



Controlling hand foot and mouth disease in preschools

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Funding: MOH (HSR), MOE

Screening

Isolation

Closure

Systematic review of epi

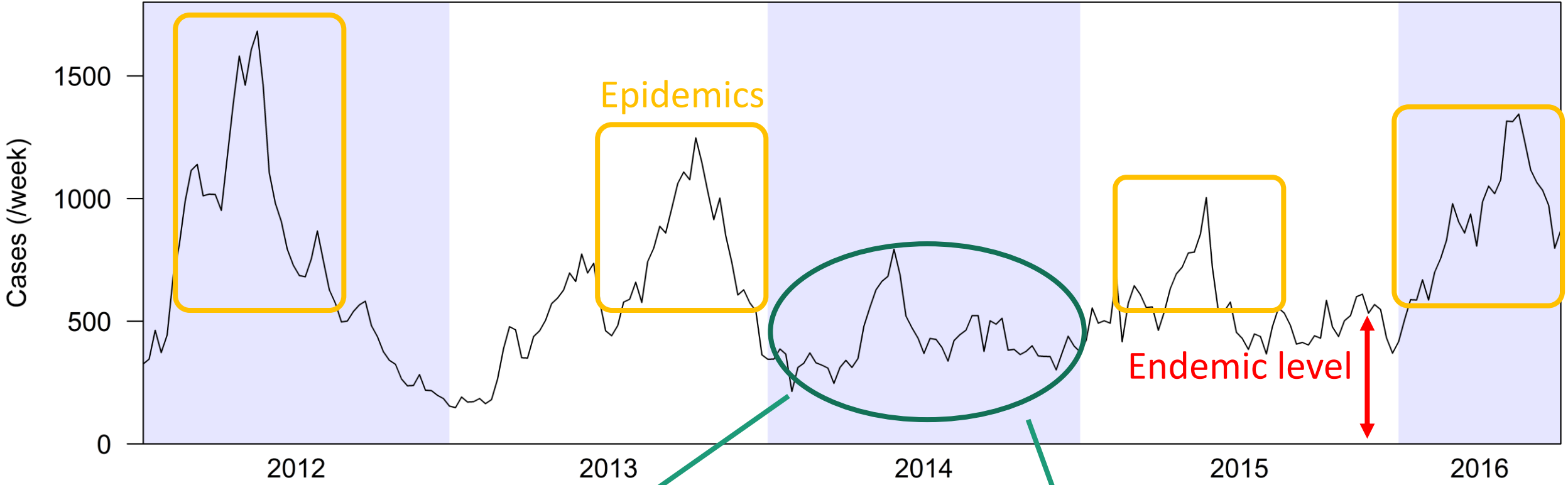
IIDs: parents & teachers

Impact of HFMD

Modelling of closure

Epidemiology of HFMD

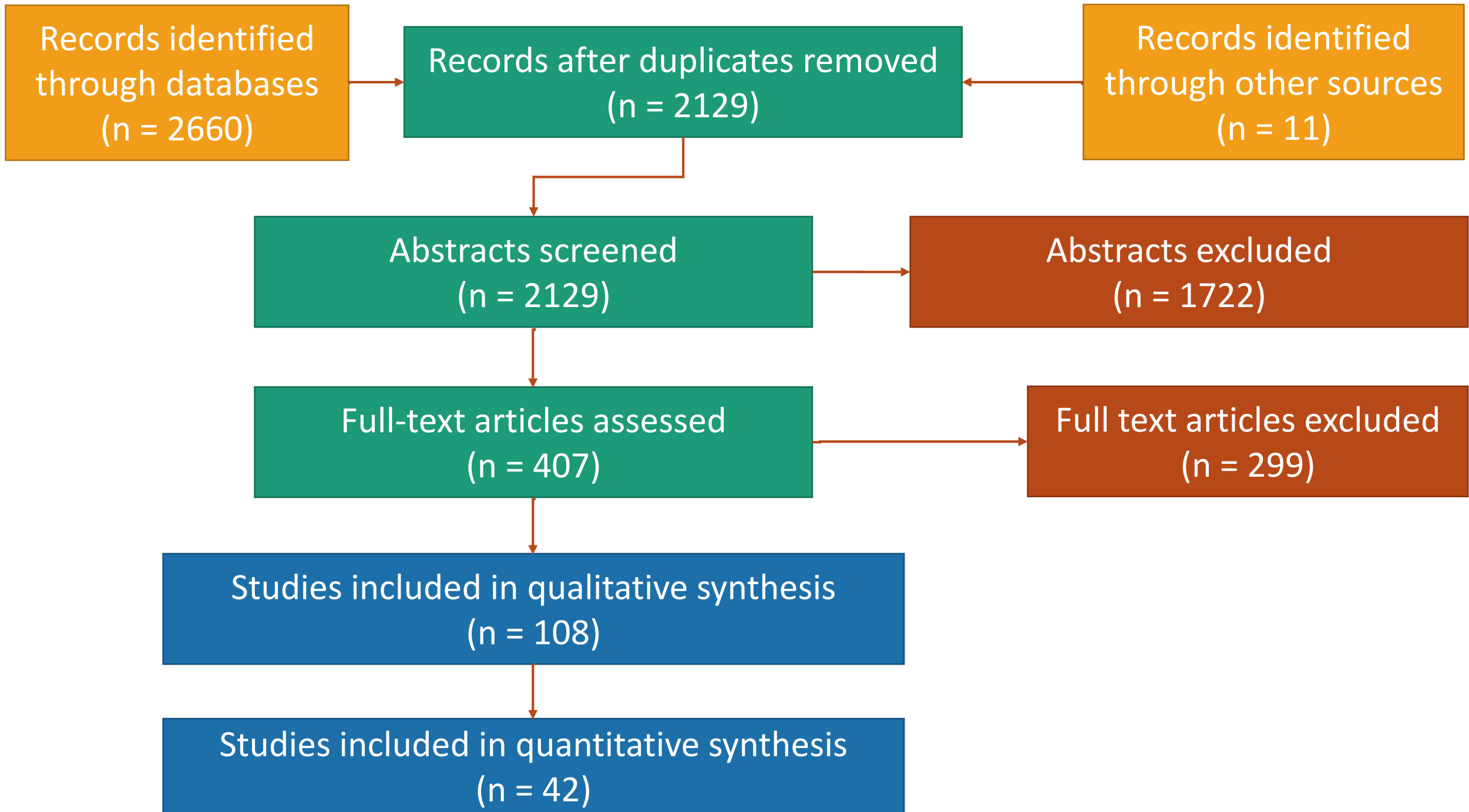
(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5130063/>)

