Hypertension cascade across three healthcare systems, in relation to the level of implementation of the integrated care package

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BACKGROUND

- High prevalence of HTN (hypertension)
- Dominant in the global burden of disease
- **Cost-effective interventions**: but only a small number of HTN patients well-managed
- **Quality gap** between vulnerable and non-vulnerable patients
- Evidence for the **Integrated care package**
- **Cascade of care (CoC) approach**

STUDY OBJECTIVES

1. To build the **cascades of HTN** care in three different health care systems and quantify the losses through the continuum of care.

2. To study whether the cascade is stratified across patient's socio-economic status to detect **quality of care gaps**.

3. To examine the differences between the cascades of HTN care across health care systems by looking at the **level of implementation of the integrated care elements and other health system characteristics**.

METHODS: SETTING

<table>
<tr><th>BELGIUM</th><th>SLOVENIA</th><th>CAMBODIA</th></tr>
<tr><td colspan="2">High income country</td><td>Low-middle income country</td></tr>
<tr><td colspan="2">Supply- and choice-oriented public system</td><td rowspan="2">Mixed health delivery system of public and private providers</td></tr>
<tr><td>Fragmented</td><td>Centralised</td></tr>
<tr><td colspan="2">Strong PC orientation
(relative to other European countries)</td><td>Strong PC orientation
(in comparison to specialised care)</td></tr>
<tr><td>weak accessibility of PC</td><td>weak continuïty and comprehensiveness of PC</td><td>high level of OOP costs
Limited financial and human resources</td></tr>
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Sources: Reibling, 2019; Kringos, et al, 2013

METHODS: RESEARCH DESIGN

Mixed methods

1. Operationalization and development of **HTN CoCs** across the three countries

2. **Logistic regression analyses** to assess individual characteristics related to the CoC gaps

3. a. Country specific **Focus Group Discussion** (FGD) to discuss and interpret the results of the HTN CoCs and quality gaps
   b. Multi country FGD to compare the results across countries

DATA: CASCADE OF HTN CARE

	BELGIUM	SLOVENIA	CAMBODIA
Data source	BEHIS and BELHES	NIPH and CHCL *(Community Health Center Ljubljana)*	Household survey
Type	Health survey data and clinicial data for a subsample	Administrative data *(Electronic Health Records)*	Health survey data and clinical data
Subsample	40-79 years old		
Total sample size	6 019 (HIS) and 828 (BELHES)	15 186	5 070
Period	2018	2019	07-10/2020

MEASURES: Bars of the HTN CoC

BAR	BELGIUM	SLOVENIA	CAMBODIA
Prevalence	SBP ≥140 mmHg OR a DBP ≥ 90 mmH OR self-reported diagnosis	No correct estimation	SBP ≥ 140 mmHg OR DBP ≥ 90 mmHg OR self-reported diagnosis
Tested	BP measurement in the last 3 years	BP measure by registered nurse in last 3 years	BP measurement in the last 3 years
1. Diagnosed	Reported that they have the condition 'HTN'	Registered as 'having the diagnose HTN'	Reported that they were diagnosed with HTN
2. Linked to care	followed by a healthcare professional for HTN during the past 12 m.	HTN consult. in the past 12 m.	get treatment/care for HTN in the past 12 m.
3. In treatment	medication or following a diet to treat HTN during the past 12 m.	at least one BP measure in the last 12 m.	Drugs (2w) /diet advice (reduce salt/lose weight/physical exercise.)
4. Adhered to treatment	Taken prescribed HTN medication last 24h ('yes') AND regularly ('yes')	Adherence assessment HTN: regularly ('yes') AND properly ('yes')	MARS-5 adherence scale for HTN medication: high adherence (vs. no)
5. Under control	In HTN treatment and having SBP <140 mmHg and DBP <90 mmHg		

ICP GRID DATA

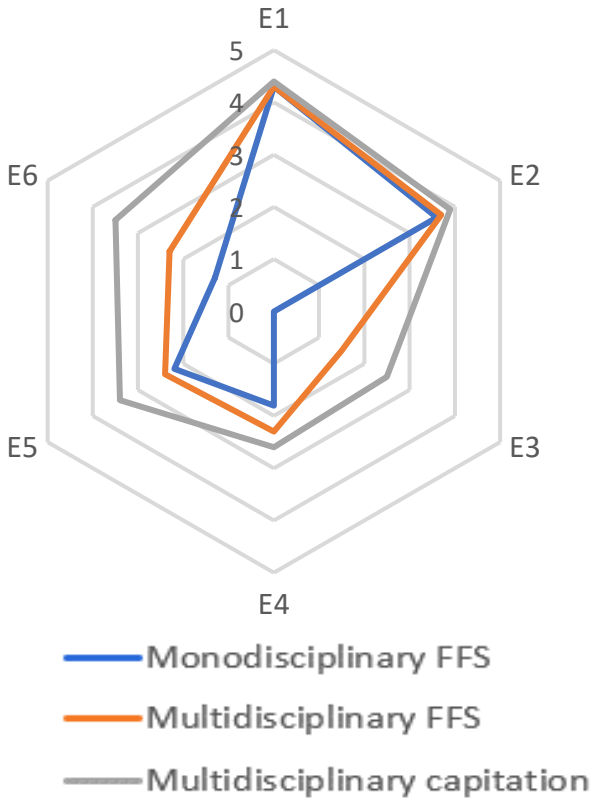
- Level of implementation of the **Integrated Care Package**: ICP GRID
- Based on the Assessment of Chronic Illness Care form (ACIC) and the Assessment of Innovative Care for Chronic Disease Framework tool (ICCC)
- Structured interviews 2019-2020
- Purposive sampling –different types of primary care organizations

