

Evidence on the effectiveness of backward contact tracing at KU Leuven, Belgium

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Outline

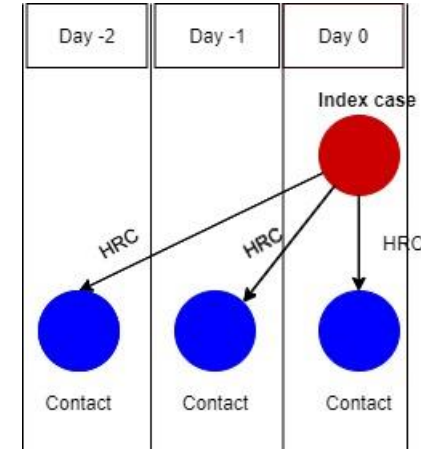
- Forward versus backward contact tracing
- What is backward contact tracing?
- Hypothesis
- KU Leuven contact tracing study
- Results
- Conclusion/discussion

Forward contact tracing

New case identified

Identify high risk contacts from 2 days prior to diagnosis/onset of symptoms

Refer for testing and quarantine



HRC = 15min, <1,5m, no masks

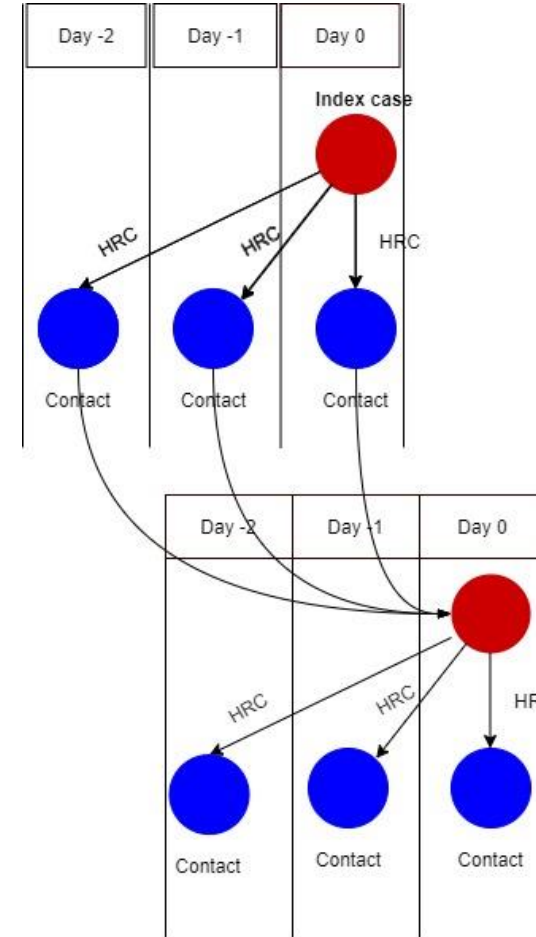
Forward contact tracing

New case identified

Identify high risk contacts from 2 days prior to diagnosis/onset of symptoms

Refer for testing and quarantine

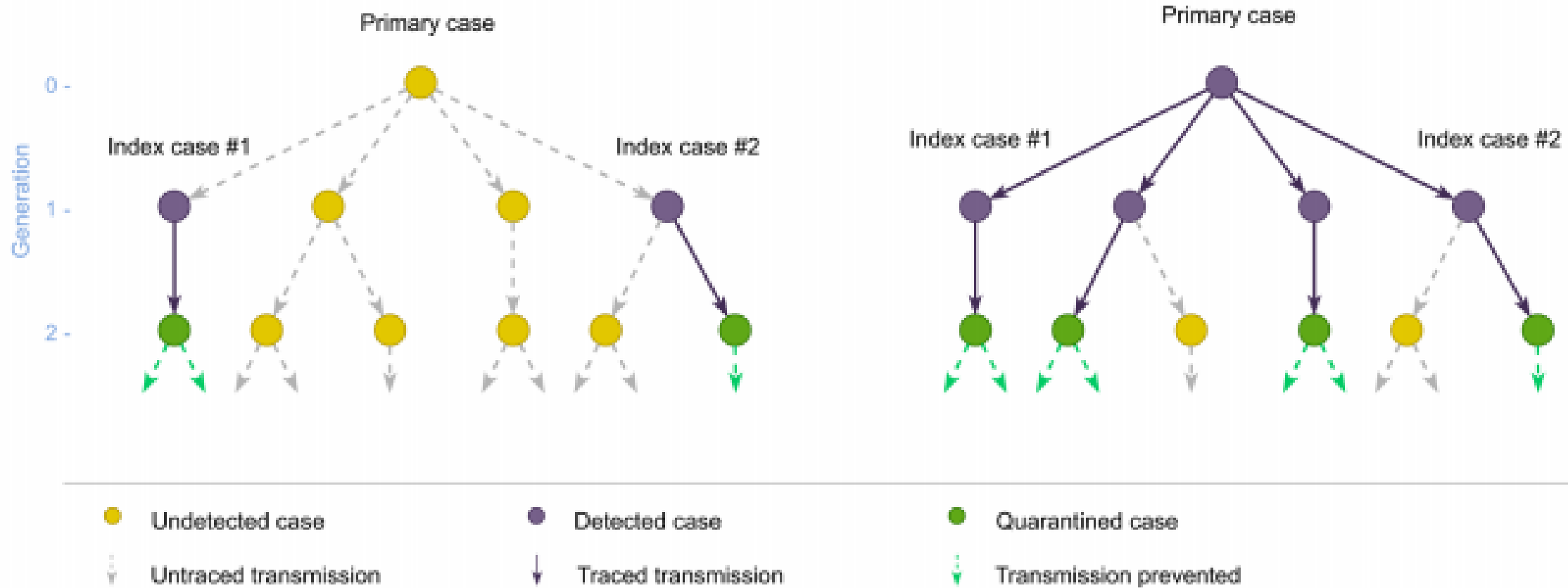
HRC = 15min, <1,5m, no masks



Forward versus backward contact tracing

(A) Forward contact tracing only

(B) Forward + backward contact tracing



Backward contact tracing?

