Article details: 2020-0274	
Title	The 2018 global point prevalence survey of antimicrobial consumption and resistance in 47 Canadian hospitals: a cross-sectional survey
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Reviewer 1	Alexandre Boudreault
Institution	CHU de Quebec-Universite Laval, Medical Microbiology
General comments (author response in bold)	Page 4. line 41. "Documentation of indication for therapeutic use was high (87%). Rational use of antimicrobials adhered to guidelines (84%) and seemingly prioritized single dose of SP." Those are results, not interpretation. It should not be placed in the interpretation paragraph.

Page 6. Lines 8 and 14. This study cannot evaluate antimicrobial resistance rate, only antimicrobial use to treat resistant organisms. This should be stated accordingly.

Page 8. Lines 14, 15 and 16. It would be informative to specify the proportions (ex. "Thirty (62.5%) hospitals were university-affiliated, etc.

Page 8. Line 31. Please finish the sentence "…received a total of 6525 ???

Page 8 line 41. The % (74.1%) refer to overall therapeutic use (Table5b), it should be 74.7% as stated in Table 5a.

Page 9 line 50. "vancomycin (6.9%)". Please explain were this number comes from since in the Table it's 2.5% for PO Vanco and 5.8% for IV Vanco.

Page 10. Line 36. As said earlier, you cannot say "Resistance rate" because the study was not designed to measure that.

Page 20. Please write the abbreviation's definitions in order to interpret correctly.

Page 21 line 20. The section of the Table on Guidelines compliance is confusing for the readers. I would suggest to put it in a separate Table and detail the denominators used. I suggest to distinguish first Guideline available or not and then calculate the proportion of guideline compliance in the subgroup.

Page 22. Please add abbreviations definitions for pediatric patients. Same thing for Table 7b and Supplementary Tables 1 and 2.

Page28. Table 8: "Antimicrobial Resistance rate". Same thing, this study was not |

	designed to measure resistance rate. It can only measure rate of antimicrobial use to treat resistant organisms. The title of the Table and the term "prevalence of MDRO" need to be modified accordingly.
	Pages 32 and 34. Figures 1a and 1b. Please modify the choice of colors. Some shades of green are difficult to distinguish…Ex. Carbapenems vs antifungals, Trimetoprim vs Vanco po, nitrofurantoin vs macrolides (black).
	Pages 32 and 34. Figures 1a and 1b. Please submit titles for those 2 Figures.
	Page 35 and 36. Please choose between presenting datas in a Figure or in a Table, not both since they are equivalent. Please submit a titles for the Figure or Table. I would suggest keeping the figures.
Reviewer 2	Abdullah Mamun
Institution	BCCDC
General comments (author response in bold)	This is an excellent study which tried to provide a national picture on hospital-based AMU and AMR in Canada using Global-PPS method. This cross sectional survey was performed with a primary objective of estimating the prevalence of AMU, and a secondary objective of estimating AMR prevalence in Canada and compares this result to the 2017-Global PPS survey.
	General comments: Authors should clearly state in the introduction and in the objective that this study focused on hospital-based patient level data. They should also be consistent using terminology such as prevalence, rate, and proportion. This should clearly be stated that if the prevalence they are measuring here is either point/period prevalence.
	Major comments: In the objective and design section, author stated that "The secondary outcome was to measure resistance rates and compare results to the 2017 Global-PPS survey". But in the results section, they didn't present any comparison between the AMR findings of this study and the findings from previous Global-PPS survey. Authors should either delete this objective or present the comparison findings.
	Minor comments:
	Introduction:
	1. Authors should also mention that surveillance of AMU both at the community and hospital level is important to identify areas of concern. And this study is focusing on the patient level hospital data.
	2. Line 35-37: "A broader Canadian sample…….A broader Canadian sample". A broader sample would allow to provide a national picture, and the authors should state the they are talking about the impact hospital-based interventions
	Data collection:
	1. Objective and design: Authors should specify if they were looking at point/period prevalence. Current they mentioned about estimating rates, but they should specify that they are referring to prevalence rate. Data analysis section talks about prevalence for the first time.
	2. P 7 (line 11/12): It may be good to provide more specific information about the training on infectious disease. Current it says "some" which is a vague.
	Antimicrobial prevalence:
	1. P 8 (line 31): "Of the 13 272 admitted inpatients, 4447 (33.5%; 95% CI, 30.7%-36.2%) received a total of 6525". The sentence seems incomplete.

| | Antimicrobial stewardship:
1. P 10 (line 16/17): "Local guidelines were present to guide 75% of prescriptions and 84% of prescriptions were judged as complying with the recommended antimicrobial choice." Currently it is not clear where the guidelines were present – is it referring to the treatment record? How the prescriptions were judged and by whom? What is the denominator for 84%?
2. P 10 (line 19/20): are the authors referring to the local guidelines?
Antimicrobial resistance:
1. P 10 (line 29/30): "Of those, 16.7% (186/1116), 7.5% (135/1731), and 6.1% (37/611) were in the Western, Central and Atlantic regions of Canada." Authors should state at the end of this sentence "respectively".
Interpretation:
1. P 10 (line 41): The authors may consider stating hospital AMU in the first sentence of the interpretation section.
2. P 12 (line 24): "Future PPSs will be performed to establish meaningful trends in AMU across Canadian hospitals by region, hospital types and individual hospitals." Did the author want to mention "should be" instead of will be?
Limitations:
1. P 12 (line 46/47): "However, surveys were performed between June and December (one in January), which may partially correct for seasonal variation." Authors should acknowledge that the survey missed a major duration of winter season, when antibiotic use may have a different picture.
Table 3: Authors should provide footnote for the acronyms used in the table.
Figures: Currently figures don't have any title.
Figure 2 suppl.: "Community- A" should be spelled out
Figure 3 suppl.: Acronym should be elaborated in the footnote. |
| The authors respond | The authors have read the comments with great interest. The authors agree with all comments. Changes have been made to the manuscript according to these comments. Each author has provided written consent to the changes. |