Work package 6, task 1:

Identify target groups (subgroups of highly vulnerable patients) for potential interventions to manage multi-morbidity

The Netherlands

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Two activities:

1. 1. identify target groups based on quality of life

2. 2. identify target groups based on healthcare utilization

Part 1: quality of life

Research questions:

-   Does the quality of life (QoL) of people with multimorbidity differ from the QoL of people with one chronic disease? If yes, in what respect?

-   Which subgroups of people with multimorbidity can be distinguished based on their QoL?

Part 1: quality of life

Database: National Panel of people with Chronic illness or
                 Disability (NPCD)

- Nationwide prospective panel-study on the consequences of
  chronic illness in the Netherlands
- Patient selection based on medical diagnoses of chronic
  disease(s) registered in general practices
- About 3500 panel members
- Information is collected by patient surveys twice a year

Part 1: Operationalizations:

Multimorbidity:

At least two medically diagnosed somatic chronic diseases as registered by the GPs of the panel members

Quality of life (QoL):

- 6-item EQ-6D *(Krabbe et al., 1999; Hoeymans et al., 2005)*
  = 5-item EQ-5D + 'cognition'-item

Quality of life | *Results*

Self-reported problems; EQ-6D)

	Multimorbidity *n*=561	One chr. disease n=531	*p*
Mobility	47%	30%	<.001
Self-care	12%	7%	<.005
Usual activities	45%	35%	<.001
Pain/discomfort	68%	55%	<.001
Anxiety/depression	22%	20%	n.s.
Cognition	25%	19%	<.05

Quality of life | *Results cluster analysis of multmorbid patients (N=520)*

Cluster 1 (*n*=205; 39%)	Cluster 2 (*n*=23; 4%)	Cluster 3 (*n*=271; 52%)	Cluster 4 (*n*=21; 4%)
Poor QoL: - Mobility - Usual activities - Pain/discomfort	*Poor QoL:* - Mobility - Usual activities - Pain/discomfort - Self care - Anxiety/depression	*Relatively good QoL*	*Relatively good QoL, but poor QoL:* - Cognition
Women	Women, younger	Men	Men, older
	Living alone	With a partner	
Low health literacy		High health literacy	
More chronic diseases (*M*=2.68)		Less chronic diseases (*M*=2.42)	
Less medically controllable	More progressive/ degenerative	More favourable health status	

Quality of life | *Conclusions*

- Almost half (44%) of the multimorbid people could be considered to have a poor QoL: they experience many health-related problems, and in different domains of life.
- These people with a poor QoL are more often female, single, have on average a lower health literacy and more chronic diseases.

- The comprehensive needs of (part of the) people with multimorbidity not only relate to the chronic diseases they suffer from, but also to their personal characteristics and circumstances.

Source: Hopman P, Schellevis FG, Rijken M. Health-related needs of people with multiple chronic diseases: differences and underlying factors. Manuscript submitted to Journal of Quality of Life Research.

Part 2: healthcare utilization

Research questions:

- Do people with multimorbidity differ from people with one chronic disease regarding their healthcare utilization?

- Which subgroups of people with multimorbidity can be distinguished based on their healthcare utilization?

Part 2: healthcare utilization

Combined database:

NIVEL Primary Care Database:

- 386 Dutch primary care (GP) practices, 1.2 million patients
- Longitudinal data derived from patients' EMRs
- Consultations, morbidity, drug prescriptions, and referrals

National Medical Registration (hospital data):

- Dutch nationwide registry
- Hospitalizations, place of discharge after hospitalization

Part 1: Operationalizations:

Multimorbidity:

At least two out of 28 common chronic diseases (medically diagnosed chronic diseases, ICPC coded)
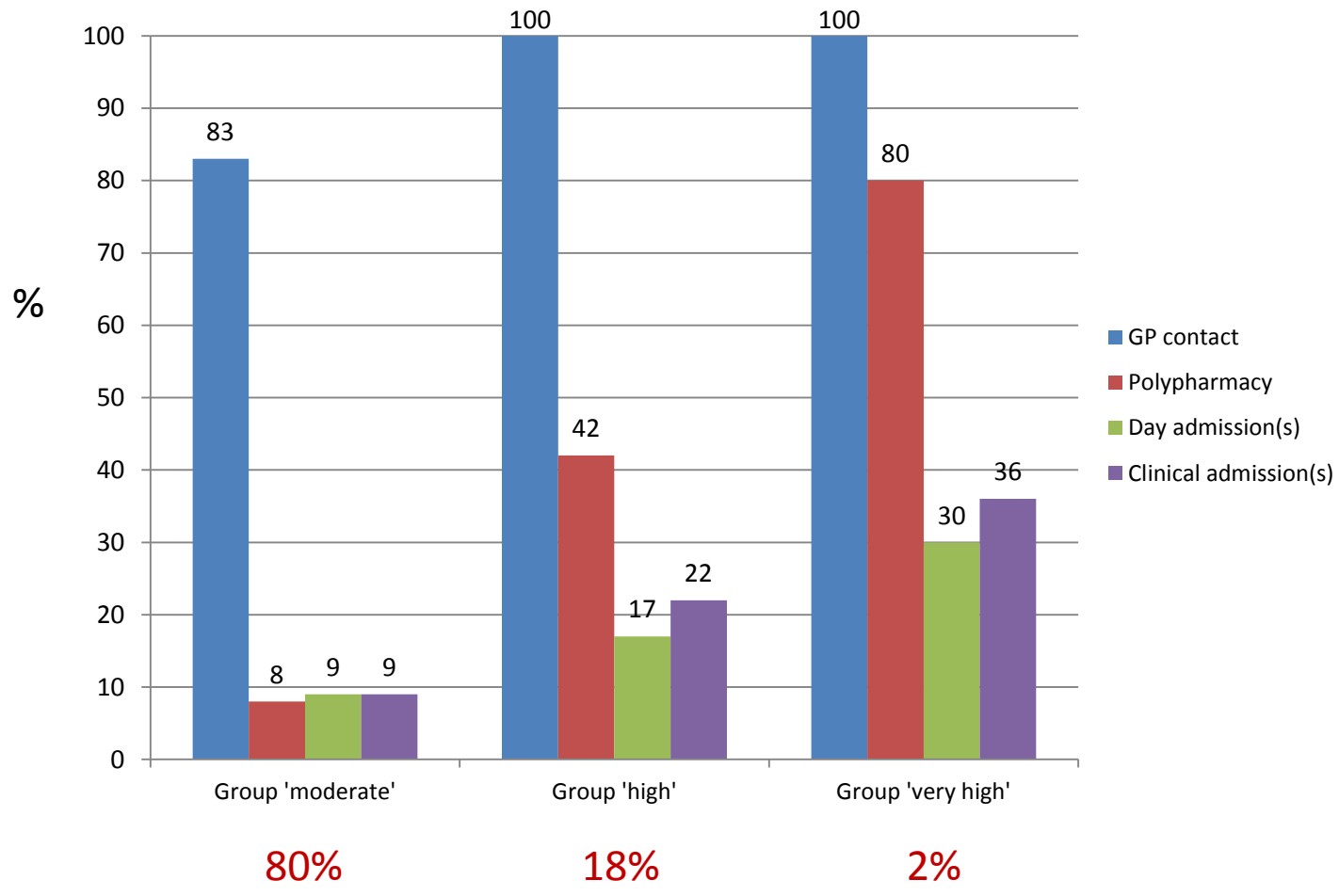
Healthcare utilization in 2010:

- Contact with GP and number of GP visits
- Number of prescribed medications (different types on ATC-level 2) → polypharmacy: ≥ 10 different prescriptions
- Hospital admissions:
    - At least one day admission
    - At least one clinical admission

Healthcare utilization | *Results*

	Multimorbidity *n*=6,949 (40%)	**One chronic disease** *n*=10,494 (60%)	*p*
Gender (female)	56%	53%	<.005
Age (years; M)	55	50	<.001
GP contacts (M)	6,0	4,4	<.001
Different drug prescriptions (M)	4,8	3,3	<.001
Polypharmacy	14%	6%	<.001
Day admission(s)	11%	8%	<.001
Clinical admission(s)	12%	8%	<.001

Observation year: 2010

Healthcare utilization | *Results cluster analysis of patients with multimorbidity*

Healthcare utilization | *Results clustering*

	"moderate" (80%)	"high" (18%)	"very high" (2%)
No. GP contacts (M)	3.6	14.9	34.5
No. of different types of prescribed medicines (ATC-2 level)	3.8	9.2	13.8
Gender (% female)	54%	66%	75%
Age (years; M)	54	66	72
No. of chronic diseases (M)	2.5	2.8	3.0

Healthcare utilization | *Conclusions*

- Healthcare utilization among multimorbid patients varies: the great majority (80%) does not differ much from patients with one chronic disease in this respect.

- About 20% of the multimorbid patients could be considered as (very) high users.
- These (very) high users are on average older, more often female and have been diagnosed with more chronic diseases.
- No specific chronic diseases could be identified to be more prevalent among the (very) high users subgroups.

Source: Hopman P, Heins MJ, Rijken M, Schellevis FG. Health-care utilization of patients with multiple chronic diseases in The Netherlands. European Journal of Internal Medicine 2015, 26(3):190-196.

Thank you!

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