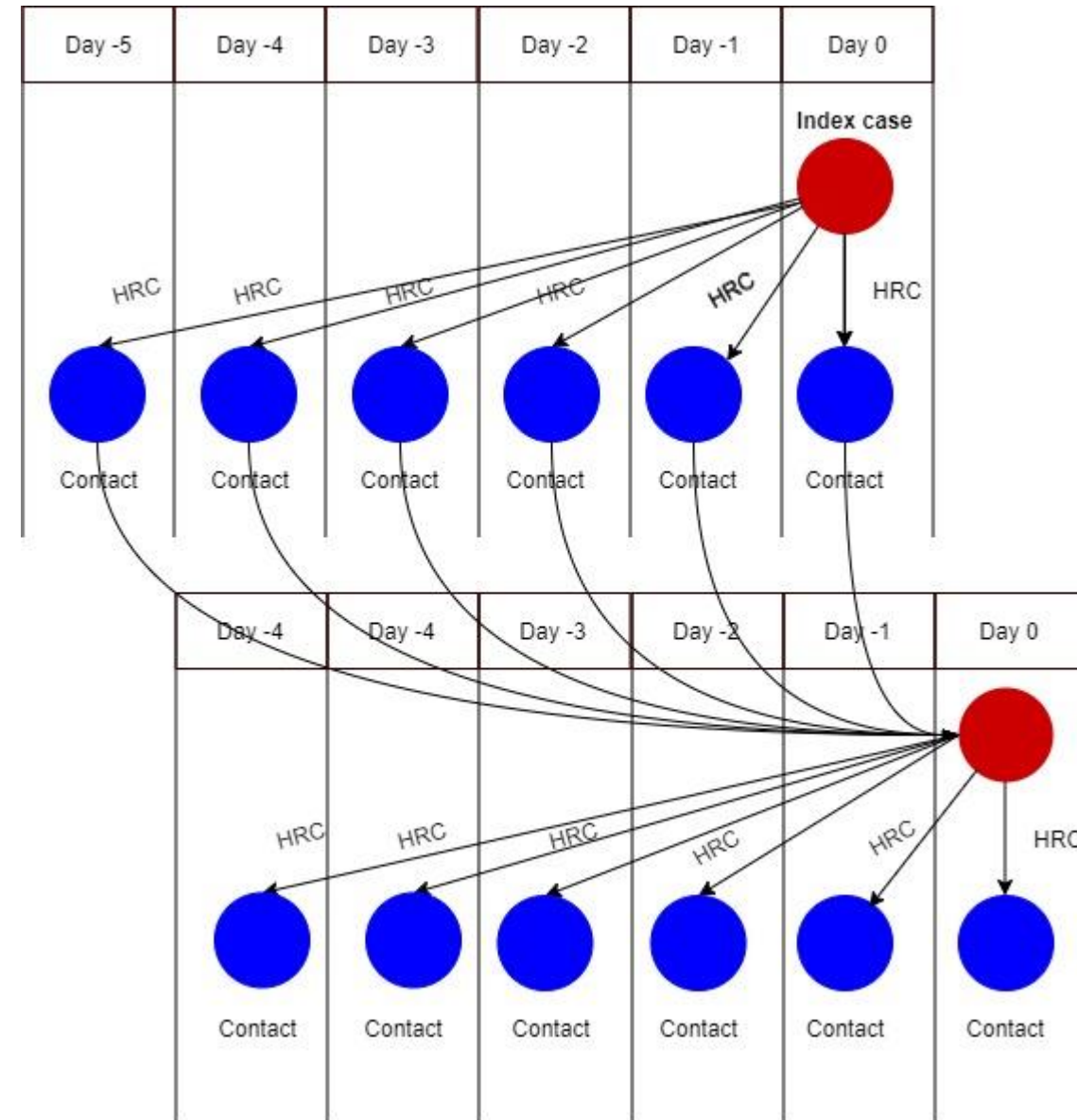
Can mean in practice:

1. Testing & quarantine of *all HRC* from 7 days prior to symptoms/diagnosis
2. Testing & quarantine of all attendants (HRC and LRC) of *single* source event
