For all isolates, we identified reduced susceptibility to chlorhexidine (MIC 32 mg/L, MBC 32–128 mg/L). According to epidemiological cutoff values (ie, 64 mg/L for both MIC and MBC), the MIC was at the upper limit of the normal MIC distribution.[1] Three isolates had an MBC of 128 mg/L. Additionally, two isolates exhibited resistance to colistin (MICs of 16 mg/L and 32 mg/L), which was conferred by efflux, as confirmed by an inhibitor test with cyanide 3-chlorophenylhydrazone. One of these isolates exhibited single-nucleotide polymorphisms in the *phoPQ* two-component regulatory system and genes regulated by PhoPQ (*pmrK*, *smvA*, and *smvR*).[2] For the other isolate, we could not find mutations within these genes, suggesting that other mechanisms of resistance were involved.

Notably, a chart review revealed that four patients colonised with isolates that were non-susceptible to chlorhexidine (one with an MBC of 128 mg/L) were washed regularly with a chlorhexidine washcloth (20 mg/mL chlorhexidine gluconate; SAGE Products, Cary, NC, USA) during their ICU stay. Although some studies have shown that daily chlorhexidine bathing is effective for reducing the risk of Gram-negative infections,[3] others have not confirmed this observation.[4] The fact that the chlorhexidine concentration on the skin fell below effective concentrations after 1–3 days questions the use of chlorhexidine bathing, particularly in the case of a clinical outbreak.[5]

This outbreak is the first report of nosocomial transmission of CRKP non-susceptible to chlorhexidine within an ICU using daily chlorhexidine bathing. In addition, for the first time, we have shown colistin resistance related to efflux in chlorhexidine-adapted clinical isolates. To our knowledge, these data add the first real-world evidence for the hypothesis of Wand and colleagues[2] that wide-ranging chlorhexidine exposures increase the risk of colistin resistance emerging in CRKP clones.

We declare no competing interests.

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1 Morrissey I, Oggioni MR, Knight D, et al. Evaluation of epidemiological cut-off values indicates that biocide resistant subpopulations are uncommon in natural isolates of clinically-relevant microorganisms. *PLoS One* 2014; **9:** e86669.

2 Wand ME, Bock LJ, Bonney LC, Sutton JM. Mechanisms of increased resistance to chlorhexidine and cross-resistance to colistin following exposure of *Klebsiella pneumoniae* clinical isolates to chlorhexidine. *Antimicrob Agents Chemother* 2017; **61:** e01162–16.

3 Hayden MK, Lin MY, Lolans K, et al. Prevention of colonization and infection by *Klebsiella pneumoniae* carbapenemase-producing Enterobacteriaceae in long-term acute-care hospitals. *Clin Infect Dis* 2015; **60:** 1153–61.

4 Roghmann MC, Lydecker AD, Langenberg P, Mongodin EF, Johnson JK. Microbiological effect of mupirocin and chlorhexidine for *Staphylococcus aureus* decolonization in community and nursing home based adults. *Diagn Microbiol Infect Dis* 2017; **88:** 53–57.

5 Popovich KJ, Lyles R, Hayes R, et al. Relationship between chlorhexidine gluconate skin concentration and microbial density on the skin of critically ill patients bathed daily with chlorhexidine gluconate. *Infect Control Hosp Epidemiol* 2012; **33:** 889–96.

Should use of online photographs be exempt from ethical guidelines?

The use of a photo of a clearly identifiable Ugandan adolescent girl accompanying the Comment by Rosanna Wai Wan Peeling and David Mabey[1] is deeply troubling. The inclusion of this photo violates ethical principles paramount to biomedical research: justice and autonomy.[2] The use of this adolescent girl as artwork to illustrate a problem to which this individual has no clear connection is an unjust misrepresentation that undermines her autonomy through absence of consent and reinforces damaging stereotypes.

The Comment specifically discusses the women's improvement of sexual and reproductive health (WISH) study in Rwanda and the implications of the study's findings to all low-resource settings. The photograph, obtained from Flickr, is captioned on Flickr with only the words, "Girls, Uganda." The selection of this photograph suggests that either a Ugandan adolescent girl is being used to illustrate an issue in Rwanda, or a black adolescent girl is being used to illustrate all low-resource settings; both are inappropriate. If this young person is a minor—which cannot be determined from the image or caption—this is an additional ethical issue.

In prior eras, this adolescent girl or anyone from her community would be highly unlikely to ever access the Comment. But in today's digital age, inaccessibility is no longer the case, and she might be stigmatised by her community for the implication that she needs testing for sexually transmitted infections (STIs). Nevertheless, even if no one in her community ever sees her photo in the journal, that does not negate the injustice. If given an opportunity to consent, she, like most adolescent girls, would likely object to being made a poster child for STI testing.

Participants in clinical trials undergo a detailed consent process before any anonymous inclusion in a study. This same code of ethics, which emphasises protecting the rights and privacy of research participants, should be applied to photographs used in biomedical research journals and conference presentations. Within journalism, a code of ethics[3] on visual representation has been developed and upheld, and inappropriate use of photos, leading to misrepresentation, has been written about for many years.[4] In biomedical research, despite strong guiding principles[2], the conversation on visual representation has not yet

started. The photo of an adolescent girl in the June issue of this journal is a clear example of an unjust practice that needs to end.

We declare no competing interests.

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1 Peeling RWW, Mabey D. Point-of-care tests to reduce the burden of sexually transmitted infections. *Lancet Infect Dis* 2019; **19:** 570–71.

2 US Department of Health and Human Services. The Belmont Report: ethical principles and guidelines for the protection of human subjects of research. Report of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html (accessed July 10, 2019).

3 National Press Photographers Association. NPPA code of ethics. https://nppa.org/nppa-code-ethics (accessed July 7, 2019).

4 Shaw M, Steinberg L, Keller S. When reality isn't dramatic enough: misrepresentation in a world press and picture of the year winning photo. Feb 22, 2013. https://www.readingthepictures.org/2013/2002/when-reality-isnt-dramatic-enough-misrepresention-in-a-world-press-and-picture-of-the-year-winning-photo (accessed July 10, 2019).

Editors' note

Selection of the photo in the Comment by Rosanna Wai Wan Peeling and David Mabey was an editorial decision in which the authors had no input.