Reviewer's report

Title: Vector control programs in Saint Johns County, Florida and Guayas, Ecuador: Successes and barriers to integrated vector management

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Reviewer: Jorge Arias

Reviewer's report:

This article is a SWOT study on two very different VC programs and the authors have been very keen in presenting a clear, structured assessment. The question proposed is well defined and the methods are well describe, accurately conveying what has been found. I found the discussion and conclusions very well balanced and I commend the AAs, particularly on selecting two such different VCP’s in such different settings.

Some of the comments I make are for the authors to appraise and to include, as they wish.

One of the major threats to all VCP’s is the fact that they are perpetual, with no end in sight. An eradication program (which is very rare in diseases and almost impossible in VBD’s) would still demand surveillance system as seen with the Aedes aegypti eradication program in Chile. Therefore, these are in perpetuity and this affects many programs finances when the diseases or nuisance mosquitoes are successfully reduced.

I felt that the background of each program could be amplified a bit to show the great difference in each program yet the feasibility in comparison by a good SWAT analysis, as has been done here, is possible.

For this, I prepared a short table (for my own benefit in better understanding the manuscript) as follows:

Difference between the two programs

<table>
<thead>
<tr>
<th>Item</th>
<th>Anastasia MCD</th>
<th>SNEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population served</td>
<td>190,000</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Budget (needs a denominator)</td>
<td>$2,700,000</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Budget per capita served</td>
<td>$14.21</td>
<td>$1.20</td>
</tr>
<tr>
<td>Type of program</td>
<td>Proactive</td>
<td>Reactive</td>
</tr>
<tr>
<td>Problem addressed</td>
<td>Nuisance mosquito (primarily)</td>
<td>Vector mosquito species</td>
</tr>
<tr>
<td>Species of mosquitoes</td>
<td>&gt;43 nuisance</td>
<td>&lt;40 vector (see AFPMB)</td>
</tr>
<tr>
<td>Main operations</td>
<td>Seasonal</td>
<td>Year round</td>
</tr>
<tr>
<td>Staff turnover</td>
<td>? ?</td>
<td></td>
</tr>
<tr>
<td>Formal education</td>
<td>Entomology, Medical doctor,</td>
<td></td>
</tr>
</tbody>
</table>
Target population living conditions (conducive of VC problems. Hermetically sealed dwellings, running water and sewage, structured garbage disposal Open windows w/ no screens, cisterns, septic systems, informal garbage disposal.
Participation in conferences Available – no language barrier = great exchange of research information Mostly locally available – language barrier at international levels = poor exchange of research information

In line 106 (immediately after citation #8) I do not necessarily agree that vector control = disease control. This may happen sporadically, but not necessarily accurate. As an example, I mention WNV in the US.

Minor Essential Revision - In line 232, the AA use the word enforcing. Is this reinforcing? Enforcing gives the impression such as in law enforcement. Probably a better word would be strengthening.

In line 237 & 238 the AA refer to control of other vectors and mention Leishmaniasis and Chagas disease (American Trypanosomiasis). The only vector control activities that are used in Leishmania control are against vectors for Visceral Leishmaniasis and the responsible pathogen (Leishmania chagasi) and whose new world vectors (Lutzomyia longipalpis or L. cruzi) are not found in Ecuador. In addition, the AAs mentioned control of the Chagas disease vector a species of Triatoma; do the AAs refer to T. dimidiata? I am not aware of the presence of T. infestans in the Guayaquil area.

In line 246, it is not clear that this refers to symptomatic dengue diagnosis as determinative dengue diagnosis is done serologically.

Minor Essential Revision - In line 362, the AAs refer to MPC – I assume the AAs are referring to MCP

In line 412, is adulticiding practical for adult Aedes aegypti? Malaria (other than residual wall spraying), Lutzomyia sand flies other than L. longipalpis?

In line 426, oviposition traps are only good for container breeding mosquitoes,
particularly some Aedes.

In line 517, this refers to clinical cases; there probably is transmission since 80% of the cases are asymptomatic.

References

Minor Essential Revision - The spacing of the letters throughout the reference section needs serious adjustment. Every reference has letter spacing issues.

Minor Essential Revision Figure #3. On the bottom arrow, there is AMCD; is SNEM lacking on the upper arrow? In addition, the lettering to the right of the Advocacy box can be improved. The first letters are only half there.

Table #1. In the text of the document, the AA’s mention Leishmaniasis and Chagas disease, but these are not cited in the table.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests’