



The SwissCovid GAEN app after six months: It's not just about technology!

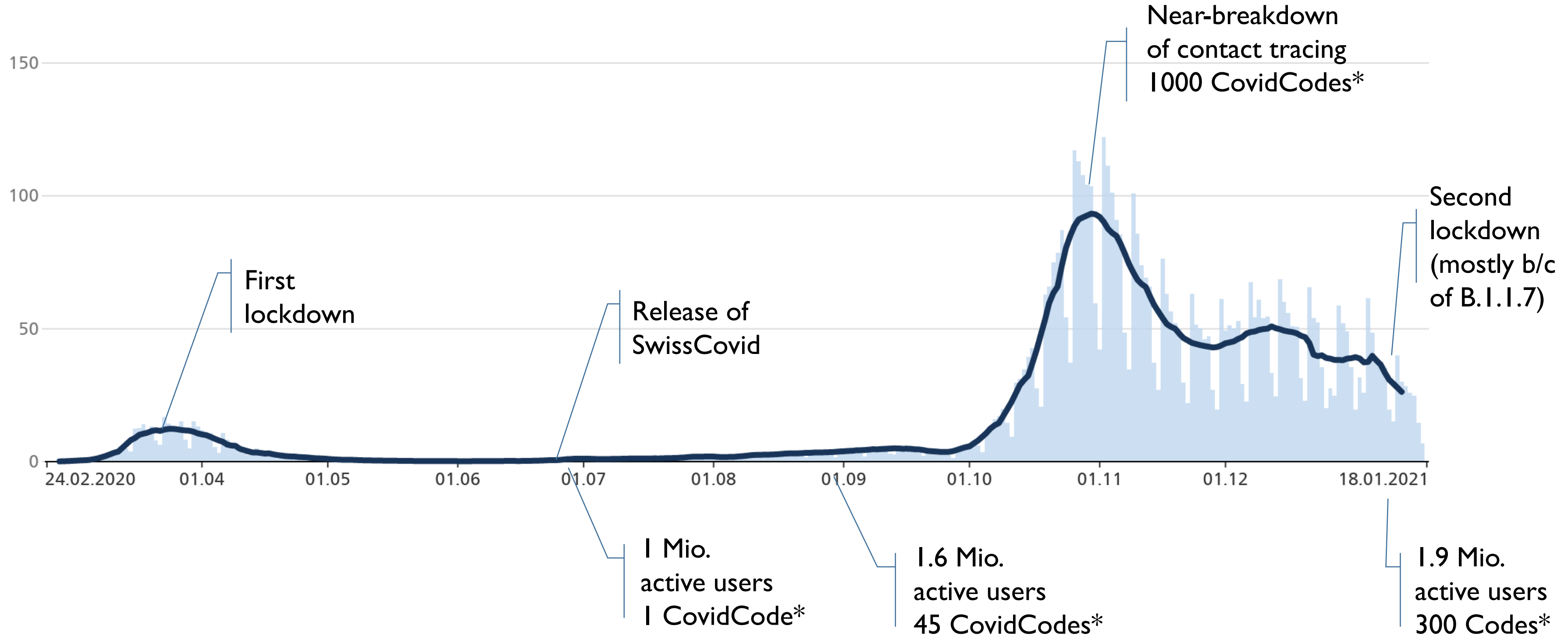
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Timeline of SARS-CoV-2 pandemic and SwissCovid

