



Work package 6, task 2:
Review existing care (pathway)
approaches for multi-morbidity patients

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Three activities:

1. write a **review paper** of international literature describing (the effectiveness of) care programmes for people with multi-morbidity
2. **extra data** collection and analysis within the **ICARE4EU** project
3. collect information about current care programmes / practices targeting people with multi-morbidity from **other European projects** (traced by CHRODIS WP6 partners)



Activity 1:

Review paper of international literature describing (the effectiveness of) care programmes for people with multi-morbidity

Review paper: *Authors*

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Simone de Bruin (*National Institute for Public Health and the Environment, Netherlands*)

Giuseppe Tonnara (*Catholic University of the Sacred Heart, Italy*)

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Review paper: *Previous review (2012)*

Health Policy 107 (2012) 108–145

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Review

Comprehensive care programs for patients with multiple chronic conditions: A systematic literature review

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- January 1995 - January 2011
- 33 studies (4 European) → 28 CC programs
- Great heterogeneity of CC programs
- Therefore too early to draw firm conclusions regarding effectiveness

Review paper: *Methods*

Study design and search strategy

- Systematic literature search in multiple electronic databases for English language papers
- Published between January 2011 and March 2014
- Keywords:
 - case management, comprehensive healthcare, critical pathways, disease management, continuity of patient care, patient care management, planning or team, patient-centered care, delivery of integrated healthcare, guided care, integrated care, managed care (programs), shared care, transmural care and variations of the keywords chronic disease, chronic illness, co-morbidity, frailty, multimorbidity, multiple chronic conditions, and specific chronic conditions.
 - Combined with variations of the following search terms: benefits, effects, effectiveness, efficacy, impact, outcomes, and specific (health) outcomes

Review paper: *Methods*

Study selection

- Four reviewers (PH, GT, CRB, JF) → titles and abstracts
 - When considered relevant → full text paper
- Papers were eligible if:
 1. The program described in the paper met our operational definition of a comprehensive care program (Chronic Care Model; CCM, Wagner)
 2. The aim of the program was to treat patients with multiple chronic conditions and/or frailty
 3. The study described in the paper was an intervention study evaluating the effectiveness of a comprehensive care program.

Duplicates were excluded

Review paper: *Methods*

Data extraction

Study design, length of follow-up, target population, setting, content (CCM components), usual care condition, outcomes

Methodological quality assessment

Randomization, similarity at baseline, compliance, drop-out rate, ITT analysis, adjustment for confounding variables; 0-6

Data analysis

Strong, moderate, insufficient, or no evidence

Review paper: *Results*

Study retrieval

- 2611 potentially relevant publications
 - ↳ 80 full text articles retrieved
 - ↳ 19 eligible papers

- 1 paper through manual search
 - ↳ total: 20 included papers /
19 studies (CC models)

Review paper: *Results*

Study characteristics

- Designs: RCT, pre-post test, cRCT, post test only, qRCT
- Sample sizes: $n=47$ through $n=1682$
- Length of follow-up: 11 × ≤ 12 months, 5 × > 12 months

Methodological quality of the studies

- Two studies fulfilled all quality criteria (6)
- Four studies: minimum sum-score (0)
- Criteria 'randomization' and 'drop-out rate' most positive scores

Usual care conditions

- In two thirds of the studies ($n=13$) the effects of CC programs were compared with those of care as usual (i.e. no CC)

Review paper: *Results*

Program characteristics

- 12 × USA; 6 × non-USA/non-European; 1 × European
- 17 × frailty; 2 × multimorbidity
- Great variety of settings, different types of care
- Great diversity in the CC programs (i.e. number of related CCM components)

Review paper: *Results*

Impact of comprehensive care programs

Outcome categories:

- Patient related outcomes
- Informal caregiver related outcomes
- Professional caregiver related outcomes
- Healthcare utilization

Review paper: *Results*

Impact of comprehensive care programs

Patient related outcomes, reported in ≥ 3 studies:

- Physical health status
- Physical functioning
- Activities of daily living
- Depressive symptoms
- Mental health status
- Patient satisfaction

Review paper: *Results*

Impact of comprehensive care programs

Patient related outcomes; positive effect in $\geq 75\%$ of studies:

- Physical health status
- Physical functioning
- Activities of daily living
- Depressive symptoms
- Mental health status
- Patient satisfaction

Review paper: *Results*

Impact of comprehensive care programs

Patient related outcomes; evidence:

- Physical health status → strong evidence
- Physical functioning → no evidence
- Activities of daily living → no evidence
- Depressive symptoms → no evidence
- Mental health status → strong evidence
- Patient satisfaction → no evidence

Review paper: *Results*

Impact of comprehensive care programs

Professional caregiver related outcomes:

- Only four (low quality) studies, diverse outcome measures
→ no evidence

Informal caregiver related outcomes:

- No studies

Review paper: *Results*

Impact of comprehensive care programs

Healthcare utilization, reported in ≥ 3 studies:

- Community and institutional long-term care services utilization
- Hospital care utilization
- Mortality
- Primary care utilization
- Specialist care utilization

Review paper: *Results*

Impact of comprehensive care programs

Healthcare utilization, positive effect in $\geq 75\%$ of studies:

- Community and institutional long-term care services utilization
- Hospital care utilization
- Mortality
- Primary care utilization
- Specialist care utilization

→ no evidence

Review paper: *Results*

Most important findings:

- Mostly non-European studies/CC programs
- Main focus on frailty
- Heterogeneity of CC programs
- Evidence with regard to effectiveness of CC programs on:
 - 1) Patient related outcomes: strong evidence that CC programs improve physical and mental health status
 - 2) Caregiver related outcomes: lack of studies with similar outcome measures and of sufficient quality
 - 3) Health care utilization: no evidence that CC programs reduce the use of health care services



Activity 2:

Extra data collection and analysis within
ICARE4EU project

ICARE4EU project & partners:

DG SANCO Health Programme 2008 – 2013

Support to the European Innovation Partnership on Active and Healthy Ageing

Period: 2013 – 2016 (38 months)

Coordinator: NIVEL, the Netherlands

Partners:

- Technical University Berlin (TUB), Germany
- University of Warwick (UW), UK
- University of Eastern Finland (UEF), Finland
- National Institute of Health and Science on Aging (INRCA), Italy
- AGE Platform Europe
- Eurocarers
- European Observatory on Health Systems and Policies (supportive institute)

Data collection & analyses ICARE4EU data:

Aim

Tracing, describing and analyzing innovative (patient-centered, multi-disciplinary) care approaches targeting patients with multi-morbidity (or their care providers) in European countries

Method

- via country expert-organizations
- online survey (questionnaire on country level and programme-specific questionnaire)

Country-level questionnaire: N=31 EU countries

Programme-level questionnaire: N=138 (*not finished, not cleaned!*)

Data collection & analyses ICARE4EU data:

Additional questions for CHRODIS about integrated care programmes addressing or including:

- Care pathways for multimorbid patients*
- Poly-pharmacy
- Patient adherence to (medical) treatment

*A care pathway is a multidisciplinary outline of anticipated care, placed in an appropriate timeframe, to help patients with a specific condition or set of symptoms move progressively through a clinical experience to positive outcomes.

First impressions ICARE4EU data:

Implementation level (N=138)	%
Local	28
Regional	28
National	22
Local / regional as part of a national program	14
National as part of an international program	5
Inter-/supra-national	4

First impressions ICARE4EU data:

Patient group (N=138)	%
Multimorbidity in general	59
Specific diagnosis (index disease)* with a variety of co-morbidities	25
A combination of specific diagnoses**	15

* mainly diabetes, ischemic heart disease, heart failure, renal disease, hypertension, asthma, COPD, depression

** as above, but also cancer, HIV, dementia, arthritis

First impressions ICARE4EU data:

Main objectives (N=138)	%
Increasing multi-disciplinary collaboration	77
Reducing hospital admissions	70
Improving care coordination	70
Improving patient involvement	69
Decreasing / delaying complications	65
Reducing (public) costs	59
...	
Improving involvement of informal carers	46
Reducing inequalities in access	44
Improving professional knowledge	41

First impressions ICARE4EU data:

Organizations involved (N=138)	%
Primary care practice	68
General hospital	51
University hospital	41
Government	38
Community / home care organization	34
Patient organization	27
Social care organization	26
Nursing home	22
Pharmacy	20
Insurer	13

First impressions ICARE4EU data:

Organizational structures / activities established in the programme (N=138)

	%
Multi-professional care groups	66
Cooperation between medical and non-medical services	57
Multi-professional development groups	53
Case managers for patients	38
Cooperation with informal carers	33
Merge different organizations	24
Merge different units	21
Changes in job description	21

First impressions ICARE4EU data:

Programmes including **care pathways for multimorbid patients**

- 72% part of programme (n=100)
- 63% one specific healthcare provider is responsible
- 56% internally evaluated, 26% externally evaluated

Example programme including care pathway:

‘PIRKKA-POTKU’ (a regional sub-programme of the national POTKU programme (Patient at the Driver's Seat), Tampere, Finland)

Aim and characteristics:

To reform health care delivery for patients who need a lot of services. A special focus in this sub-programme has been on developing and implementing a *care pathway* for patients with multimorbidity.

Target group:

1. Patients with multimorbidity and/or patients who use a lot of services of many organizations or clinics, who need special support or to whom it is important to outline a holistic plan of care,
2. Patients who are heavy users of services, but whose services do not meet the needs
3. long term patients or patients who have dropped out of the service system, patients who need proactive planning of care.

First impressions ICARE4EU data:

Programmes addressing **poly-pharmacy**

- 57% part of programme (n=79)
- 70% one specific healthcare provider is responsible
- 44% internally evaluated, 13% externally evaluated

Example programme addressing poly-pharmacy:

‘Clinic for Multimorbidity and Polypharmacy’

Central Denmark Region – Region Hospital Silkeborg

Aim: The *Clinic for Multimorbidity and Polypharmacy* is a comprehensive integrated care service for patients who suffer from multimorbid diseases. The multidisciplinary clinic offers a same-day service, where multimorbidity/polypharmacy patients receive a comprehensive assessment of their disease status, and subsequent treatment needs. This is the result of an individual examination and evaluation by relevant specialists (MD’s, psychiatrists, physical therapists, nurses, occupational therapists etc.).

Target group: Patients with a minimum of two defined diseases (incl. mental diseases)

First impressions ICARE4EU data:

Programmes addressing **patient adherence** to (medical) treatment

- 66% part of programme (n=91)
- 64% one specific healthcare provider is responsible
- 38% internally evaluated, 4% externally evaluated

Example programme addressing adherence:

‘Adherence to medication’

Andrija Stampar Institute, Croatia

Aim: To determine whether patients’ age influences medication compliance and if so, to what extent.

Adressed are: adherence to medication and adherence to non-pharmaceutical interventions.

Target group: People aged 18 and older, with two or more medically diagnosed chronic or long-lasting (at least six months) diseases, of which at least one has a (primarily) somatic nature.



Activity 3:

Care programmes traced by **CHRODIS WP6**
partners

Care programmes traced by CHRODIS WP6 partners:

2. 49 potential programmes/studies/projects about multimorbidity*
3. Programmes that were operational from 2009 or later have been studied.
4. *including possible duplicates with ICARE4EU data; uncleaned data

Care programmes traced by CHRODIS WP6 partners:

First impressions:

- - Mainly programmes from Spain
- - Mainly regional programmes
- - Specific populations: e.g. frail elderly, patients with complex chronic conditions and needs, high-risk/high-cost patients
 - - several programmes include ‘care pathways’
 - - poly-pharmacy and patient adherence seem to be the focus of the programmes to a less extent

Care programmes traced by CHRODIS WP6 partners:

First impressions :

- Several programmes about **integrated care** or **collaborative care** initiatives, or facilitating **continuity of care**
- **Positive outcomes are reported** (or perceived): e.g.
 - - improved quality of life, functional or health status
 - - better compliance/adherence with treatment
 - - decrease in hospital admissions
 - - cost-effectiveness
 - How strong is the **evidence?** (not clear yet)

Preliminary conclusions task 2 (three activities):

- 1. Many recent initiatives/care programmes in Europe targeting patients with multi-morbidity and/or frailty.
- 2. Programmes aim to increase cooperation, improve coordination of care and reduce use of care services
- 3. Positive outcomes are often reported or perceived, but not much strong evidence based on scientific literature.
- 4. Strong evidence that CC programmes can improve (frail) patients' physical and mental health status.
- 5. No consistent evidence that CC programmes targeting patients with frailty or multimorbidity decrease health care utilization.

THIS PRESENTATION ARISES FROM THE JOINT ACTION ON CHRONIC DISEASES AND PROMOTING HEALTHY AGEING ACROSS THE LIFE CYCLE (JA-CHRODIS) WHICH HAS RECEIVED FUNDING FROM THE EUROPEAN UNION, IN THE FRAMEWORK OF THE HEALTH PROGRAMME (2008-2013)



NIVEL HAS ALSO RECEIVED FUNDING FROM THE NETHERLANDS MINISTRY OF HEALTH, WELFARE AND SPORTS TO CONTRIBUTE TO THIS JOINT ACTION