3. Testing & quarantine of all attendants (HRC and LRC) of *all* high risk events

1. Testing & quarantine of *all HRC* from 7 days prior to symptoms/diagnosis

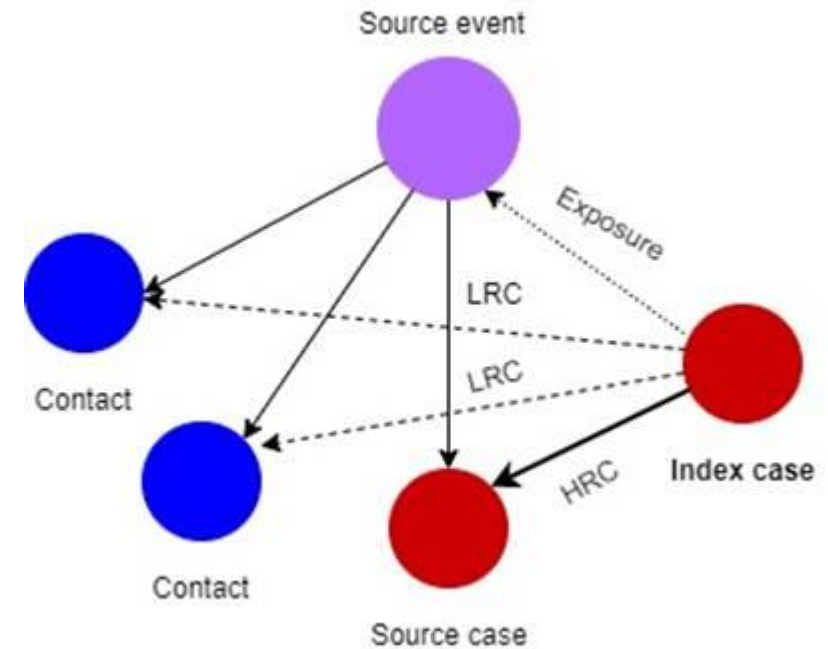
All HRC from 7 days prior to symptoms/diagnosis of index case are referred for:

- Testing ASAP and 7 days after exposure
- Quarantine 7 days after exposure

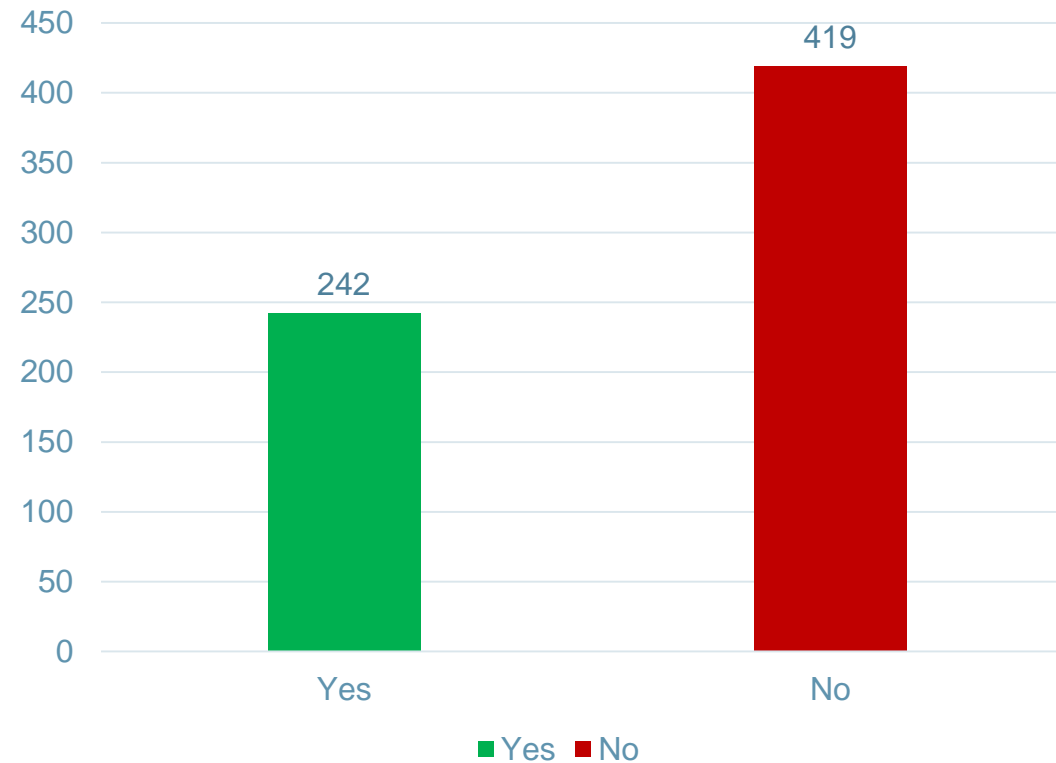


2. Testing & quarantine of all attendants (HRC and LRC) of *single* source event

All attendants (HRC and LRC) of *single* source event are referred for quarantine and testing



Do you think you know where you got infected?



Most don't know where they got infected!