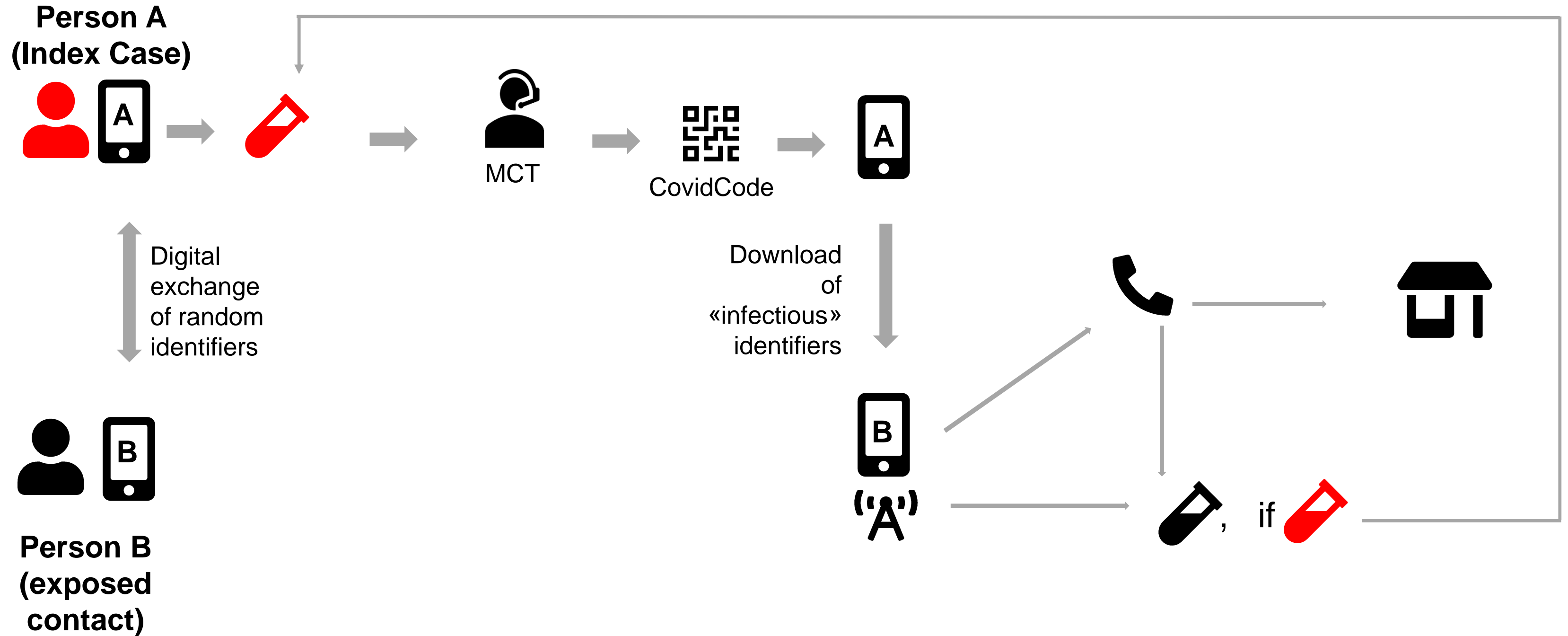
Cases (PCR-positive tests) per 100'000 inhabitants, population of 8.6 Mio. Source: <https://www.covid19.admin.ch/de/overview>



* 7-day average of entered CovidCodes

SwissCovid Notification Cascade

Built around federalistic structures. Following principles of privacy, voluntariness, non-discrimination (as stipulated by the SwissCovid law).



Is SwissCovid able to alter the course of the pandemic?

SwissCovid evaluation strategies: small before big!

<https://smw.ch/article/doi/smw.2020.20324> and <https://arxiv.org/abs/2012.12927>

Be aware of the primary role of SwissCovid
(a tool to warn exposed contacts; NOT to gather epidemiological data)

Leverage existing research studies and data

Analyze SwissCovid/SwissCovid from a systems perspective.
Include upstream and downstream processes in the notification cascade.
Also helps to identify bottlenecks and improvements.

