Objectives ROM-GPS:

1. To assess the effectiveness of treatment for depressive-, anxiety- and somatic symptom disorders in geriatric mental health care?

2. To assess determinants of effectiveness, especially the impact of:

    a) Physical ageing

    b) Cognitive ageing

    c) Psychosocial aspects of ageing

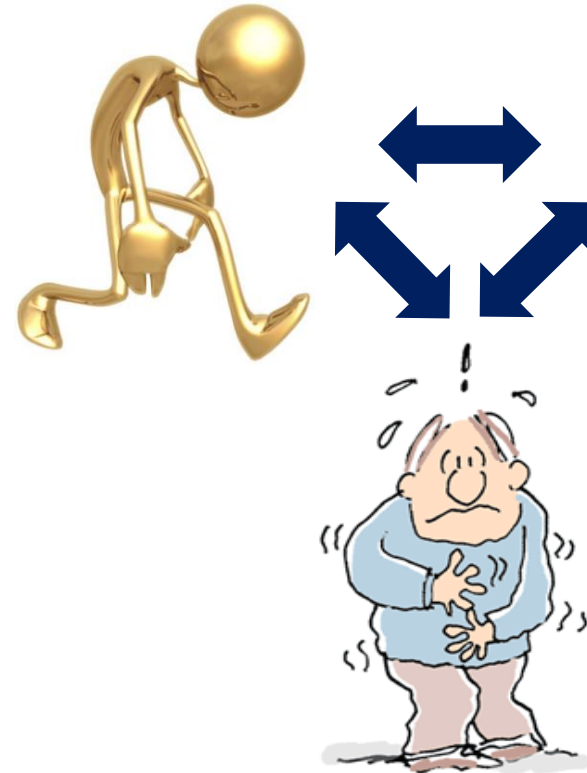[1] Oude Voshaar et al, BMC Psychiatry 2019

Why studying affective disorders jointly in later life?

High prevalence in later life:

- High mutual comorbidity rates

- Diagnostic instability of time

Significant disease burden, associated with a:

- lower quality of life

- increased health care utilization

- worse prognosis of somatic diseases

Why an observational study in routine clinical care?

Randomised controlled trials:

- Hardly available in geriatric psychiatry

  - Few on (some) anxiety disorders[1]

  - None on somatic symptom disorders[2]

- Significant selection bias[4]

Systematic review RCTs on late-life depression[3]	In-clusion	Ex-clusion	Descrip-tive	Stratifi-cation	Co-variate	Out-come
• Frailty	-	-	-	-	-	-
• Disability	-	-	-	-	-	5
• Multimorbidity	8	24	8	-	-	3
• Cognitive #	3	24	7	1	3	7
• Malnutrition	-	-	-	-	-	-

Guidelines for late-life affective disorders based on studies in younger populations

[1] Oude Voshaar et al, Br J Psychiatry 2015
[2] Oude Voshaar et al, BMC Psychiatry 2019
[3] Benraad, Oude Voshaar et al, Int J Geriatr Psychiatry 2016
[4] Lem et al, Psychol Med 2011

The two-stage (study) design of ROM-GPS[1]

Stage 1 – Routine clinical care:

- Harmonisation and standardisation of diagnostic assessment

- Diagnostic assessment (MINI, MoCA, etc) independent of clinical team

Stage 2 - Research:

- One year cohort study (extensive baseline and outcome assessment)
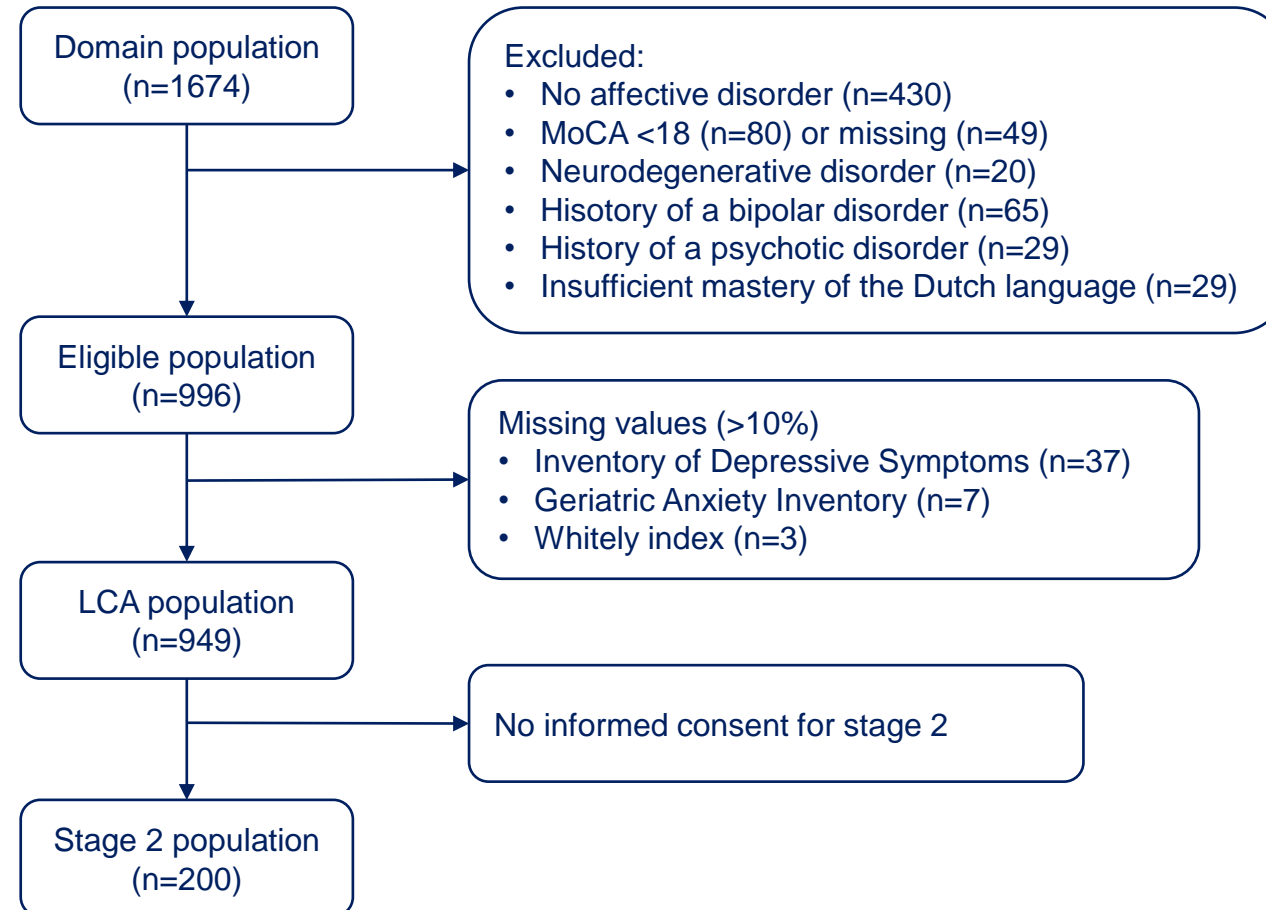
- Prospectively monitoring treatment

Measures applied in ROM-GPS[1]

	Psychiatric diagnosis	Severity of psychopathology	Psychiatric treatment	Lifestyle	Psychological determinants	Social determinants	Physical functioning	Cognitive performance
Instruments	MINI, MoCA, frailty	QIDS, GAI, WI, pain, FRAIL, ReCoL	Previous & current	AUDIT, nicotine, PSQI, IPAQ	SIP-SF, PID-BF, PSWQ, RSS, BEAQ	Recent life-events, Child abuse, SNI, Loneliness	Diseases, AGE, Frailty, BMI, speech analysis, medication, malnutrition	10-WT, Stroop, TMT, Digit span, RFFT
Timing								
• Intake	x	x	x					
• Baseline				x	x	x	x	x
• 4/8 mths		x						
• 1-year FU	x	x		x			x	x

Patient recruitment (up to the start of the COVID-pandemic)