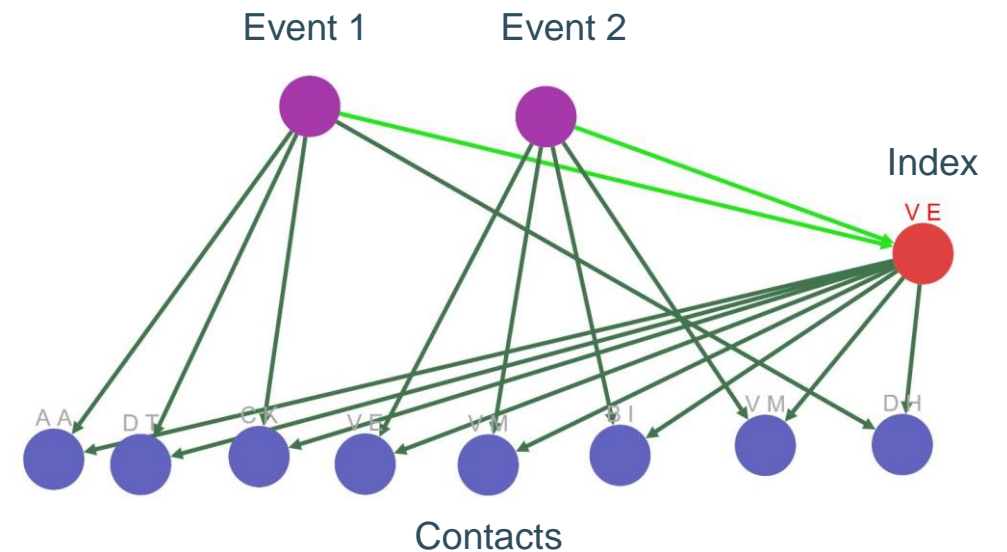
3. Testing & quarantine of all attendants (HRC and LRC) of *all* high risk events

All attendants of all the index case's recent high risk events are referred for quarantine and testing

- All the attendants = HRC & LRC
- High risk event = Closed space, Crowding, Close contact
- Recent = D-7 (onset of symptom or diagnosis of index case) -> diagnosis

Average number of contacts identified: 7,0

Flemish region contact tracing: 2,6



Outline

- What is forward contact tracing?
- What is backward contact tracing?
- **Hypothesis**
- KU Leuven contact tracing study
- Results
- Conclusion/discussion

Hypothesis

In SARS-CoV-2, it is **worthwhile to refer all attendants (HRC & LRC) of all high risk events up until 7 days prior to onset of symptoms/diagnosis of index case for testing & quarantine**

Methods

		Mum	Dad	Partner	HRC	LRC at CCC event
Monday 18/1	Start of symptoms					
Sunday 17/1	-1	?	?			
Saturday 16/1	-2	?	?			
Friday 15/1	-3			?		
Thursday 14/1	-4				?	?
Wednesday 13/1	-5				?	
Tuesday 12/1	-6				?	
Monday 11/1	-7			?	?	

Positivity rate forward contact tracing



**Positivity rate backward contact tracing
all attendants all high risk events**

KU Leuven testing & tracing

- Community based approach
- Low barrier free PCR testing
- Maximum integration of testing & tracing with regards to human and IT processes
- Same day testing, tracing & variant identification
- Focus on backward contact tracing
- Structured data gathering