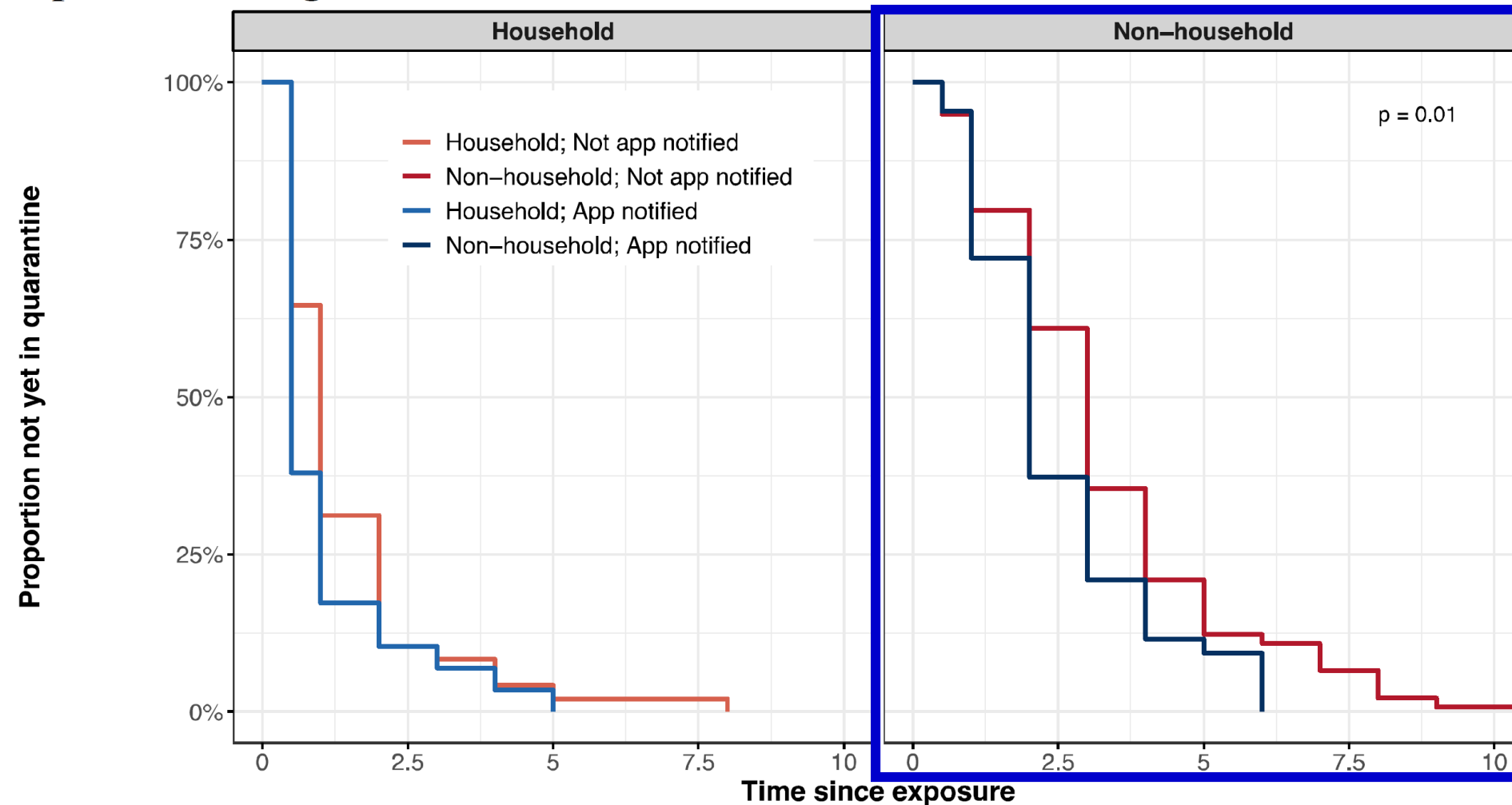
Focus on the smaller questions (centered around the main intended effects):

- 1) Is SwissCovid notifying exposed contacts faster ?
- 2) Is SwissCovid reaching more exposed contacts (involves trade-off!) ?
- 3) Can SwissCovid act as «second defense line» ?

SwissCovid evaluation: Is SwissCovid notifying exposed contacts faster?

