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The e-cigarette safety report from the National Academies of Science runs to 775 pages and yet only mentions communication twice.[1] So in response to Zeller (2018, this issue)[2], we believe that for citizens to make informed decisions on e-cigarette regulation, it is necessary to measure individuals' priorities and risk perceptions and then communicate the key outcomes for different groups.

Communicating evidence for regulatory options has distinct challenges compared to communicating evidence for decisions to be made by individuals. We recently reviewed how policy options are communicated across a wide range of domains, including health, and we identified a core tension between issue coverage and message comprehensibility.[3] We further uncovered four particular challenges of policy option communication: heterogeneous impacts (different outcomes for sub-groups), multiple outcomes (e.g., health, finances), large uncertainties, and long timescales.[3]

The recent US and UK government reports on e-cigarette safety both detail numerous benefit and harm trade-offs, most notably in a tension between young people starting e-cigarette use and adult users of combustible tobacco products switching to the less harmful e-cigarettes.[1,4] Regulation of e-cigarettes will also affect non-health outcomes in politics and finances. A shift away from combustible tobacco products could reduce government tax revenue even as tobacco companies continue to profit because they increasingly dominate the e-cigarette industry.[5]

There is no general-purpose solution for which of these outcomes to communicate or how to summarise across multiple outcomes. Common currencies (e.g., money; quality-adjusted life years [QALY] or expectancy [QALE]) allow multiple outcomes to be compared and weighted but have three key disadvantages: 1) conversion rates are contentious, 2) aggregated health outcomes such as the QALY may obscure how benefits are distributed and might devalue those with the worst health who are greatly suffering, and 3) decisions become tricky when preferences differ based on whether outcomes are presented separately or in common currency, because neither preference is more correct.

Two alternatives to using common currencies are: 1) tailor messages to particular demographics, or 2) communicate heterogeneous impacts to multiple groups. When discussing e-cigarette regulation, individuals may be more concerned about non-smoking youth starting to use e-cigarettes v. adult users of combustible tobacco products reducing their health risks (or vice versa), and therefore each should be expressed separately. Unlike communication for individual decisions, there is almost no evidence for the effectiveness of graphical, tabular, and narrative presentation formats of policy options, although formats are now being adapted and tested that show outcomes for different groups. For example, the MAGIC group[6] manages to describe heterogenous outcomes and uncertainty in brief graphics (see Figure 1).

In sum, aggregates such as net public health impact are convenient for cost-benefit analysis but may not weight outcomes consistent with individual values. Research can identify the interests of key audiences, for example the key outcomes and affected populations, and formats for displaying evidence can be properly tested on a range of stakeholders from policy-makers to citizens. Communicators can then provide the key

information that allows these audiences to weigh the 'winners and losers' themselves for an informed policy preference. This may be the best and most transparent solution available for weighing harms and benefits to different groups when considering new regulations.

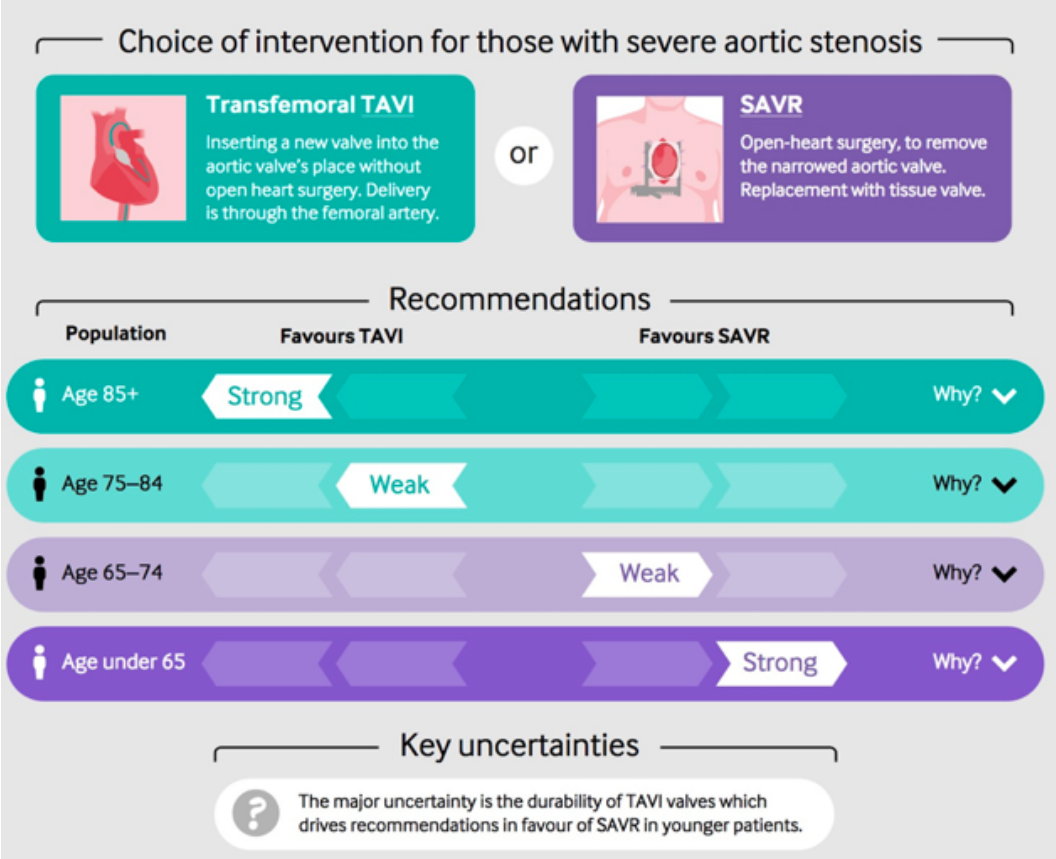

Fig. 1. The MAGIC group[6] communicates two options for a healthcare intervention with recommendations given for particular age groups. These recommendations were generated with GRADE, a transparent system for developing and presenting summaries of evidence in clinical practice.[7] Reproduced with permission of MAGIC; copyright ©MAGIC, all rights reserved.

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