KU Leuven testing & tracing

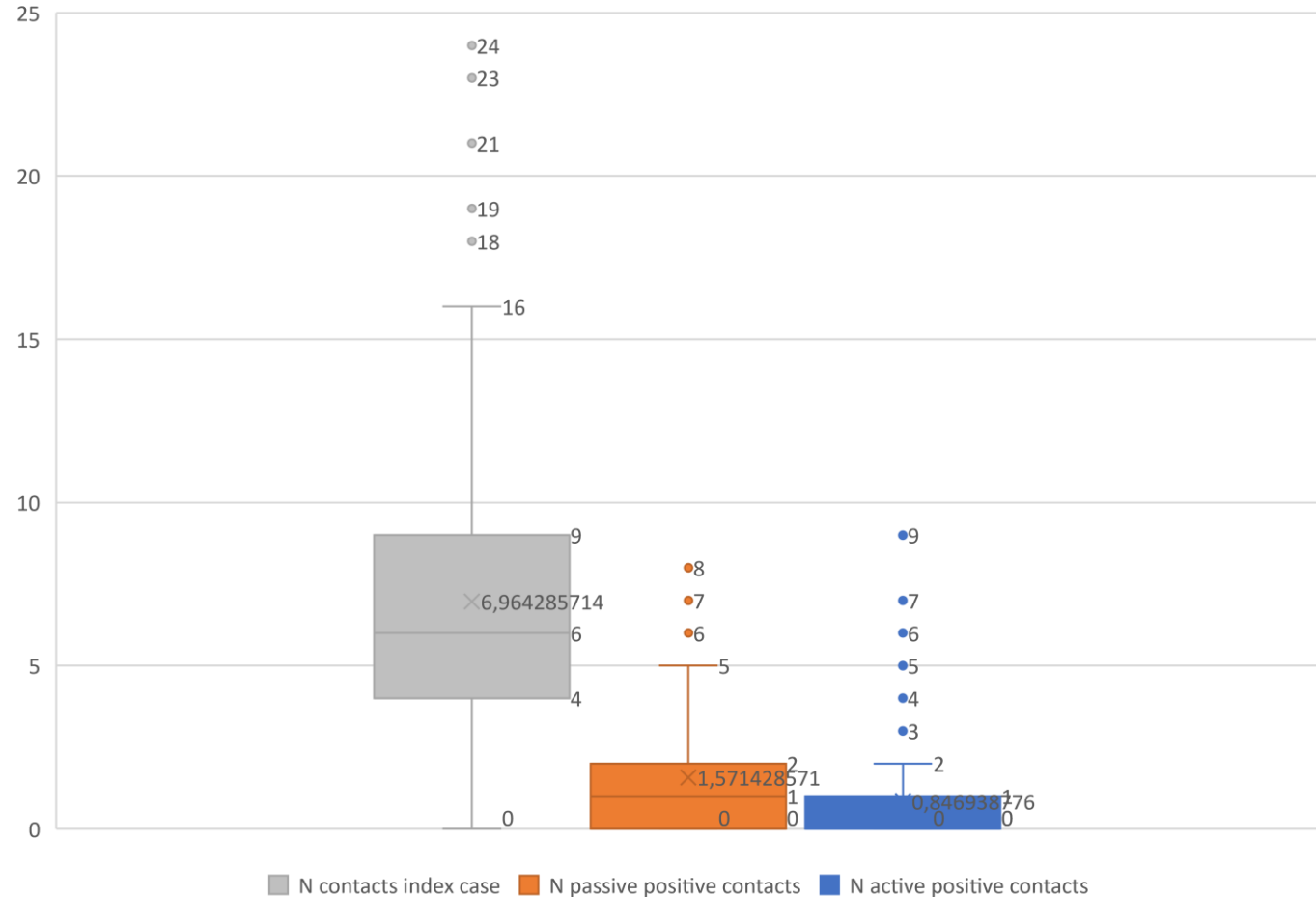
- > 50,000 students in a city with 100,000 permanent residents
- Over 22,000 tests conducted in over 12000 students since October 2020
- **>1000 positives and all their recent contacts (both HRC and LRC at high risk events) followed up**



KU Leuven testing & tracing

N cases = 197 (not shown)
 N contacts (grey) = 1365
 AVG N contacts/case = 7,0
 Already positive (orange)
 = passive case finding
 Referred & positive (blue)
 = active case finding