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┌─────────────────────┐        ┌──────────────────────────────────────────────────┐
│ Domain population   │        │ Excluded:                                          │
│ (n=1674)            │───────→│ • No affective disorder (n=430)                    │
└─────────────────────┘        │ • MoCA <18 (n=80) or missing (n=49)                │
           │                   │ • Neurodegenerative disorder (n=20)                │
           │                   │ • Hisotory of a bipolar disorder (n=65)            │
           │                   │ • History of a psychotic disorder (n=29)           │
           ↓                   │ • Insufficient mastery of the Dutch language (n=29)│
┌─────────────────────┐        └──────────────────────────────────────────────────┘
│ Eligible population │
│ (n=996)             │        ┌──────────────────────────────────────────────────┐
└─────────────────────┘        │ Missing values (>10%)                              │
           │                   │ • Inventory of Depressive Symptoms (n=37)          │
           │          ────────→│ • Geriatric Anxiety Inventory (n=7)                │
           │                   │ • Whitely index (n=3)                              │
           ↓                   └──────────────────────────────────────────────────┘
┌─────────────────────┐
│ LCA population      │
│ (n=949)             │        ┌──────────────────────────────────────────────────┐
└─────────────────────┘───────→│ No informed consent for stage 2                    │
           │                   └──────────────────────────────────────────────────┘
           ↓
┌─────────────────────┐
│ Stage 2 population  │
│ (n=200)             │
└─────────────────────┘
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Comorbidity between late-life affective disorders (n=949)[1]

Mood disorders
(n=706, 74%)

Somatic symptom disorders
(n=297, 31%)

Anxiety disorders
(n=473, 49%)

34.6%

8.6%

7.5%

10.3%

4.6%

20.3%

14.1%
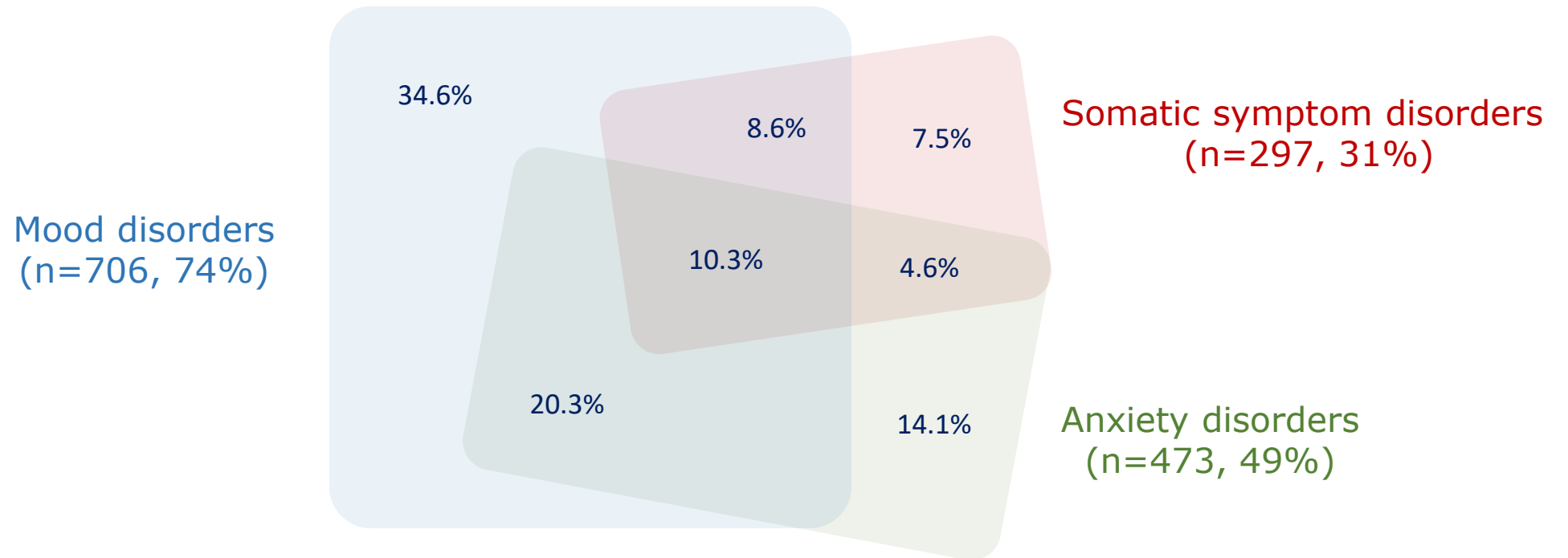
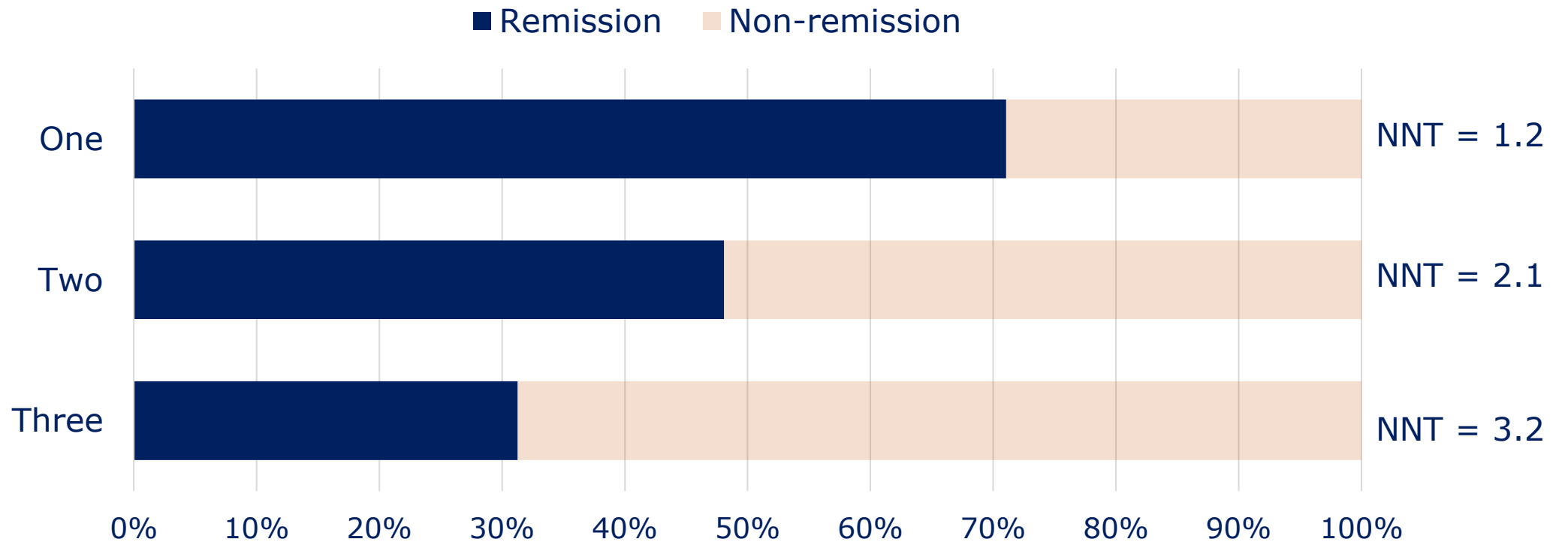Number of potential combinations of different affective disorders: 5.040