Elements of the Integrated care package					
1	2	3	4	5	6
Identification	Treatment	Health education	Self-managment support	Sturctured collaboration	Organization of care
8 items	*15 items*	*8 items*	*13 items*	*10 items*	*6 items*

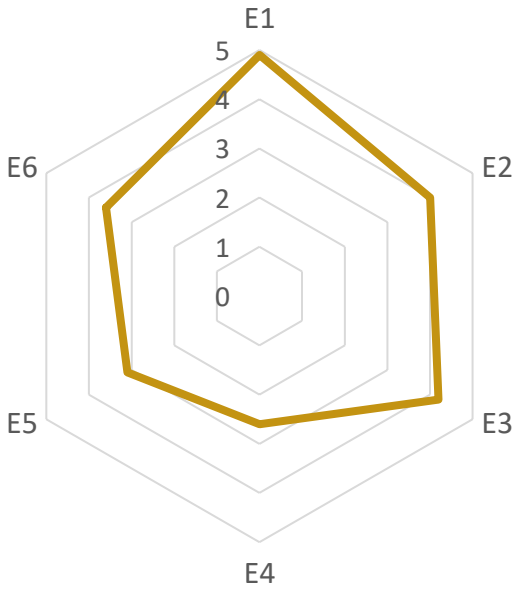
Scale range from 0 (no implementation) to 5 (complete implementation)

ICP GRID SCORES

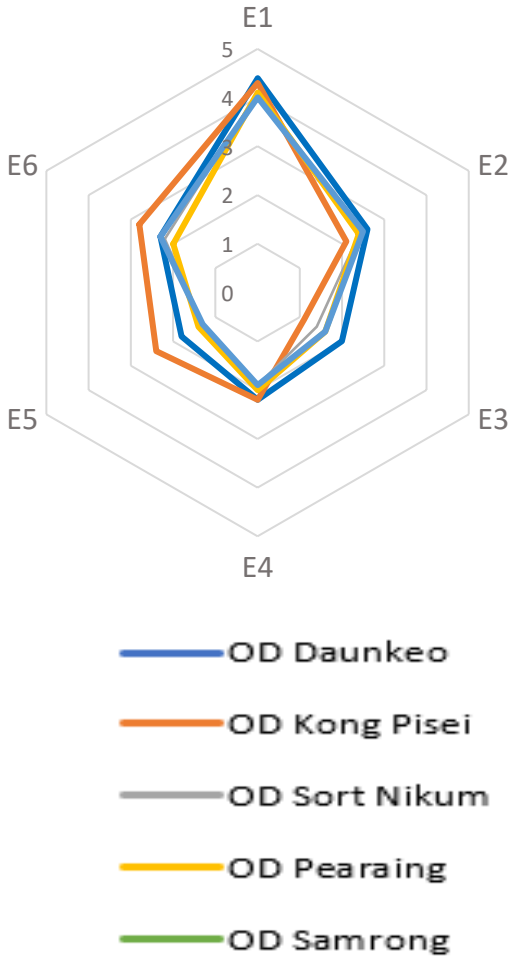
BELGIUM



SLOVENIA



CAMBODIA



***E1:** identification, **E2:** Treatment, **E3**: Health education,*
***E4:** self-management support, **E5:** structured Collaboration,*
***E6:** organization of care*

Prevalence, tested and diagnosed

Age-standardized % among individuals aged 40-79						
	Prevalence		**Tested**		**Diagnosed**	
	men	women	men	women	men	women
Belgium	41,79	35,94	92,51	93,66	22,98	21,43
Cambodia	30,79	32,51	48,16	66,35	12,67	23,91
Slovenia			23,04	11,76	13,99	8,07

Experts

- BE: in line with high level of implementation of 'identification'
- SL: not well following the protocol, poor registration in EHR by family doctors

