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Editorial: Time to reflect

Alex Welte - Director of SACEMA.

The mid-year break is upon us. At SACEMA, this does not just mean the usual arrival of the first cold blustery spell, but also, and usually astonishingly well correlated, the arrival of our north American friends who join us in our annual clinic on the Meaningful Modelling of Epidemiological Data (MMED). As I write, our core MMED team is hunkered down in Muizenberg with 60 clinic participants: masters and Ph.D. students, and post-doctoral fellows, drawn from over Africa and North America to talk shop about mathematical models, public health, and, as the name implies, their meaningful collision.

The 7th SA AIDS conference is in progress, and I have just briefly escaped the first blast of cape winter by debating in Geneva how best to provide advice to teams planning to estimate HIV incidence from large household surveys – or how best to advise them to desist, if, realistically, the planned study cannot be expected to yield informative results.

In short, it seems to be a time to reflect, to reconsider what we are trying to do, and whether we are making any useful contributions. We hope these quarterly epidemiological update offerings are food for thought:

Danielle Roberts has been investigating risk factors for malaria in young children, focusing on data from Uganda, which tells a sobering tale of missing information, missed opportunities, and the persistence of an old scourge who's end is ever hoped for, sometimes anticipated, but, alas, not around the corner. Her investigation forms part of the current pattern of managing limited resources by learning, through analysis, to focus on effective intervention priorities.

Nathan Geffen takes us down into the belly of the modelling beast, considering how computational epidemiological models crunch their way through the passing of simulated time, subject to the rules of model worlds which are intended to capture as much as we need of some critical pathways in disease progression and transmission in order to

help us think about possible futures and present choices. Not necessarily obvious to the casual observer in the era of instant web searches and sexy data 'dashboards' is the ongoing challenge that putting into a model all the details we would like to explore confronts us with many unsolved technical conundrums, and computational run times that are not always acceptable. One particular area where this is a serious problem attracting ongoing research, is in the simulation of populations through actual individual 'agents' in electronic model worlds, rather than flows in mathematical equations.

In the final full article, Nishila Moodley reviews our collective ongoing failure, despite many breakthroughs here and there, to deal a decisive blow to the stubborn HIV epidemic, of which South Africa persists in being the proverbial epicentre. Considering the many (partially) effective interventions, she reflects on why an effective vaccine is still the best hope for an affordable and decisive endgame.

Under short items, Faikah Bruce looks at the ongoing CHAMPS study grappling with flexible appropriate options for adolescents to curtail their HIV acquisition risk in the present, pre-vaccine era. On the matter of the limits of models, Brian Williams uses his short item to turn around the question of the limitations of model based thinking, to consider the limitations of data, and the prospects for demanding ever more insights from analysts when the surveillance systems miss opportunities to ask the right questions. Also under short items, Nishila returns to summarise SACEMA's recently held 'Research Days', our still growing and evolving annual student conference.

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