with antibiotic-resistant bacteria. However, our study did not stratify for age-specific risks, comorbidities, appropriateness of antibiotic therapy, or type of care.

As an alternative method, Raoult and colleagues did a survey of 250 intensive care unit (ICU) doctors and concluded that around 45 deaths due to an antibiotic therapeutic impasse occurred in ICUs where the specialists interviewed have worked. As this survey is unpublished, we cannot assess its methodology and limitations. Studies based on physicians' self-assessments are inevitably fraught with cognitive biases, especially when there are several competing risks, as is common in modern health care. Over 32 types of cognitive biases affecting physicians have been described,[3] and a systematic review[4] found that at least one cognitive factor or bias was present in all studies.

In Raoult and colleagues' survey, doctors working in ICUs in France were asked to report "deaths directly linked to antibiotic therapeutic impasse despite treatment adjusted to antibiotic susceptibility test results". By contrast, our study was not limited to only ICUs or hospitals, and addressed a wider range of infections with antibiotic-resistant bacteria for which poor outcomes (including death) occur when treatment is not appropriate (ie, when the organism causing the infection is resistant to the antimicrobial used) or adjustment to appropriate treatment is delayed.[5–7]

We agree on the value of large-scale, multi-country, prospective studies to assess attributable mortality, although possible cognitive biases would need to be accounted for. Mathematical modelling applied to infectious diseases has proven useful in analysing the health of large populations.[8] We believe that disease models stemming from available scientific evidence are useful to describe the health effects of infections with antibiotic-resistant bacteria.

We declare no competing interests.

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Understanding HIV and hepatitis C virus risk among incarcerated young men with histories of injecting drug use

In their systematic review and meta-analysis, Jack Stone and colleagues[1] found that recent incarceration is associated with substantial increases in risk of HIV and hepatitis C virus acquisition among people who inject drugs. We support the authors' call to minimise the "use of criminal sanctions to manage drug use". Our qualitative data on the lived experience of injecting drug use in prison, collected from 28 young men aged 19–24 years who had been recently released from Australian prisons, highlights the need for greater access to prison-based harm-reduction interventions. Participants were recruited from the Prisoner and Transition Health (PATH) study,[2] the first research globally to examine the post-release trajectories for a cohort of prisoners who were injecting drugs regularly before they were incarcerated. More than 40% of participants continued to inject drugs during their sentence, without access to sterile needles and syringes.

Evidence shows that young male prisoners with histories of injecting drug use are more likely to report injecting in prison, to do so more frequently, and to be involved in riskier injecting-related behaviour (such as sharing needles and syringes) than their older counterparts (aged >25 years).[3] However, few studies have explored the lived experience of injecting drug use of these men in prison. Our study addresses this important gap in the literature. Participant narratives highlighted how the prohibition of sterile injecting equipment in prison led to the manufacture and re-use of a limited supply of homemade injecting equipment. This practice inevitably increased their risk of exposure to and acquisition of blood borne viruses. Our analysis showed that, although effective treatment for hepatitis C is available in Australian prisons, the risk of re-infection in prison continues, as does the risk of onward transmission of the virus to their injecting peers after release.

Substantive evidence in support of needle and syringe programmes to prevent blood-borne virus transmission in the community is definitive.[4] Our findings and those of Stone and colleagues[1] also provide evidence in support of the implementation of prison needle and syringe programmes

as important and necessary strategies to reduce harm from blood-borne viruses. UN conventions have long recommended that prisoners should have access to the same standards of health care that are available in the community. As an effective intervention that reduces needle and syringe sharing and blood-borne virus transmission among people who inject drugs, availability of such programmes in prison constitutes not only an important public health function,[5] but a basic human right.

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Gender-neutral HPV vaccination in the UK, rising male oropharyngeal cancer rates, and lack of HPV awareness

We welcomed the announcement in July, 2018, of the expansion of the UK national human papillomavirus (HPV) vaccination programme to include boys aged 12–13 years.[1] This expansion will be implemented from 2019, and will accelerate the effects of vaccination in reducing the incidence of HPV-associated cancers, particularly those that occur predominantly in men, such as oropharyngeal cancer. The incidence of oropharyngeal squamous cell cancer in men overtook the incidence of cervical cancer in the UK for the first time in 2016,[2] as it did in the USA in 2012 (appendix). The incidence of oropharyngeal squamous cell cancer and the proportion of such cases that are caused by HPV are set to rise further over the next 20–30 years, before the benefits of the vaccine programme start to be seen. Earlier diagnosis is associated with improved survival,[3] but no screening method that would achieve this exists at present. Nonetheless, while such a method is awaited, increasing awareness of HPV and oropharyngeal squamous cell cancer might be beneficial.

We gathered preliminary evidence regarding the public awareness of HPV-associated disease in men and women in the UK with an online, UK-wide, population-based survey. Of 1200 respondents (649 [54·1%] female; appendix), 444 (37·0%; 95% CI 34·3–39·7) had ever heard of HPV. Of these, 309 (69·6%; 65·2–73·7) knew that HPV could be transmitted during sex, 172 (38·7%; 34·3–43·3) recognised HPV as a risk factor for oropharyngeal squamous cell cancer, and 283 (63·7%; 59·2–68·1) knew that a preventive vaccine existed. Women were almost twice as likely to be aware of HPV as were men (290 [44·7%] *vs* 154 [27·9%]; p<0·001).

To maximise the potential benefits of HPV vaccination, it will be important to maintain the high vaccine uptake among school pupils aged 12–13 years, which requires the consent of an adult. Raising awareness of HPV, and the fact that HPV is not just associated with cervical cancer but also with cancers at other sites, might help to ensure consent for the vaccine. In parallel, efforts should be made to raise awareness among health-care professionals.[4]

In summary, to support the introduction of a gender-neutral HPV vaccination strategy, interventions to increase awareness of HPV and its association with non-cervical cancer should be considered. In addition, the development of early detection strategies to reduce the proportion of HPV-associated cancers that present late, including oropharyngeal squamous cell cancer and anal cancers, should be prioritised.

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For **US cancer incidence data** see https://seer.cancer.gov/data/

See **Online** for appendix