Prognosis late-life affective disorders (ROM-GPS, n=144)
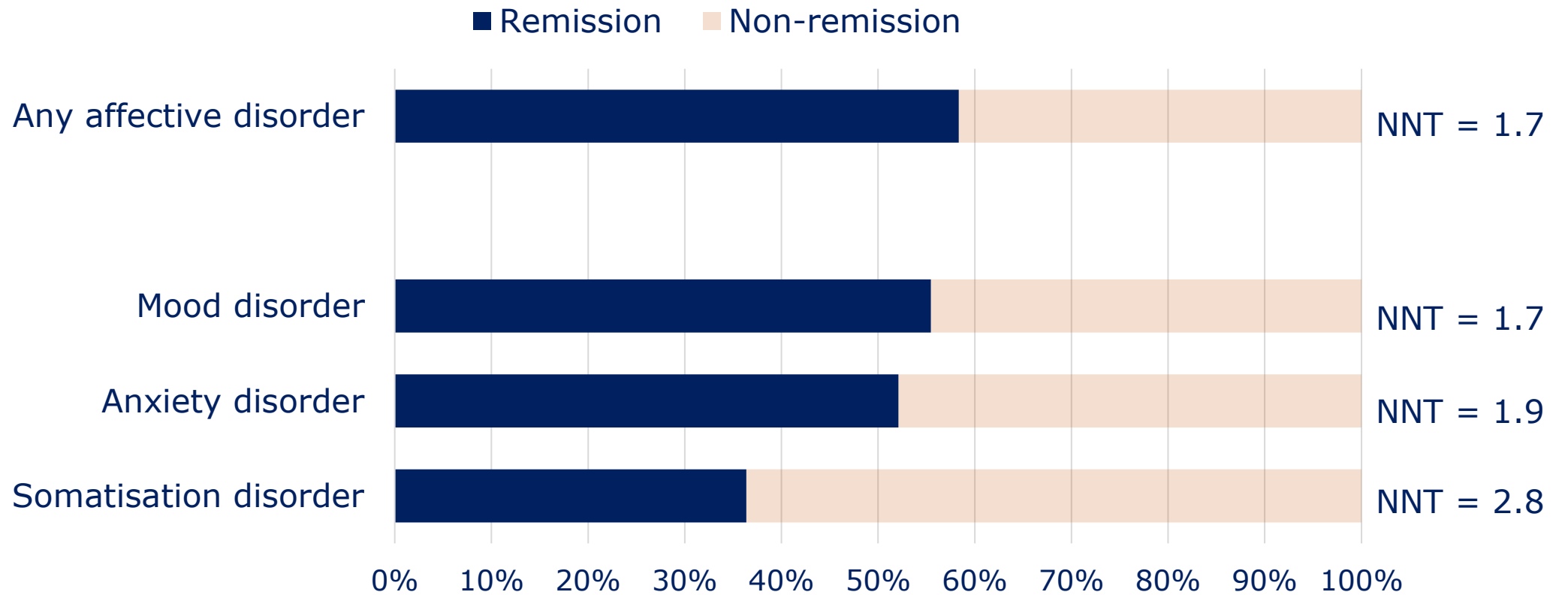
Prognosis by comorbidity between diagnostic clusters

Do mental health professionals use diagnostic classifications the way we think they do? A global survey

Michael B. First[1], Tahilia J. Rebello[2], Jared W. Keeley[3], Rachna Bhargava[4], Yunfei Dai[5], Maya Kulygina[6], Chihiro Matsumoto[7], Rebeca Robles[8], Anne-Claire Stona[9], Geoffrey M. Reed[2,10]

members of the Global Clinical Practice Network (GCPN), established by the World Health Organization as a tool for global participation in ICD-11 field studies. A total of 1,764 GCPN members from 92 countries completed the survey, with 1,335 answering the questions with reference to the ICD-10 and 429 to the DSM (DSM-IV, DSM-IV-TR or DSM-5). The most frequent reported use of the classification systems was for administrative or billing purposes, with 68.1% reporting often or routinely using them for that purpose. A bit more than half (57.4%) of respondents reported often or routinely going through diagnostic guidelines or criteria systematically to determine whether they apply to individual patients. Although ICD-10 users were more likely than DSM-5 users to utilize the classification for administrative purposes, other differ-

Patient subgroups by self-reported symptoms (n=949)[1]

Latent Class Analysis:

Inventory of Depressive Symptoms (n=30)

Geriatric Anxiety Inventory (n=20)

Whiteley Index (n=14)

Legend:
- Class 1, 18.8%
- Class 2, 15.7%
- Class 3, 11.8%
- Class 4, 14.4%
- Class 5, 5.3%
- Class 6, 11.6%
- Class 7, 22.5%
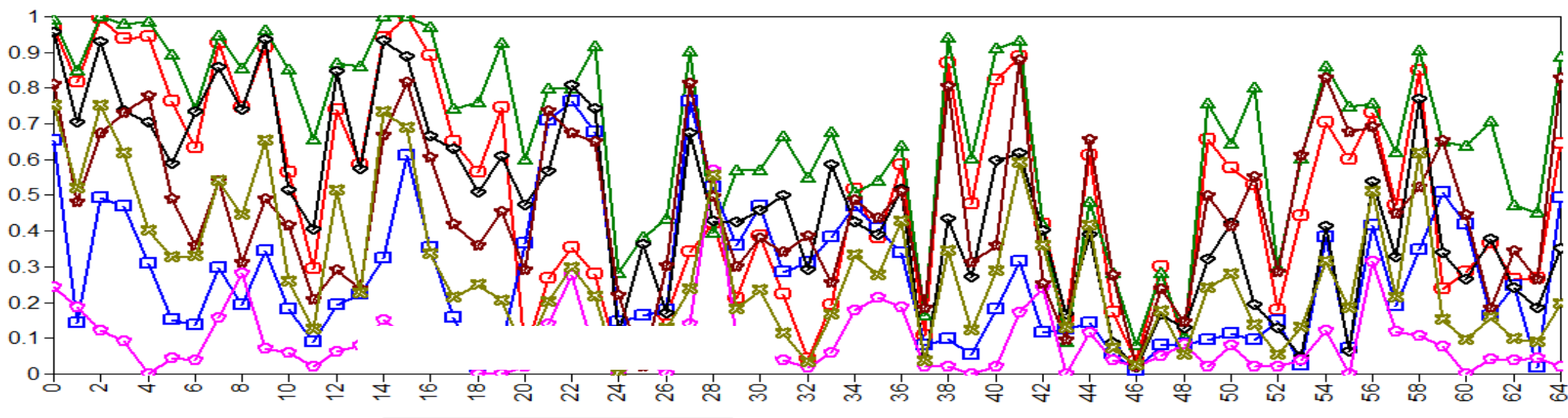
[1] Lelieveld et al, in preparation

