

Estimating mortality attributed to ill-defined codes of death at national and local level in Serbia

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Introduction

- ▶ The Global Burden of Disease Study (2017) has developed an overall rating for each country / territory based on:

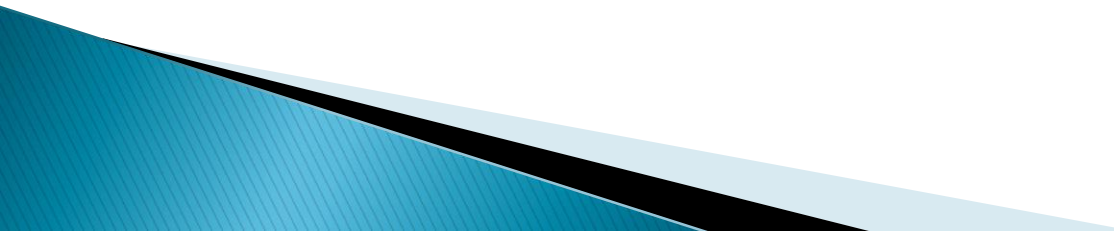
Vital
registration
completeness

Garbage codes

Details of the
cause list and
age group

Time periods
cover for the
1980–2016.

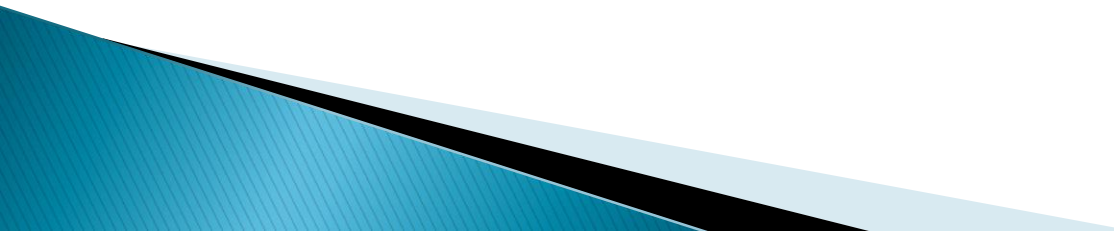
Introduction

- ▶ Serbia's rating 3/5 stars
 - ▶ Well certified 43.7% of deaths in the period 1980–2016
 - ▶ Well certified 73% of deaths for the period 1995–2016
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Objective

We explored the causes of death data taken from the national vital registration system and certified at the local level and the national level, in order to estimate the mortality attributed to ill-defined deaths for the period of 2016–2018.

Methods

- ▶ The data for the analysis were drawn from:
 - The Health Statistical Yearbooks of the Republic of Serbia
 - The electronic mortality database of the Institute of Public Health of the City of Belgrade
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Methods

- ▶ The analysis was divided in three steps:

Analysis of the data on the overall mortality and mortality rates from all causes of death (2005–2018)

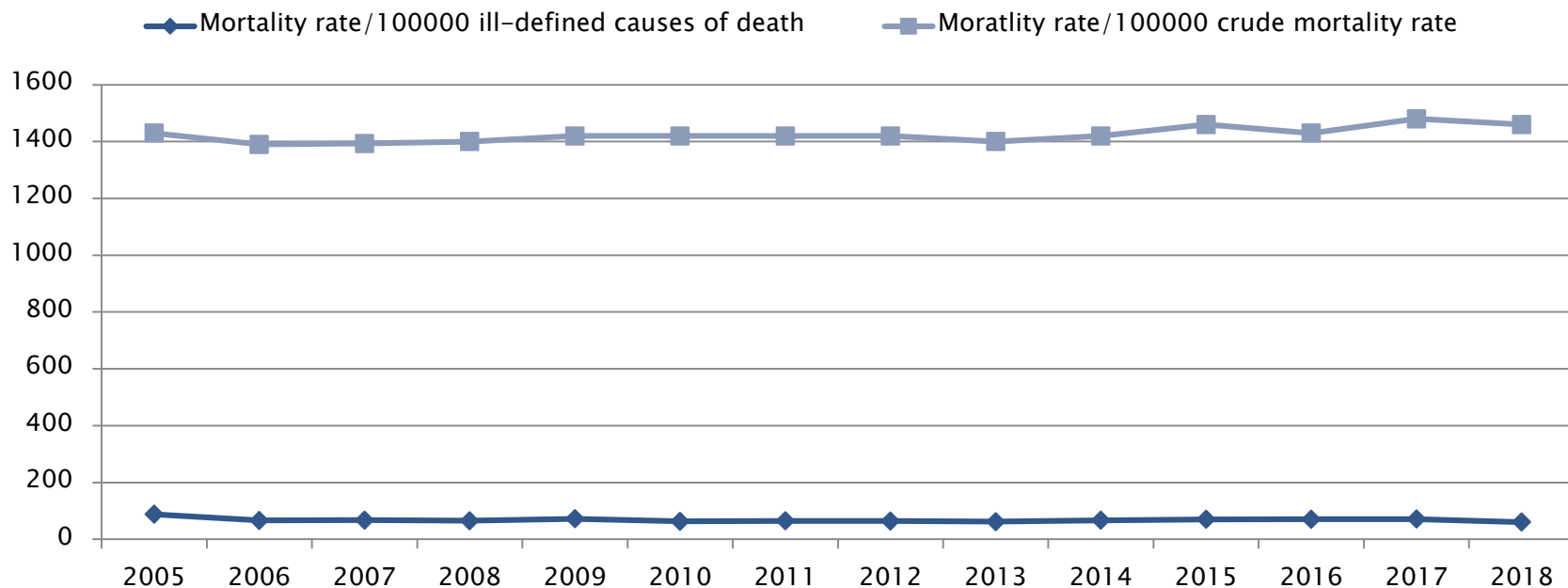
Assessment of the occurrence of the symptoms, signs, abnormal results of the clinical, laboratory or other investigative procedures and ill-defined conditions as the causes of death

