HIGHLIGHTS

Speed of hormonal contraceptive approval

This study compared approval times for new hormonal contraceptives by Health Canada, the US Food and Drug Administration (FDA), and the UK Medicines and Healthcare Products Regulatory Agency (MHRA) from 2000 to 2015, using public data sources and direct correspondence with the regulatory bodies. During the study period, 16 contraceptives were approved in Canada, 26 in the US and 14 in the UK. Applications for novel contraceptives were initiated later in Canada, and time to approval was longer in Canada than in the US (p = 0.03). Once an application was submitted, Health Canada tended to require 30% more time to approve contraceptives than the FDA in the US, and nearly 50% more time than the MHRA in the UK (Figure 1). The median time to approval for all hormonal contraceptives in Canada was 529.5 (interquartile range [IQR] 420.8–784.0) days, compared with 396.0 (IQR 308.0–594.5) days in the US and 341.0 (IQR 244.8–512.2) days in the UK. In contrast to the US and UK, no subdermal implant contraceptives were approved in Canada, although the authors note that the active drugs in these products are approved for use in other delivery systems. Canadian women wait longer for novel contraceptive methods and have fewer options than women in the US and UK, say the authors. ***CMAJ Open* 2016;4:E654-60.**

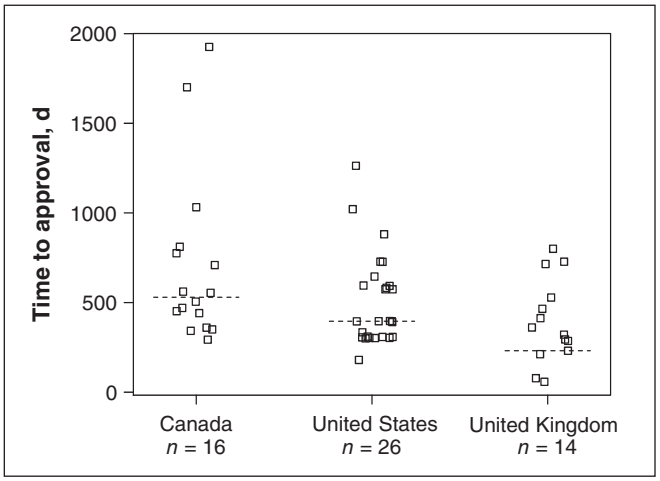

Figure 1: Distribution of time to approval for hormonal contraceptives, 2000–2015, by country. The squares indicate approval times for each drug, and the dashed lines indicate the medians.

Colistin resistance in Canada

Colistin is often used as an antimicrobial of last resort for treating infections caused by multidrug-resistant gram-negative bacilli. In 2015, plasmid-mediated colistin resistance due to MCR-1 was described in *Escherichia coli*. This study evaluated the frequency of colistin resistance among *E. coli* clinical isolates obtained from patients in Canadian hospitals as part of the Canadian Ward Surveillance Study and determined how often the *mcr-1* gene was detected among the colistin-resistant subset, using polymerase chain reaction. From 2008 to 2015 (excluding 2011), 10 to 15 sentinel hospitals submitted consecutive clinical isolates (1 per patient per infection site) from blood (100–240), respiratory (100–150), urine (25–100) and wound (25–100) infections each year. Of the 5571 *E. coli* clinical isolates obtained during the study period, only 12 isolates (0.2%) were resistant to colistin. The proportion of colistin-resistant isolates varied annually from 0.0% to 0.5% depending on the study year (Table 1). There was no clear trend toward increasing resistance over time. Typically, the colistin-resistant isolates remained susceptible to antimicrobials from several other classes. Two colistin-resistant isolates (0.04%) were found to harbour the *mcr-1* gene. These results suggest that colistin resistance among *E. coli* human clinical isolates, including resistance mediated by the *mcr-1* gene, remains rare in Canada. ***CMAJ Open* 2016; 4:E641-5.**

Table 1: Susceptibility of *Escherichia coli* clinical isolates to colistin, stratified by study year

Year	No. of isolates	% susceptible*	% resistant*
2008	1130	99.9 (1129/1130)	0.1 (1/1130)
2009	1097	99.9 (1096/1097)	0.1 (1/1097)
2010	1013	99.5 (1008/1013)	0.5 (5/1013)
2012	499	100.0 (499/499)	0.0 (0/499)
2013	655	99.7 (653/655)	0.3 (2/655)
2014	618	100.0 (618/618)	0.0 (0/618)
2015	559	99.5 (556/559)	0.5 (3/559)

Note: MIC = minimum inhibitory concentration.
*European Committee on Antimicrobial Susceptibility Testing breakpoints for colistin v. Enterobacteriaceae: an MIC of 2 μg/mL or less is defined as susceptible; an MIC of 4 μg/mL or more is defined as resistant.

CMAJ 2016. DOI 10.1503/cmaj.161338