Patient subgroups identified by LCA in ROM-GPS (n=949)[1]

1) Severe depression with cognitive anxious features (18.9%)

2) Severe depression and anxiety with somatic features (16.1%)

3) Somatic symptoms with cognitive anxious features (11.5%)

4) Severe anxiety (14.2%)

5) Mild affective symptoms (5.3%)

6) Moderate depression with energy loss (11.4%)

7) Moderate anxiety with blunted affect (22.7%)

Prognosis late-life affective disorders (ROM-GPS, n=200)
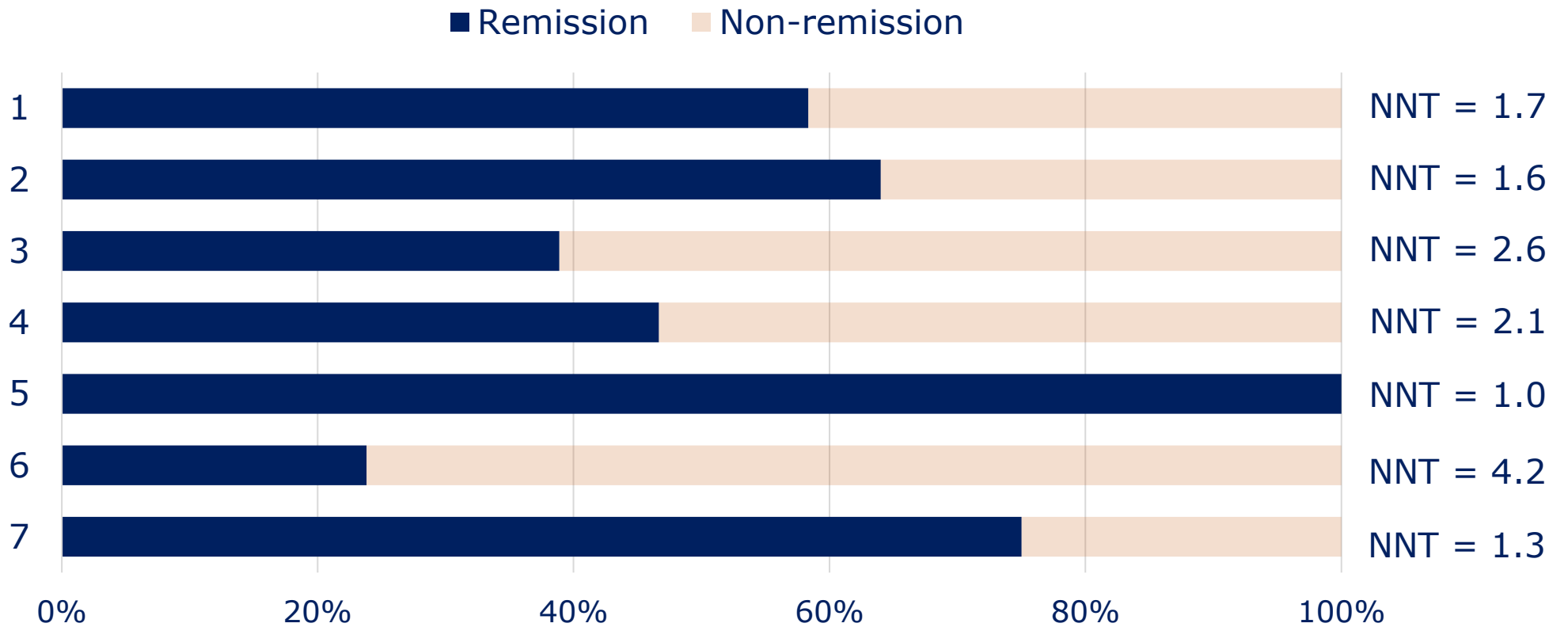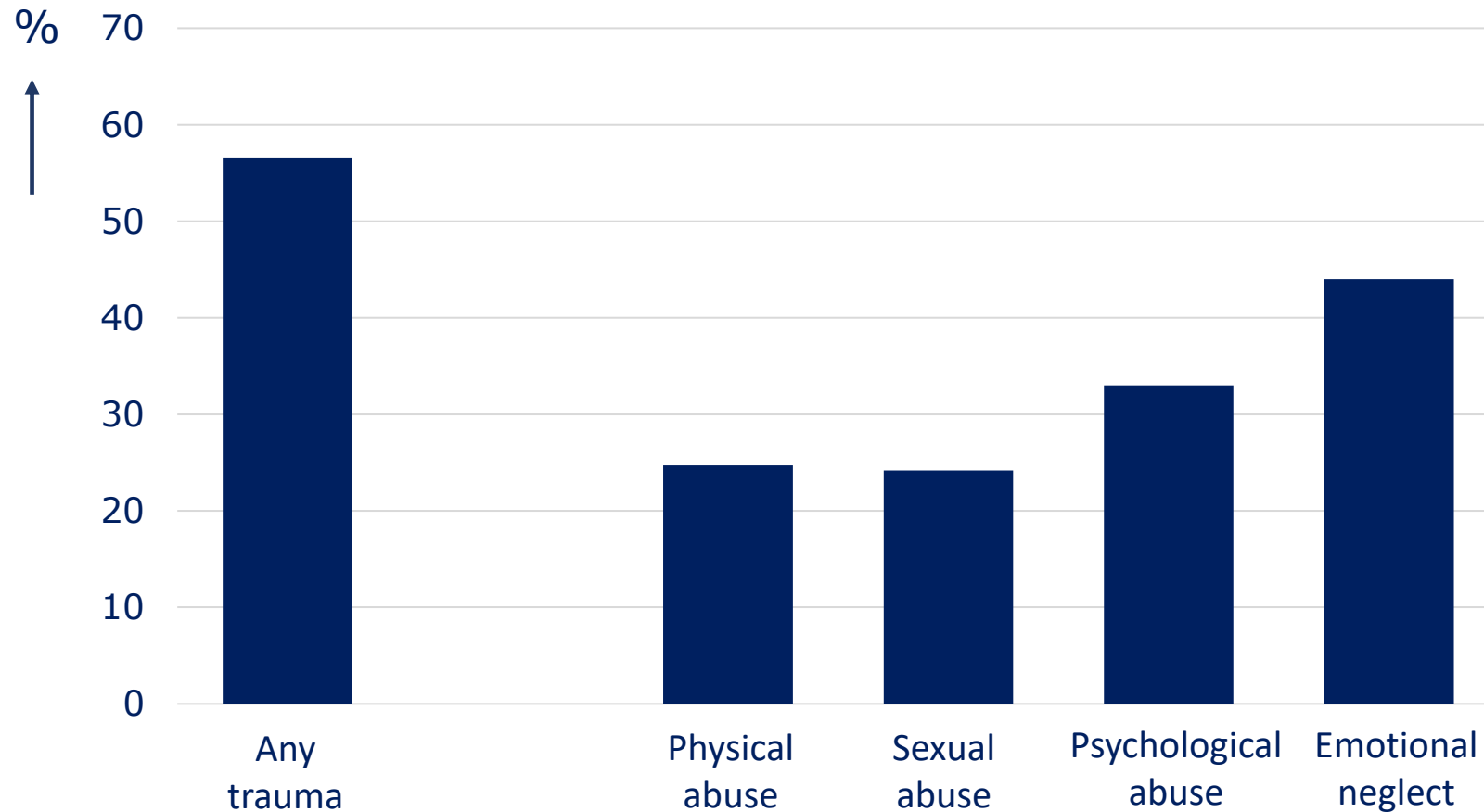
Research opportunities with ROM-GPS data