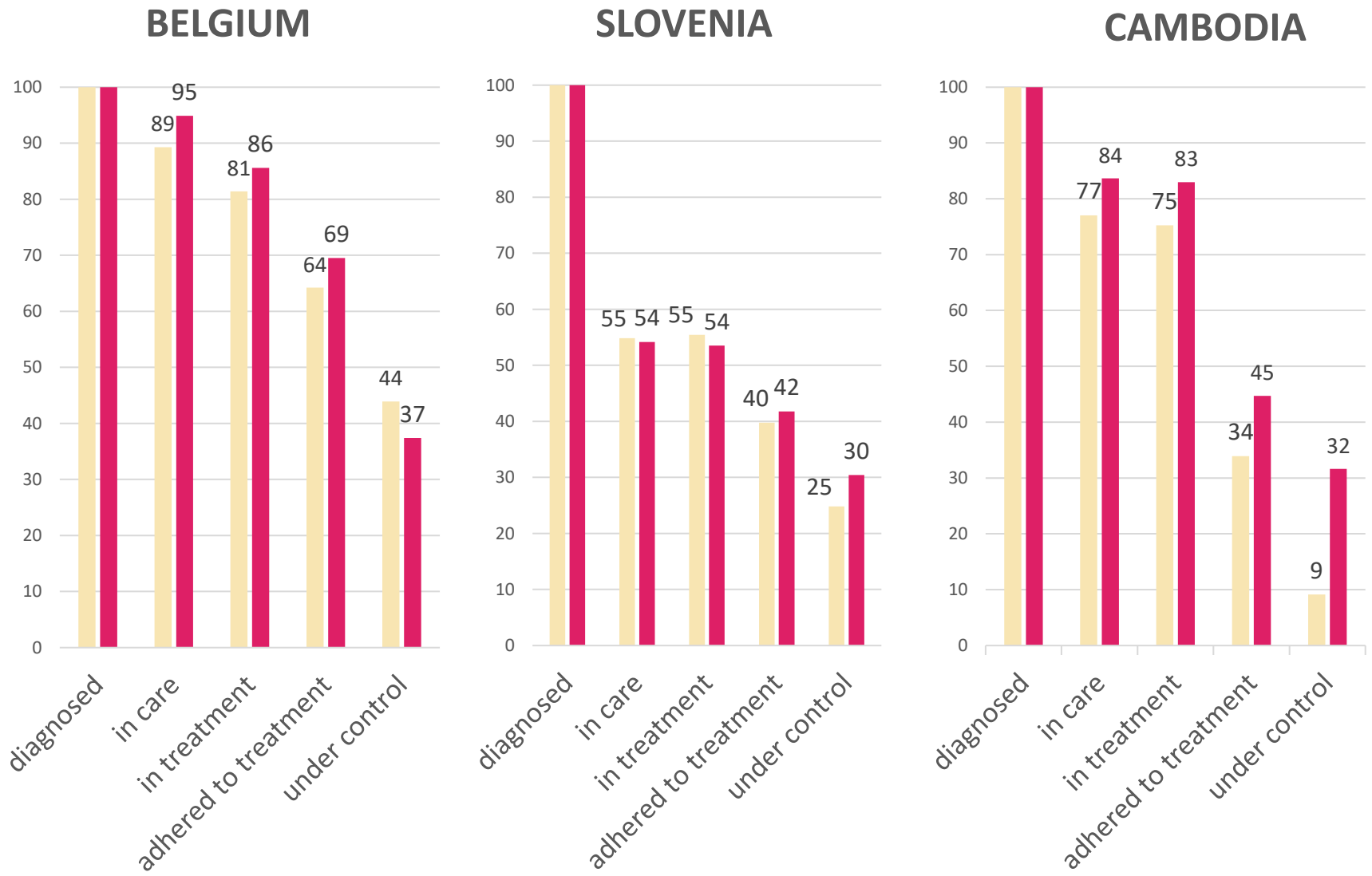
Prevalence, tested and diagnosed

Age-standardized % among individuals aged 40-79						
	Prevalence		**Tested**		**Diagnosed**	
	men	women	men	women	men	women
Belgium	41,79	35,94	92,51	93,66	22,98	21,43
Cambodia	30,79	32,51	48,16	66,35	12,67	23,91
Slovenia			23,04	11,76	13,99	8,07

Experts

- BE: methodological reasons, GPs consider more factors/prefer 24h measurement, diagnostic inertia, patients not aware of their diagnosis
  ➔ poor implementation of 'health education'?

HTN Cascade


BELGIUM
100
90
80
70
60
50
40
30
20
10
0
89
95
81
86
64
69
44
37
diagnosed
in care
in treatment
adhered to treatment
under control
SLOVENIA
100
90
80
70
60
50
40
30
20
10
0
55
54
55
54
40
42
25
30
diagnosed
in care
in treatment
adhered to treatment
under control
CAMBODIA
100
90
80
70
60
50
40
30
20
10
0
77
84
75
83
34
45
9
32
diagnosed
in care
in treatment
adhered to treatment
under control

Determinants of the gaps

Quality gap between socioeconomic vulnerable patients and non-vulnerable patients:

Poor financial situation as a significant determinant in the three countries, but of different gaps in the cascade

Experts

- CA: high OOP costs, expensive private care, lack of financial and human resources in public care
- BE: weak accessibility of PC, direct and indirect costs of HTN, ….
- SL: symptoms not directly tangible, so less prioritized

TO CONCLUDE

- **Cascade approach:** relevant but challenging to compare between countries with different health information systems

- **Mix of quantitative and qualitative data:** necessary
    - for operationalization of cascade and determinants
    - for interpreting results

- Link with the level of **implementation of integrated care**: a strenght
  ➔ ideal scenario: also linking in a statistical way

Thank you!

SCUBY

SCALE-UP DIABETES AND HYPERTENSION CARE

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