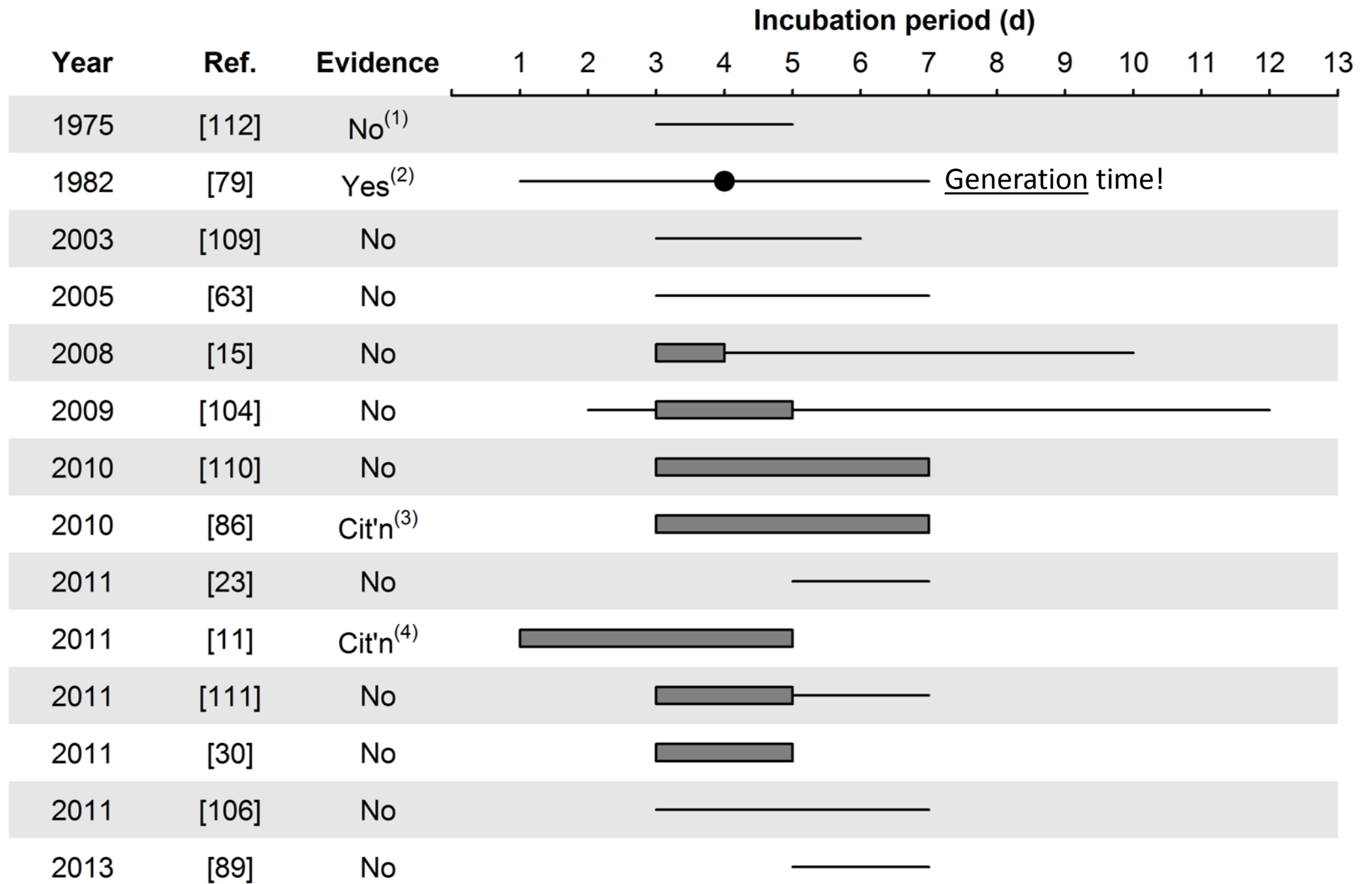


	Female		Male	
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Under 5	6300	29%	8300	37%
5 to 15	2300	10%	2900	13%
Over 15	1100	5%	1200	6%

1000	outbreaks in childcare centres
200	outbreaks in Kindergartens
300	outbreaks in primary schools





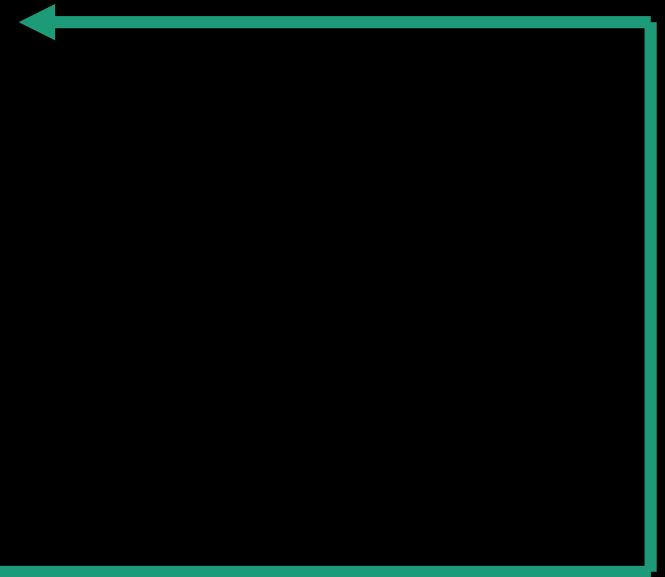
Lessons

The basic epidemiology of HFMD is not well understood

We have constant transmission in SG

Most cases are not diagnosed but may still transmit

We don't know how long the incubation period is



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In-depth interviews

(<https://www.ncbi.nlm.nih.gov/pubmed/28179628>)