Data freely available for all researchers:

1) Primary study objectives ROM-GPS (effectiveness)

2) Pathogenesis of late-life mental disorders (e.g. comparison to Lifelines)

3) Embedding clinical trials

Child abuse as transdiagnostic mechanism (n=200)[1]

[1] Schmahl et al, Arch Gerontrol Geriatr 2021

Childhood trauma as predictor for frailty (TFI) [1]

Tilburg Frailty Indicator (TFI, range 0 - 15):

- Physical frailty (8 items)
- Psychological frailty (4 items)
- Social frailty (3 items)

A total of 154/182 (84.6%) patients classified as frail (sum score ≥5)

[1] Schmahl et al, Arch Gerontrol Geriatr 2021

Child abuse and overall frailty[1]

Linear regression for the association between **specific types of child abuse** (determinant) and **overall frailty** (dependent variable) adjusted for confounders

	B (SE)	β	p-value
• Physical abuse	0.77 (0.37)	0.16	.037
• Sexual abuse	0.15 (0.39)	0.03	.378
• Psychological abuse	0.17 (0.35)	0.03	.629
• Emotional neglect	0.41 (0.33)	0.08	.216

[1] Schmahl et al, Arch Gerontrol Geriatr 2021

Child abuse and frailty dimensions[1]

Linear regression for the association between **any type of child abuse** (determinant)
and **frailty dimensions** (dependent variable) adjusted for confounders

	Physical	Psychological	Social
B (SE)	-007 (0.27)	-0.02 (0.13)	0.35 (0.18)
β	-0.02	-0.01	0.18
p-value	.808	.898	.019

[1] Schmahl et al, Arch Gerontrol Geriatr 2021

Cognitive functioning (PCA on individual tests) [1]

	Factor 1	Factor 2	Factor 3	Factor 4
Paper and pencil measures:				
• Processing speed (STROOP I & II)		.547	.544	
• Working memory (Digit span)			.781	
• Verbal memory- Immediate (10-words test)	.887			
• Verbal memory- Delayed (10 words test)	.898			
• Interference control (STROOP - III)				.940
Cogstate Battery:				
• Psychomotor functioning (Detection test)		.879		
• Attention (Identification test)		.896		
• Working memory-simple (One card learning test)			.802	
• Visual Learning (One Back test))	.546		.456	
	Visual-verbal memory	**Psychomotor speed**	**Working memory**	**Interference control**

Significant associations between child abuse and cognition[1]

- Physical abuse associated with **better** memory performance (β=0.13, p=.048)

- Physical abuse associated with **worse** interference control (β= -0.23, p=.002)

- Emotional neglect associated with **worse** interference control (β= -0.17, p=.032)

Associations between child abuse and loneliness[1]

	β	p-value
Model 1:		
• Childhood trauma	0.24	.001
Model 2 (separate models):		
• Physical abuse	0.04	.596
• Sexual abuse	0.21	.005
• Psychological abuse	0.08	.278
• Emotional neglect	0.19	.009

Sexual abuse:

- Direct effect
  (B=1.33 [95% CI: 0.17 – 2.48])
- Indirect effect by agreeableness
  (B=0.33 [95% CI: 0.03 – 0.74])

Emotional neglect:

- Direct effect
  (B=0.83 [95% CI: -0.10 – 1.77])
- Indirect effect by neuroticism
  (B=0.49 [95% CI: 0.14 – 0.93]).

Conclusion: Childhood abuse has still impact in later life!
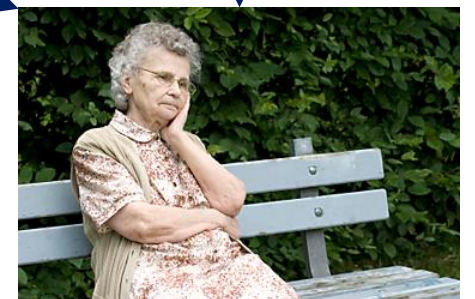
Child abuse: **Physical**   **Psychological**   **Emotional**

Frailty: **Physical**   **Cognitive**   **Social**

Take home message:

Take the opportunity, and join the ROM-GPS consortium

to improve mental health (care) for older persons

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