



The economic impact of Covid-19 in Germany

April 23rd 2020

Dr. Stefan Walzer

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Germany in the Covid-19 area







Today Weekly edition 📃 Menu



News | National News ^{3 hrs ago} Germany praised for handling of Covid-19

By Press Association 2020



Europe Mar 26th 2020 edition > Desperate times Germany offers cash for everyone

World ► Europe US Americas Asia Australia Middle East Africa Inequality Global development

Coronavirus outbreak	Germany's response to the Covid-19 crisis puts the UK to shame
Letters Wed 22 Apr 2020 17.19 BST	Christine Fuchs says the UK's response has been totally inadequate, Paul Abrams says Boris Johnson is responsible,
f 🎔 🖾 😤	and Andrew Lamkowski laments the continued understating of the crisis

Economic question driven by the Covid-19 outbreak





How much will the Covid-19 outbreak have cost the German health care system in the first 100 days since the outbreak? Epidemiologic basis of the analysis: covidSIM tool



 CovidSIM is a simulator developed for epidemiologic simulation of the Covid-19pandemic outbreak

 This simulator was developed by Prof. Dr. Eichner and Dr. Schwehm (University of Tuebingen)

Definitions



- R₀: baseline reproduction number
- Indicates the average number of people infected by an infected person if no infection control measures are taken and no immunity in the population exist yet
- For SARS-CoV-2, the effective R is estimated at 2-3
- Without specific control measures and spontaneous changes in behavior: exponential curve with peak in spring/summer 2020

Source: German Society for Epidemiology 2020

Assumptions



- Contact reducing measures have already lead to a reduction of the effective R (before: 2-3 or even higher, since 15th March: 1,5-2)
- Since Monday, 23rd March general restraint of contacts (just 2 persons may meet in public, except families etc.)
- Aim: to reduce the effective R to a value near or even below 1

Source: German Society for Epidemiology 2020

Analysis assumptions



Germany

- Population: 83.2 million
- 105 statutory health insurances (around 90% of market)
- 45 private health insurances and special groups (around 10% of market)
- Assumptions on simulation:
 - Effective R = 2.0
 - Contact reduction time: 77 days
 - Other assumptions aligned with the Robert Koch Institute and German Society for Epidemiology

Scenario analysis - Results



MEDVANCE 🔅

Day 236 in the CovidSIM → Today (23rd April): 153,514 infections (150,648 confirmed by JHU)

New Events

Cumulative Incidence



Consistent with warning of German epidemiologists



MEDVANCE 🔆

VIROLOGE DROSTEN WARNT Zweite Infektionswelle kann unerwartete Wucht entwickeln

AKTUALISIERT AM 20.04.2020 - 18:05



Angesichts der jüngsten Lockerungen zeigt sich Virologe Christian Drosten besorgt: Die Zahl der Infizierten könne abermals rasant steigen. Gleichzeitig meldet die Pharmaindustrie schnelle, aber nicht problemlose Entwicklungen.

Prof. Drosten (Charite) in various newspapers and TV shows: "We might loose the advantage we have worked on until the ease of the lock-down...!"

Source: Frankfurter Allgemeine Zeitung 20.4.2020 Link

Scenario analysis – Stop contact reductions beginning of June



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 Peak number of confirmed infections (by test) will be: Day 329 in the CovidSIM (93 days from day 236 (today) 23rd April → 25th July): 20,745,424

Infection and Immunity Status



Peak Hospitalizations





Peak number of hospitalizations will be: Day 336 in the CovidSIM (100 days from day 236 (today) 23^{rd} April $\rightarrow 1^{st}$ August): **536,474**



Infection and Disease

Peak ICU





Peak number of ICU admissions will be: Day 334 in the CovidSIM (98 days from day 236 (today) 23^{rd} April $\rightarrow 1^{st}$ August): **96,897**



Infection and Disease

... coming back to the question we had...





How much will the Covid-19 outbreak have cost the German health care system in the first 100 days since the outbreak?

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Infections first 100 days





from 28th January (first case) \rightarrow 7th May 2020 \rightarrow 14 days from today 23rd April (Day 236) \rightarrow (Day 250): **288,031 infections**

Infection and Immunity Status





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Item of expense	Costs per case	Total costs first 100 days
10,414 non-ICU	5,551.87€	57,817,174 €



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13,188 total		97,494,611 €





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Protection equipment in hospitals	Per patient additional 50€ (13188 patients)	659,400 €



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models) Estimated total health care			
Additional ICU 12,000) COSt f	,000) cost for the first 100 days:		
Free hospital k		0€	
Tests since out per day)			
Protection equiposed 15.788.154.011 €			





 The Covid-19 outbreak will have a significant impact on health care budgets – also in the long-run!

- The cost for the first 100 days for the medical / clinical system was already around 16 billion € (5% of overall HC budget)
 - ... the social support programs might overrule these significantly (estimations around 1.2 trillion €!)





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