Assesment of total deaths attributed to garbage codes (only local level)

Results

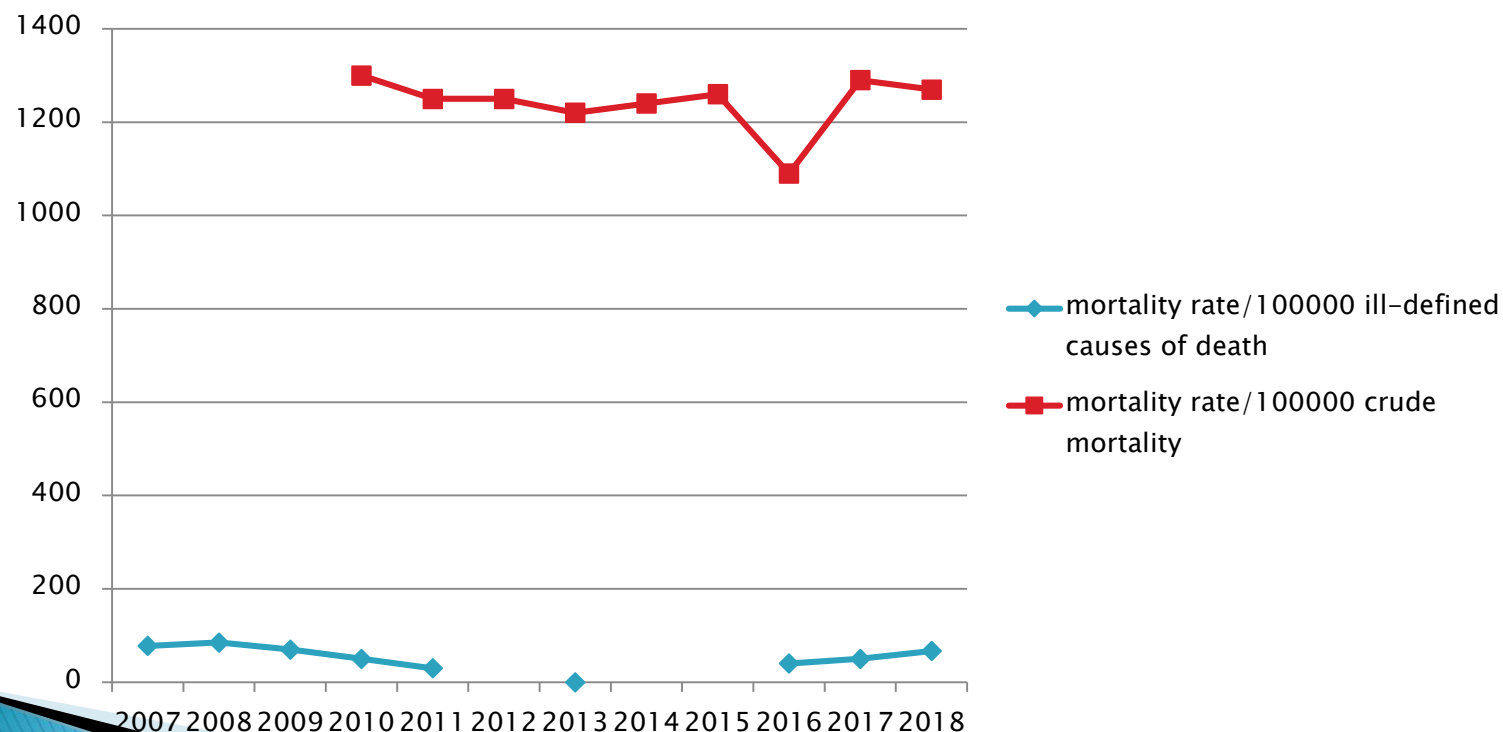
The crude mortality rate and the specific mortality rate of ill-defined conditions (the chapter XVIII of ICD-10), and total mortality Serbia 2005-2018