Semi-structured interview of

17 parents

4 principals

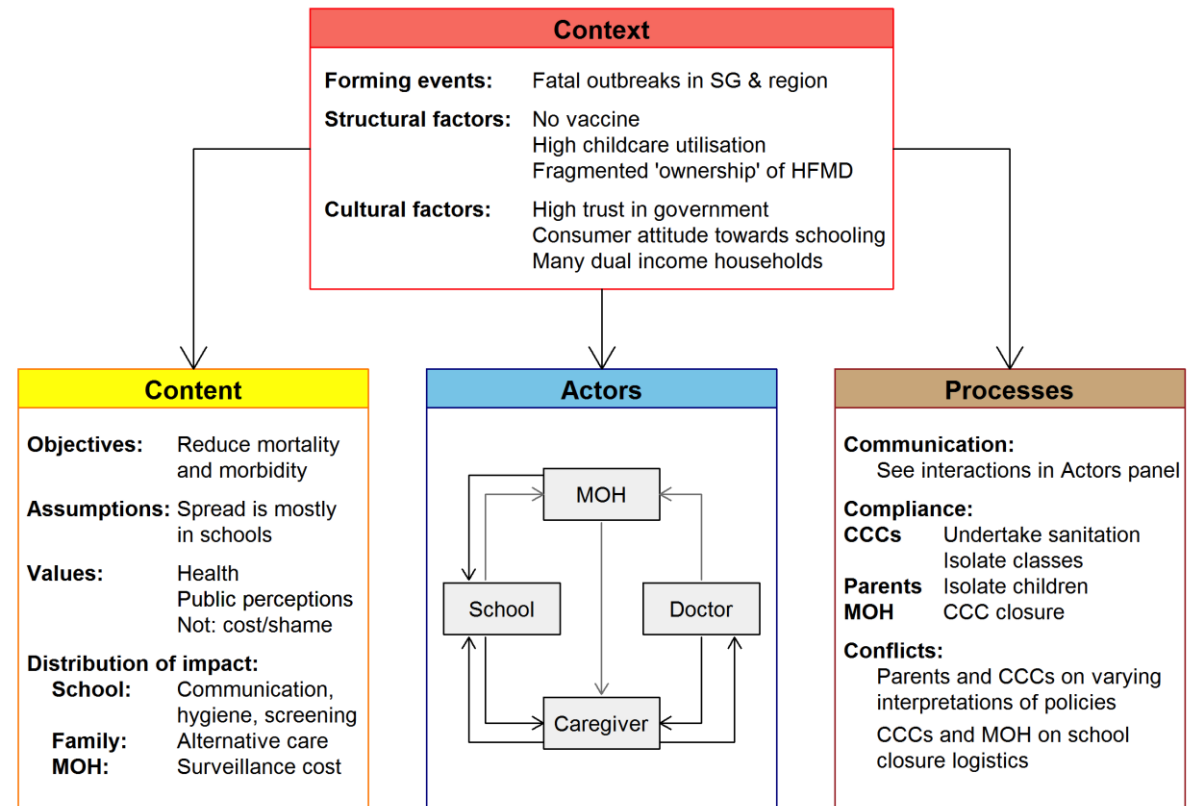
21 teachers

in English or Mandarin

Translated/transcribed and analysed using applied thematic analysis in NVivo

Parents noted playground, school and family as places they thought their child was infected

A majority of parents noted recent contact with an infected friend or family member **outside school** prior to infection



Schools implemented occasionally drastic interventions

Teachers described increasing cleaning, forbidding parents from entering, more frequent checks, more handwashing, stopping outdoor play, making children play alone or in pairs, isolating classes:

“Upon discussion with our managers, I think ... this age is very sensitive and disease spread very easily. So to play safe and conservative, we are not combining classes at all times now.”