<https://www.medrxiv.org/content/10.1101/2020.12.21.20248619v1>

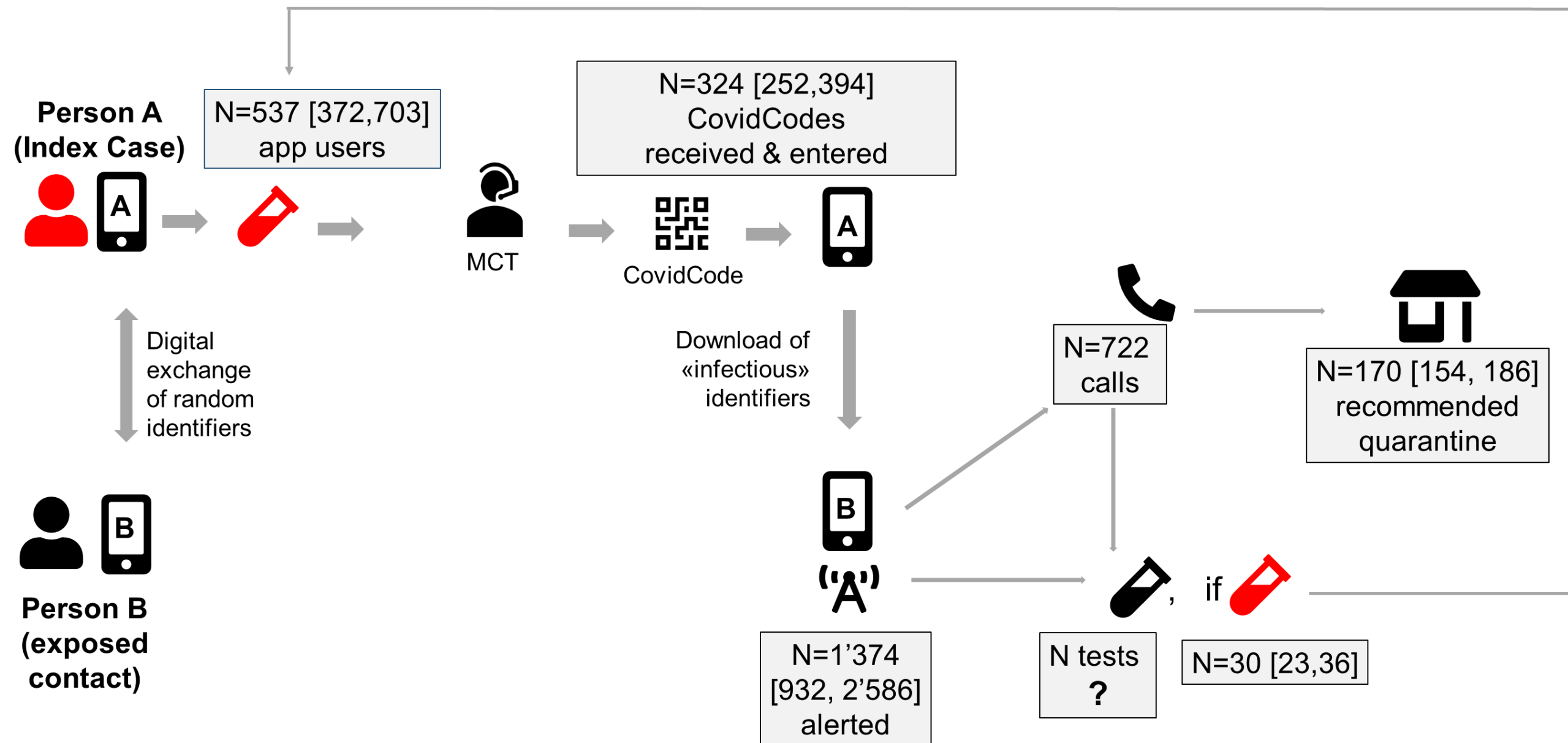
Figure 1: Time from exposure to quarantine in app notified versus not app notified stratified by exposure setting



- Study embedded in Contact Tracing of the Canton of Zurich (pop. 1.5 Mio.)
- Included 260 close contacts (72% app user)
- 38% of close contacts with app received notification
- Notified contacts with exposure risk outside own household entered quarantine 1 day earlier

