Drivers of press media response to healthcare-associated infections caused by multidrug-resistant organisms: A report from Brazil

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To the Editor—Public awareness of healthcare-associated infections (HAI) and antimicrobial resistance (AMR) has been described both as a primary goal of prevention policies and as a factor influencing the practice of healthcare epidemiology. Furthermore, public awareness can increase advocacy and can achieve higher levels of political commitment, which is important to the development of countrywide and even worldwide infection prevention and control programs. This factor is especially relevant for low-to-middle income countries, in which higher incidences of HAI are found and most of which do not include infection control in their public health agendas.

Mass media (including printed and online press) has been variably successful in promoting changes in health behavior in issues such as tobacco use and protection against sexually transmitted infections. Much less evidence is available regarding whether media can favorably influence public health policies, although the media may raise public awareness. For HAI and AMR, both impacts (on individual behavior and public policies) may play roles in prevention and control; however, the extent of their influence remains unclear.

To assess this issue, we conducted a review of press media news regarding 2 multidrug-resistant organisms (MDROs) that are hyperendemic in Brazilian hospitals: carbapenem-resistant Acinetobacter baumannii complex (CRAB) and carbapenem-resistant Enterobacteriaceae (CRE). We chose to search the G1/GLOBO (www.g1.globo.com), which is the largest digital media network in Brazil, with branches in all Brazilian states. The search period included 2006 through 2017. Because we were interested in a sensitive search, we used simple terms: Acinetobacter, Klebsiella, Enterobacter OR Escherichia coli OR Enterobacteria OR Enterobacteriaceae OR CRE OR KPC OR resistance to carbapenems. We used the following inclusion criteria: (1) description of single cases, case series, endemcity or outbreaks of CRAB or CRE in hospitals and (2) all cases and/or healthcare settings possible to be assigned to a specific Brazilian state or region. The number of articles was then analyzed considering national surveillance data. Because we were interested in the “exposure of readers” to the subject, we did not exclude articles with overlapped or partially duplicated information. However, complete duplications (reprints of the same article) were excluded.

Our search retrieved 101 articles, of which 85 met the inclusion criteria. Among those, 60.0% were reports of individual persons infected, 30.5% were reports of outbreaks, and 9.5% were reports of nonoutbreak settings. Only 9 articles regarded CRAB, whereas 76 reported on CRE. Table 1 presents the distribution of articles per period and Brazilian macroregions. The articles were more frequent in the most populated areas (ie, southeast and northeast) and were absent in the northern states. The peak period of publication was from 2011 through 2015.

Interestingly, the press elected CRE “a public concern,” and little attention was given to CRAB. This finding is not consistent with data from national surveillance. In the last report of the Brazilian Program for Infection Control (data from year 2015, available at http://portal.anvisa.gov.br/documents/33852/3074203), CRAB and CRE accounted for 8.2% and 9.1% of 22,499 etiological agents of central line-associated bloodstream infections (CLABSI). Thus, a hypothetical rate of the relation between “articles in the period 2006–2018” and “number of CLABSI cases” in 2015 is 4.90 (CRAB) and 37.24 (CRE) articles per 1,000 CLABSI cases. The rate ratio (RR) for this comparison is 7.61 (95% confidence interval, 3.96–16.13), with P < .001 (mid-P exact test). Although this rate is artificially contrived, it is quite clear that the likelihood of CRE cases reaching the media press was much greater than for CRAB cases.

Notably, CRAB was hyperendemic in Brazilian hospitals since late 1990s, and CRE was first documented in 2006. In the years immediately prior (2003–2005), the Brazilian Program of Infection Control was restructured, and some states started reporting surveillance data. More information about HAI was available than ever before, as the country underwent a period of economic development and political stability during this time. Finally, in those years, the first demands for public disclosure of individual hospitals’ HAI rates were made by consumer protection organizations. This issue remains a matter of heated and unresolved debate in Brazil.

In the period from the first CRAB infections to the emergence of CRE, there were substantial changes in the national infection control policy and in the dissemination of surveillance data. Several regulations for infection control in healthcare settings were raised. It is likely that journalists covering health were increasingly interested on the “patient safety” issues during this period. Public awareness was possibly both a consequence and a feedback stimulus for publications on CRE.

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Media drives public response and vice versa. Both can impact on public policies. In this case, the public concern with the emergence of the “super bacteria” (as newspapers referred to CRE, especially to the KPC phenotype) in 2010 led sanitary authorities to enact RDC44, a resolution that banned over-the-counter sales of antimicrobials in drugstores. That measure, focusing on outpatients, was not likely to succeed in controlling CRE spread in hospitals. Nevertheless, there was a substantial decrease in antimicrobial sales in private drugstores in response to public opinion. The extent to which this decrease has influenced or will influence antimicrobial resistance is a matter for further research.

We did not perform quantitative or qualitative analysis of press articles content. Those approaches were beyond our scope, but they open interesting venues for investigation. The Brazilian case shed lights on the press media and public response to epidemiologically complex issues, such as HAIs and AMR. It also reinforces the importance of public communication for the practice of healthcare epidemiology. Messages to the general public must be delivered in clear, objective language and with evidence-grounded information.

If we avoid negligence and panic, public awareness can support effective interventions for infection prevention and control.

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References


Table 1. Number of Press Articles Reporting Infections Caused by CRAB and CRE in Brazil, Distributed in Periods and Country’s Macroregions

<table>
<thead>
<tr>
<th>Subject and Date</th>
<th>North</th>
<th>Northeast</th>
<th>Middle-West</th>
<th>Southeast</th>
<th>South</th>
<th>Total</th>
</tr>
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<td>CRAB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006–2010</td>
<td>…</td>
<td>…</td>
<td>…</td>
<td>…</td>
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<td>4</td>
<td>9</td>
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<td>18</td>
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<tr>
<td>2016–2018</td>
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<td>…</td>
<td>…</td>
<td>…</td>
<td>…</td>
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<tr>
<td>CRE</td>
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<td></td>
</tr>
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<td>10</td>
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<tr>
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<td>19</td>
<td>13</td>
<td>53</td>
<td></td>
</tr>
<tr>
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<td>4</td>
<td>5</td>
<td>13</td>
<td></td>
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Note. CRAB, carbapenem-resistant Acinetobacter baumannii complex. CRE, carbapenem-resistant enterobacteriaceae.