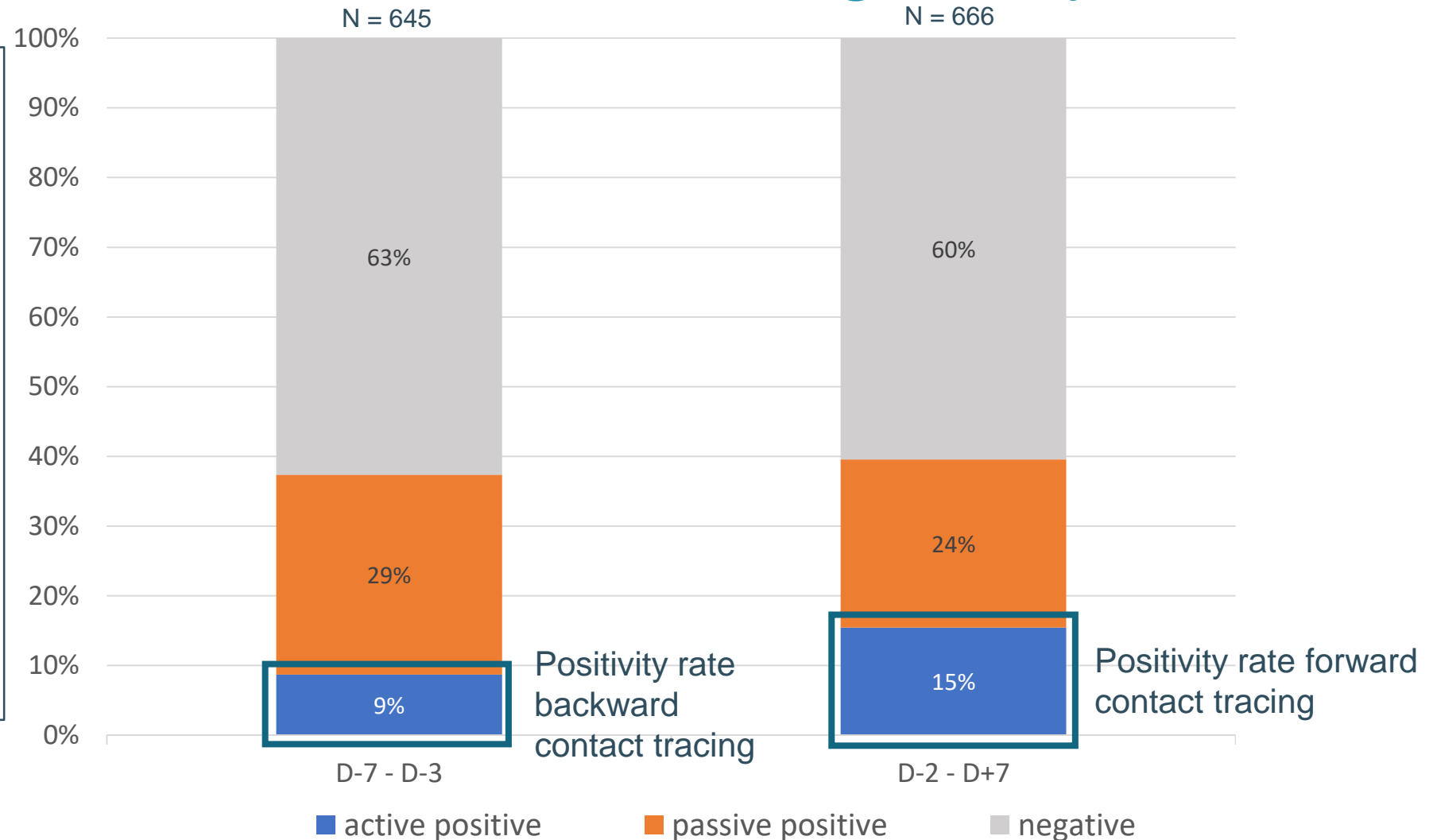
Note the skewed distribution of positive contacts found through active case finding



