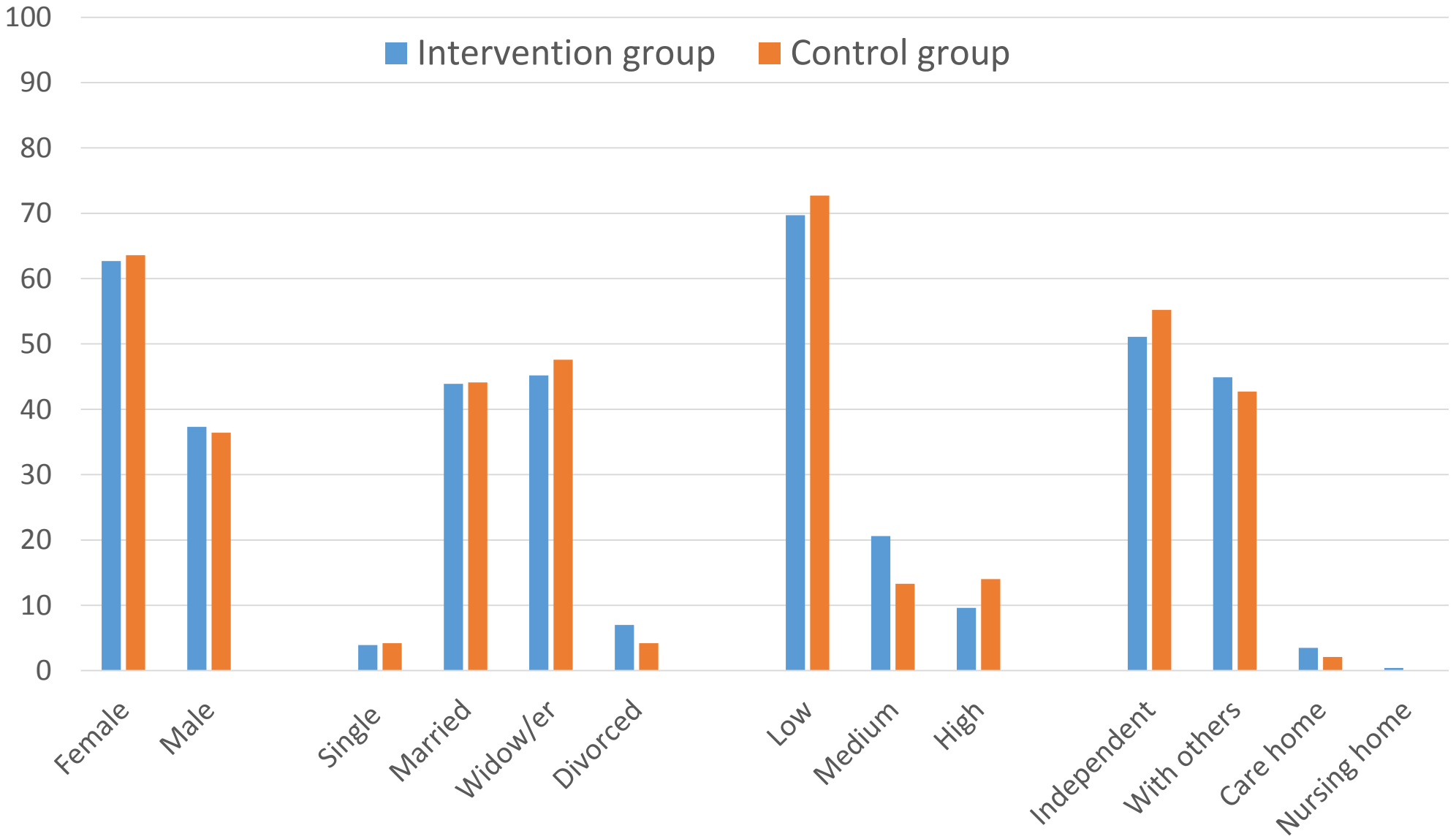
Step 3: Baseline results



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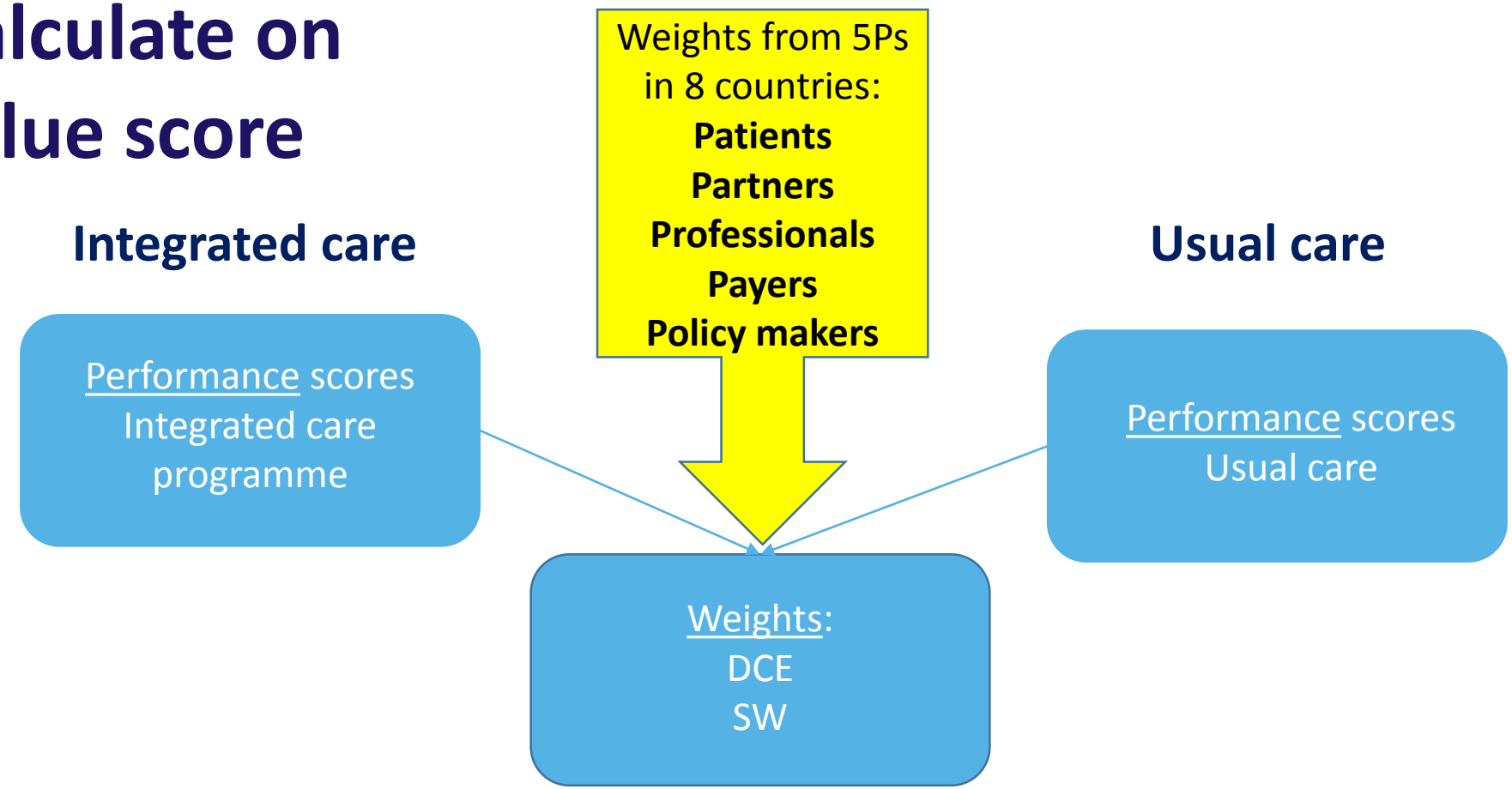
Step 4: Determine the *weights* of the outcomes

- Discrete Choice Experiments and Swing Weighting
- Sets of weights for the core set:
  - Each of the 8 SELFIE countries
  - Each 5P stakeholder group (patients, partners, professionals, payers, policy makers)
- Weight-sets can be compared between stakeholder types and countries/regions
- **Weights will be included in an online MCDA-tool → can be used in future evaluations!**

