Editorial

Translational public health: rehearsing the evidence until the task is done

In a way, perhaps unfairly so, some might criticize that this issue of the Journal apparently contains few original insights. Let us explain.

Academic purists in the basic discovery enterprise would argue we have known for a long time that obesity is a rapidly growing problem particularly amongst the current generation of younger people,1 fundamentally as a result of too much energy intake2 and not enough expenditure.3 But as our trio of European papers show, key gaps of knowledge on implementation still remain that should therefore be filled if we are to make progress on the ground.1–3 For instance, does eating breakfast offer biological protection against overweight and obesity or is it merely a risk indicator that signals a poorer socioeconomic disposition thus correspondingly less ideal anthropometrics? These would lead to two very different intervention strategies. Students of epidemiology will remember Rothman and Greenland’s elegant exposition of statistical versus biological versus public health interactions and the related concepts of additivity and multiplicativity on risk differences or ratios, which can help dissect out this subtle although important distinction.

Contributors to the first set of articles in the new ‘Perspectives’ section have focused on this same task through a different set of philosophical prisms.4–9 To their credit they decided to revisit, with fresh reasoning, the whole idea of causality in the public health sciences. The five authors, from as many countries, debate whether traditional approaches to defining and eliciting robust evidence of causality is still relevant in the current era of molecular epidemiology on the one hand and a neoclassical focus on multi-level environmental determinants of health on the other.

Taking another example, whereas maintaining sufficiently high vaccination coverage (in turn determined by the basic reproductive number of the target pathogen) has long been one of the first lessons in communicable disease control, new empirical evidence is constantly required given the epidemic potential of emerging and re-emerging diseases from zoonoses10 or falling immunization rates.11 Accepted or received wisdom is no replacement for situation-specific study for it can sometimes yield surprises that are both tractable and mutable by public health means.10–12

A third exemplar of the usefulness of research questions informed by practical realities comes from the two papers dealing with screening. Mass screening for anal cancer is not cost-effective but might well be an appropriate, in fact vital, option under certain parameter combinations that vary between settings.13 The Inverse Care Law has once again been demonstrated in Hong Kong,14 and screening delivery practices that one takes for granted in the UK is seldom found elsewhere around the world, even in places with comparable socioeconomics and long historical links otherwise.

At the front line of public health practice, there is often a chasm between knowing and doing. The latter requires specific contextual understanding and customization, not just broad generalities or grand theories. Two papers in this issue that have looked at small area variation at the local level are particularly instructive.15,16 The Journal has always tried carefully to balance science with practice, theory with reality and rationality with feasibility. Public health is de facto a translational industry that concerns itself with bringing about improvements to the health of populations through the best science, thus closing the loop and narrowing the chasm to a crack.

Gabriel M. Leung
Selena Gray

References