SwissCovid evaluation: data-driven simulation of population impact

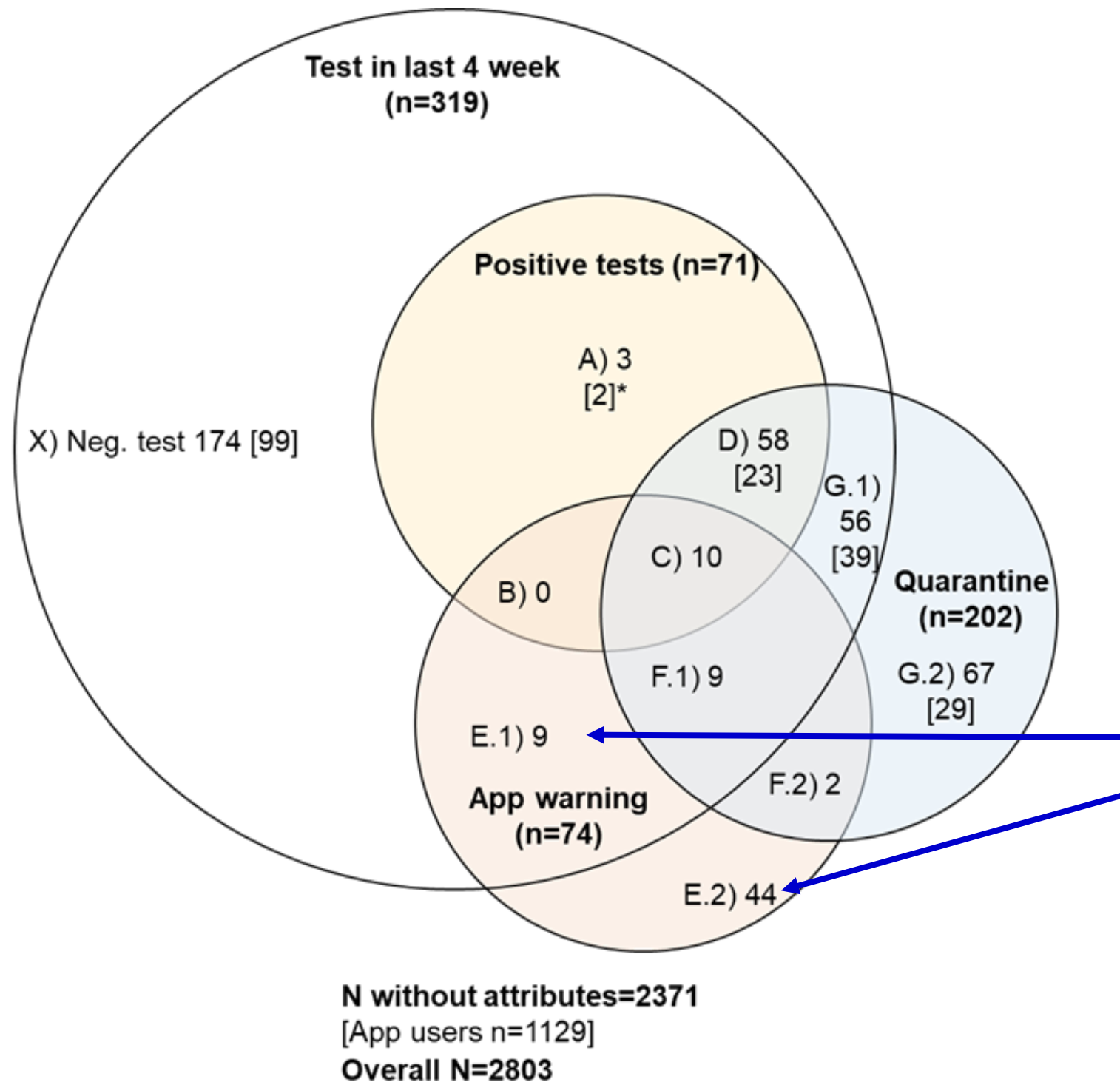
<https://bit.ly/3mxgQF9> (substantially updated version in review)



- Analysis of notification cascade for Canton of Zurich (Sept. 2020)
- 324 of 1923 (16.8%) PCR-positive cases uploaded CovidCodes
- 170 persons received quarantine recommendation (equivalent of 5% in mandatory quarantine)
- 30 persons tested PCR-positive after app notification

SwissCovid evaluation: Is SwissCovid notifying more contacts?

Preliminary (!) analysis based on Covid-19 Social Monitor (<https://csm.netlify.app/>, n=2803)