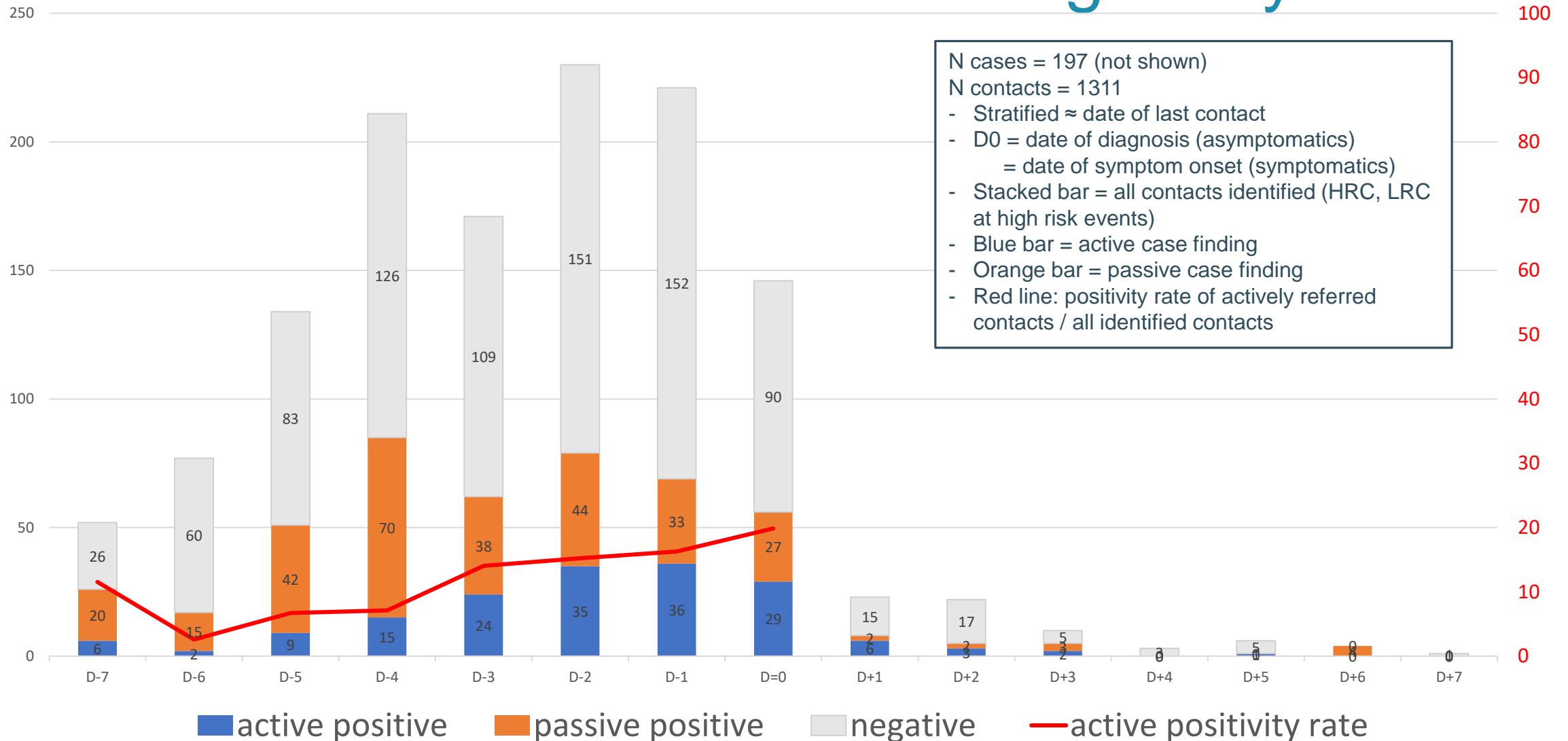
Results KU Leuven contact tracing study

N cases = 197 (not shown)
N contacts (stacked bar) = 1311 (D-8, D-9 excluded)
AVG N contacts/case = 6,7
Already positive (orange)
= passive case finding
Referred & positive (blue)
= active case finding
Others (grey)
= Negative, not reached,
refuses testing, not referred
since too low risk, immune

Note the high positivity rate of contacts D-3 -> D-7 after referral



Results KU Leuven contact tracing study



Conclusions

Preliminary data show that for SARS-CoV-2, **it is worthwhile to refer all attendants (HRC & LRC) of all high risk events up until 7 days prior to onset of symptoms/diagnosis of index case for quarantine and testing**

Contextual factors for succes of backward contact tracing:

- Low barrier testing
- Rapid laboratory TAT
- Rapid tracing TAT
- Testing ASAP ánd after incubation period

Q&A

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