Mortality rate/100,000



Results

The crude mortality rate and the specific mortality rate of ill-defined conditions (the chapter XVIII of ICD-10), Belgrade 2007-2018



Results

Table 1. Rank of top five causes of death (by % and by rate per 100,000) at national (Serbia) 2018 and local level (Belgrade), 2018

Causes of death ICD 10	Serbia	Causes of death ICD 10	Belgrade	Causes of death ICD 10	Serbia
	%	Rate/100000		%	Rate/100000
Total	100	Total	Total	100	
1 Diseases of circulatory system	51.81	754.20	1 Diseases of circulatory system	49.1	624
2 Neoplasms	21.72	316.27	2 Neoplasms	26.2	333
3 Diseases of the respiratory system	5.16	75.19	3 Diseases of the respiratory system	5.2	66
4 Symptoms, signs and abnormal clinical and laboratory findings not classified elsewhere	4.16	60.61	4 Symptoms, signs and abnormal clinical and laboratory findings not classified elsewhere	3.3	42
5 Endocrine, nutritional and metabolic diseases	3.27	47.60	5 Endocrine, nutritional and metabolic diseases	2.5	32

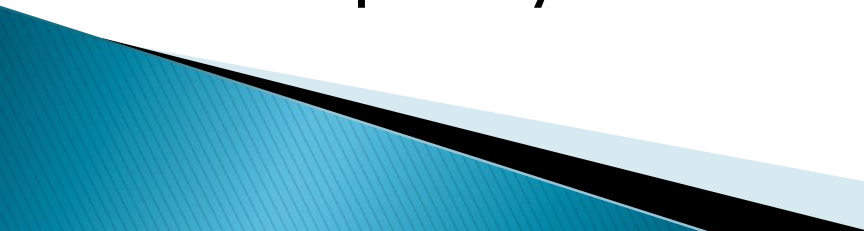
Results

Mortality attributed to garbage codes of death at local level in Serbia. Belgrade 2016–2018

GC code	Type ICD*	% of total mortality	Rate per 100000
All	List 1,2,3,4	2016-20.05% 2017-20.99% 2018-23.97%	2016-218.5 2017-270.7 2018-304.4
List 1	A31.1, A59, A60.0, A71-A74, A63.0, B00.0, B08.1, B08.8, B30, B35-B36, F32-F33.9, F40-F42.9, F45-F48.9, F51-F53.9, F60-F98.9, G43-G45.9, G47-G52.9, G54-G54.9, G56-G58.9, H00-H04.9, H05.2-H69.9, H71-H80.9, H83-H93, J30, J33, J34.2, J35, K00-K11.9, K14, L04-L08.9, L20-L25.9, L28-L87.9, L90-L92, L94, L98.0-L98.3, L98.5-L98.9, M03, M07, M09-M12, M14-M25, M35.3, M40, M43.6-M43.9, M45.9, M47-M60, M63-M71, M73-M79, M95-M99, N39.3, N40, N46, N60, N84-N93, N97, Q10-Q18, Q36, Q38.1, Q54, Q65-Q74, Q82-Q84, R00-R99, B94.8, B949.9, G80-G83, Y86, Y87.2, Y89, I10, I15, I70	2016-9.10% 2017- 10.88% 2018-12.21%	2016-99.2 2017-140.35 2018-155.1
List 2	A40-A41, A48.0, A48.3, E85.3-E85.9, E86-E87, G91.1, G91.3-G91.8, G92, G93.1-G93.6, I26, I27.1, I44-I45, I49-I50, I74, I81, J69, J80-J81, J86, J90, J93, J93.8-J93.9, J94, J98.1-J98.3, K65-K66, K71-K72 (except K71.7), K75, K76.0-K76.4, K92.0-K92.2, M86, N14, N1	2016-4.99% 2017-4.39% 2018-5.41%	2016-54.4 2017-56.6 2018-68.7
List 3	D65, I45-146, J96	2016-2.92% 2017-2.96% 2018-3.75%	2016-31.8 2017-38.2 2018-47.6
List 4	C80, C26, C39, C57.9, C64.9, C76, D00-D13, D16-D18, D20-D24, D28-D48, A49.9, B83.9, B99, E88.9 I51, I99, X59, Y10-Y34	2016-2.99% 2017-2.76% 2018-2.60%	2016-32.6 2017-35.6 2018-33.0

*Mikkelsen L, Richards N, et al. AD. Redefining 'garbage codes' for public health policy: Report on the expert group meeting, 27–28 February 2018. GBS technical outcome series. Melbourne, Australia: Bloomberg

Conclusions

- ▶ Garbage codes contribute considerably to overall mortality in Serbia
 - ▶ The ill-defined causes of death contribute less, but are ranked among top-five most frequent causes of death
 - ▶ Focusing only on improving the coding of ill-defined conditions would only partially affect the quality of mortality data
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Conclusions

Policy makers require good quality mortality data to better understand the mortality burden and to design the interventions to address premature, preventable and avoidable mortality burden.