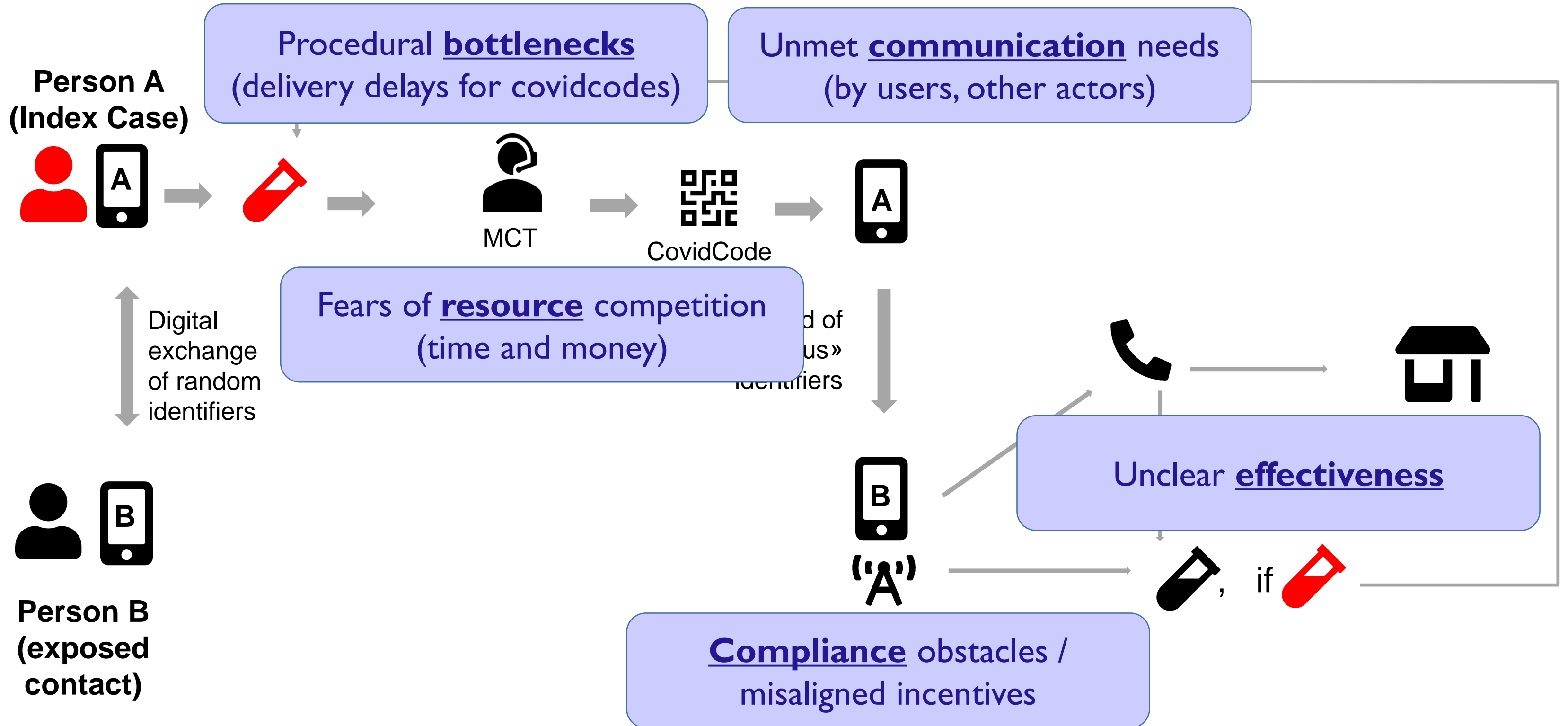


Do not show up in official monitoring or manual contact tracing

- Nationwide panel survey, representative for age, gender, language region
- Up to 44/74 (60%) app notified persons may not show up in any statistic in Switzerland
- Caveats: Self-reports, no strict definition of «quarantine» (can be self-imposed or mandated).

Implementation challenges through the lens of Normalization Process Theory

Media analysis of articles published between July 4 and October 3, 2020. von Wyl (2020) in review.



Compliance & Motivations: App usage in the Swiss population

<https://publichealth.jmir.org/2021/1/e25701/>

Results from a nation-wide panel survey including 1'500 respondents (Covid-19 Social Monitor)

	Mid-July 2020	First week of October 2020
Uses SwissCovid App	43.9%	46.5% (4% have uninstalled the app)
Reasons for non-use		
Not the right phone	26%	23%
Privacy concerns	24%	22%
Not perceived as useful	27%	30%
FOPH <u>weekly</u> case numbers	626	3'294

Take home messages

Based on early experiences with the SwissCovid app

- Think about a monitoring system while implementing SwissCovid.
- Leverage ongoing research studies and pool administrative data.
- The technical aspects work as expected.
- We are starting to see infected cases who may not have gotten tested without an app notification.
- SwissCovid is making a relevant contribution to pandemic mitigation.
- Challenges for app effectiveness are more on the non-technical side (delays in code generation, lack of understanding, misaligned incentives).
- Communication (of successes, improvements) remains crucial.



Thank you for your attention!

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