Step 5: Calculate on overall value score



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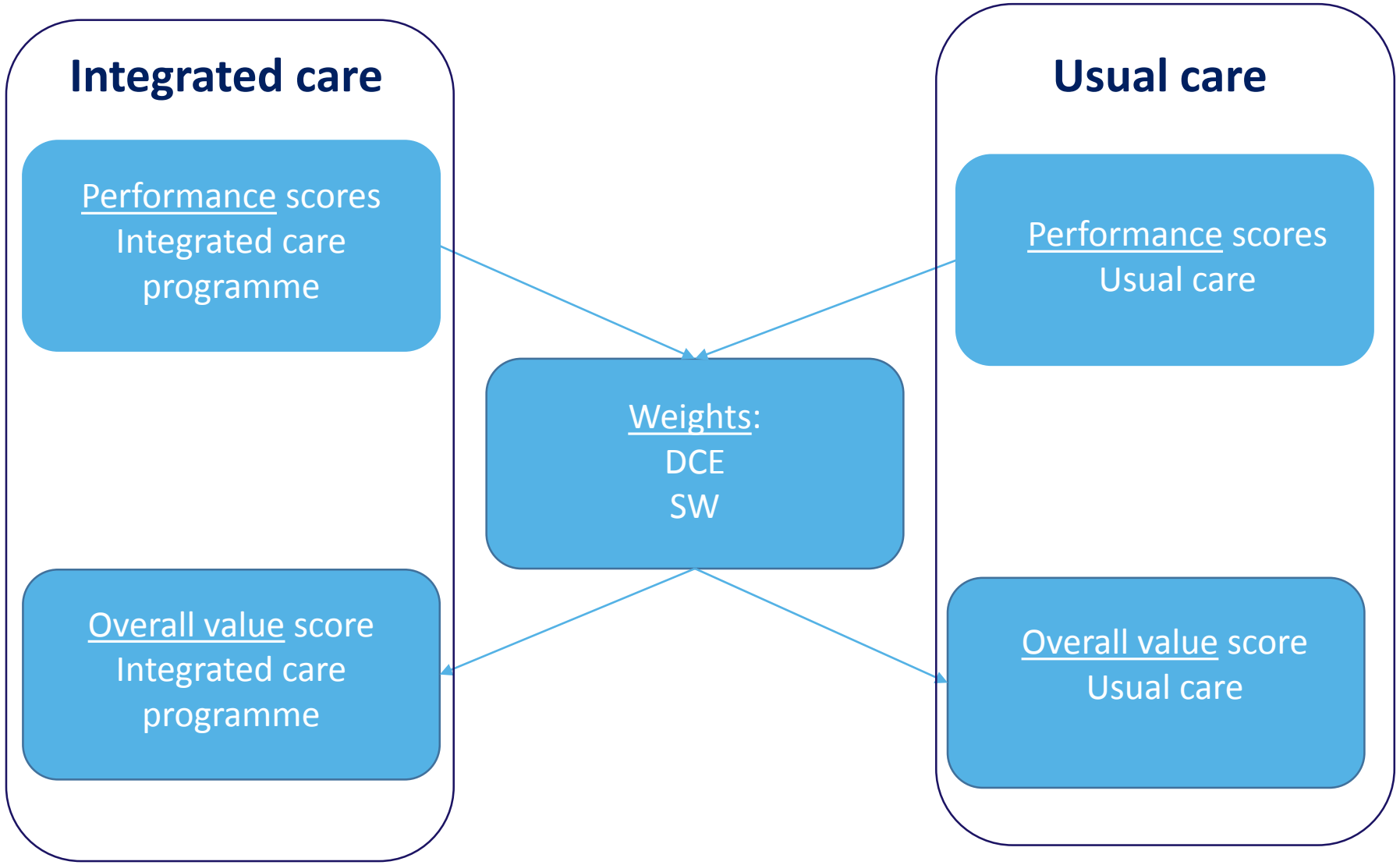

Step 6+7: Sensitivity analyses and interpreting results

Future steps

- Sensitivity analyses to address uncertainty

- Interpretation of results in national stakeholder workshops:
  - Differences between perspectives
  - Impact of relative importance of outcomes

Conclusion

- MCDA is a feasible method to evaluate integrated care programmes for frail elderly;

- MCDA contributes to evidence-informed deliberate decision-making. It improves transparency, consistency and accountability of decisions.

- *Paper MCDA methodology underway*

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Thanks for your attention!

Questions?

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