Teachers support isolation of sick children, parents less so

Teachers support notification to MOH but complain that parents do not tell them their

child is sick “Sometimes when the MOH officer comes down and he shows me his list and he compares it with my list, I have encountered like discrepancies... I would see things like the parents went to see the doctor on the 8th, maybe, and it has been confirmed already, but the mum did not tell me, the mum still brought him to school on the 8th.”

and that they try to “beat” isolation:

“For example, yesterday we have photo taking. The child is suspected to have hand foot and mouth but doctor refused to give the parents letter to let the child back because the doctor say actually the child has to rest one more day. Today they can come back. But because of the photo shooting the parents insist to let the child back to school.”

No one could see the point of *naming and shaming*

Teachers feel HFMD is beyond their control

“It’s very de-demoralizing because how much we do, they don’t know. They just publish it there and saying ok.”

Parents don’t see the point

“I really don’t see much benefit. You mean their name is up there, you think parents are going to stop their children from going to school? ... There’s no meaning behind it.”

Parents and teachers felt closure was effective, but onerous

Teachers generally support it “So it’s good to have the mandatory closure for 10 days like that so, you know, there’s a break in the cycle and the kids get to stay at home and rest. And then, if we are able to, you know, sanitize and get the environment ready for the kids to come in back again.”

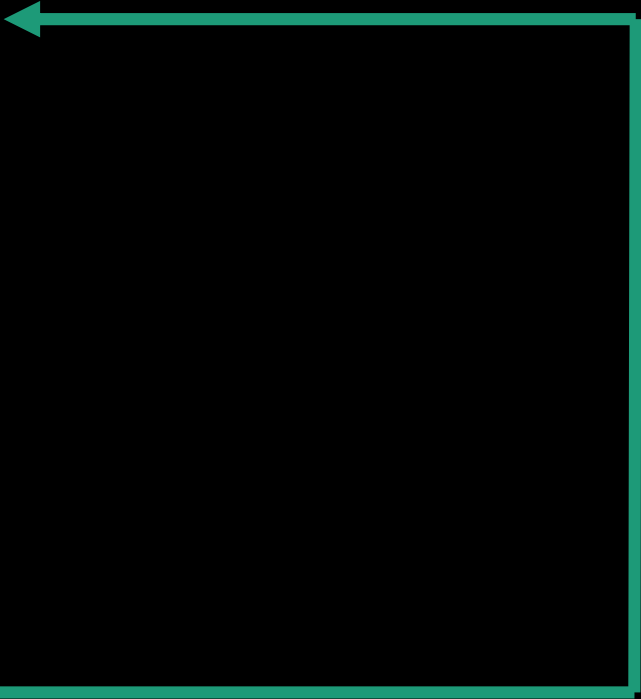
but closure causes friction with parents

“The whole school have to close which is actually quite a disaster for all the parents and the teachers because we have to... we really have to explain to them why and then there are some parents that are quite difficult that we have to handle.”

Substantial impacts on leave and alternative care

“So, for me I exhausted about 10 days ... for caring of them when they are sick and when I come back, a few days later, the school announce that they are close. ... So my supervisor even she wants to allow, give me the leave ... I’m not saying I’m very important, but some part of service will be ceased.”

Lessons
Parents report other contacts prior to school
“Drastic” interventions used
Isolation and closure cause problems for parents
Relationship between parents and teachers stressed



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Impact of HFMD and of control

Work under review

Lessons
Costs bearable at school level
Costs extremely high for parents
Overall burden of disease higher than expected



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Work under review

Lessons

No evidence of effectiveness: could be too late?



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Conclusions

Control policies seem excessive:

little evidence that school closure prevents infection

basic epidemiology is poorly understood

impact on families and schools and MOH is disproportionate

Recommend relaxing control:

restricting closure to special situations

continuing with isolation

dropping 'naming and shaming'

Recommend research on routes of transmission