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Syphilis testing performance: continuous quality improvement (CQI) works for some but not for all

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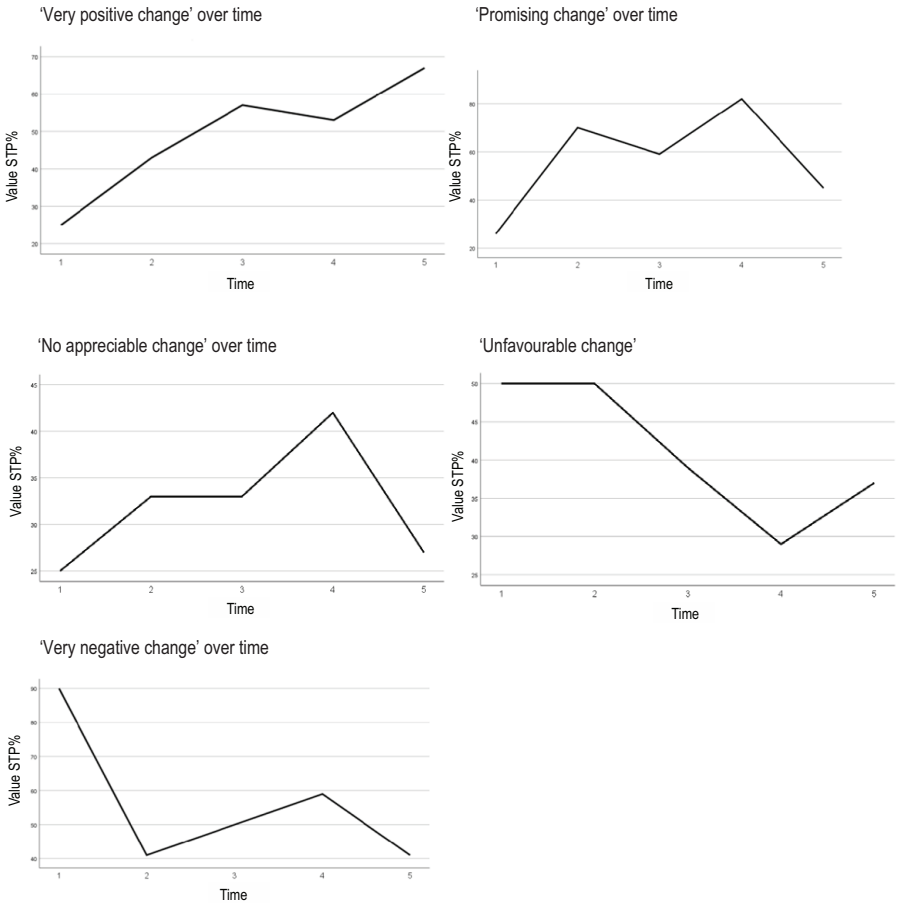
In view of the unabated continuance of the syphilis outbreak described as 'unprecedented' among Aboriginal and Torres Strait Islander communities in northern Australia, we applaud multijurisdictional effort galvanised through the Commonwealth Chief Medical Officer.[1] While the importance of supporting comprehensive primary health care in this context is indisputable, the outcomes from continuous quality improvement (CQI) programs as designed to date may be less certain. As reported elsewhere,[2] we examined change in syphilis testing performance (STP) measured within the audits of general preventive health in 110 services participating in two or more CQI cycles. As a proportion of eligible clients were offered syphilis testing at each CQI cycle in each service, we used STP as a proxy measure ranging from zero to 100% for population-based syphilis testing according to clinical risk.[2] At entry to their first CQI cycle, only 42 (38%) services had tested or offered to test 50% or more of their clients at risk for syphilis, corroborating the need for CQI. Compared against their entry-level STP, the odds at their last cycle of clients at risk receiving or being offered syphilis testing increased, but not all services made STP gains commensurate with CQI effort over many CQI cycles.[2] As explained here, further investigation of patterns of change at each cycle seemed warranted as a way of better understanding CQI dynamics. Previously, Larkins et al.[3] had accessed data from 73 Aboriginal and Torres Strait Islander primary health care services completing at least three annual CQI cycles over a nine-year period in chronic disease management, child and maternal health, and preventive care (STP had not been included).[3] Using specific criteria and visual inspection of service performance over time, Larkins et al.[3] discerned six patterns of change over time: two of which were positive, three negative and another neutral. Only 30 of these 73 services were categorised on the basis of quantitative endpoints as 'consistent high improvers'.[3] We adapted their approach with data from 29 services in our sample participating in either five (n=21) or six CQI cycles (n=8) to track changes in STP values throughout the entire sequence of CQI for each service. To do so, we used STP data points at each cycle to classify each service into one of seven patterns as below:

- **Very positive change**: the service changed 20 points or more in a positive direction from their first cycle to their last cycle (whether cycle 5 or 6 as appropriate) and no more than two negative changes between cycles during its entire CQI.
- **Positive change:** the service changed 20 points or more in a positive direction from the first cycle to the last cycle but may have had more than two negative changes between cycles during its entire CQI sequence.
- **Promising positive change:** the service changed 10 or more points but fewer than 20 points in a positive direction from the first cycle to the last cycle.
- **No appreciable change (whether positive or negative):** the service did not achieve an overall change of 10 points whether negative or positive between cycle 1 and their last cycle.
- **Unfavourable change:** the service changed 10 or more points but fewer than 20 points in a negative direction from the first cycle to the last cycle.
- **Negative change:** the service changed 20 points or more from their first cycle to their last in a negative direction but could have had more than two positive changes between cycles during its entire CQI sequence.
- **Very negative change:** the service changed 20 points or more from cycle 1 to the last in a negative direction with no more than two positive changes between cycles during its entire CQI sequence.

Figure 1: Examples of patterns of change in selected categories from services completing five cycles.



Only eight of 29 services exhibited 'very positive' change while a further four exhibited 'promising positive' change. Disappointingly, a third (n=10) exhibited no appreciable change with the remainder either 'unfavourable' (n=2) or 'very negative' (n=5). Figure 1 displays the pattern for the overall best performer ('very positive') and examples of patterns from other categories. By examining and classifying the trend of STP change over time in each service, our findings provide unique insights for public health policy makers, managers, communities and clinicians 'on the ground'. These visualisations reveal that STP across CQI varied wildly over time, moving in positive or negative directions both with or without net gain, paradoxical decline, or remaining largely unchanged. Despite whatever focus these services could muster to address STP within broader preventive health CQI, too few improved absolutely. In 2018, the National Aboriginal Community Controlled Health Organisation itself produced a new CQI framework.[4] Generated from within the community-controlled sector, this framework instils greater confidence in culturally secure CQI efforts in matters of critical public health importance. In view of the latest outbreak surveillance report,[5] we hope our findings facilitate evidence-based discussions in affected communities and CQI by their local health services.

References

1. Department of Health. *Enhanced Response to Addressing Sexually Transmissible Infections (and Blood Borne Viruses) in Indigenous Populations.* Canberra (AUST): Government of Australia; 2017.
2. Adily A, Girgis S, D'Este C, Matthews V, Ward JE. Syphilis testing performance in Aboriginal primary health care: Exploring impact of continuous quality improvement over time. *Aust J Prim Health.* doi.org/10.1071/PY19070.
3. Larkins S, Woods C, Matthews V, et al. Responses of Aboriginal and Torres Strait Islander primary health care services to continuous quality improvement initiatives. *Front Public Health.* 2015;3:286.
4. National Aboriginal Community Controlled Health Organisation. *National Framework for Continuous Quality Improvement in Primary Health Care for Aboriginal and Torres Strait Islander People 2018-2023.* Canberra (AUST): NACCHO; 2018.
5. Department of Health. *Multijurisdictional Syphilis Outbreak Surveillance Report*. Canberra (AUST): Government of Australia; 2019.

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