Trends in disease emergence reporting: Through the ProMED lens

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ProMED-mail
www.promedmail.org
EBOLA UPDATE (126): DEMOCRATIC REPUBLIC OF CONGO (NORTH KIVU, ITURI) CASES, FEAR, SUMMARY

A ProMED-mail post
http://www.promedmail.org
ProMED-mail is a program of the International Society for Infectious Diseases
http://www.isid.org

In this update:
[1] Case update
- Epidemiological situation report, 6 Nov 2018, DRC Ministry of Health
- WHO/AFRO Ebola DRC Surveillance Dashboard
[3] Summary
- CIDRAP (Center for Infectious Disease Response and Policy)

The epidemiological situation of the Ebola virus disease in the provinces of North Kivu and Ituri dated 5 Nov 2018:
- A total of 305 cases of haemorrhagic fever were reported in the region, including 270 confirmed and 35 probable.
- Of the 270 confirmed, 154 died and 88 are cured. The others are hospitalized in the different Ebola treatment centers (ETCs) installed.
ProMED: the Program for Monitoring Emerging Diseases

1994   Founded as ProMED-mail listserv
1996   ProMED-mail website founded after Kikwit Ebola outbreak
1999   Official program of ISID
2003   1st report of severe pneumonia in China, HK (SARS)
2005   1st report of fever – arthralgia – rash in S. Indian Ocean (CHIK)
2012   1st report of pneumonia - coronavirus in Saudi Arabia (MERS)
2014   1st report of undiagnosed fever in Guinea (Ebola)
2015   Early warning of Zika spread to the Americas
<table>
<thead>
<tr>
<th>ProMED Language and Regional Networks</th>
</tr>
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<tbody>
<tr>
<td>ProMED-mail</td>
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<tr>
<td>ProMED-PORT</td>
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<tr>
<td>ProMED-ESP</td>
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<td>ProMED-RUS</td>
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<td>ProMED-MBDS</td>
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<tr>
<td>ProMED-FRA</td>
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<tr>
<td>ProMED-EAFR</td>
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<tr>
<td>ProMED-MENA</td>
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<td>ProMED- SoAs</td>
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</tbody>
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ProMED: 60 moderators and staff around the globe
ProMED E-mail Subscribers

<table>
<thead>
<tr>
<th>Year</th>
<th>Subscribers</th>
</tr>
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<tbody>
<tr>
<td>2010</td>
<td>53,944</td>
</tr>
<tr>
<td>2011</td>
<td>60,734</td>
</tr>
<tr>
<td>2012</td>
<td>61,949</td>
</tr>
<tr>
<td>2013</td>
<td>64,258</td>
</tr>
<tr>
<td>2014</td>
<td>72,804</td>
</tr>
<tr>
<td>2015</td>
<td>77,559</td>
</tr>
<tr>
<td>2016</td>
<td>82,412</td>
</tr>
<tr>
<td>2017</td>
<td>85,616</td>
</tr>
<tr>
<td>2018 (as of 1 Nov)</td>
<td>90,576</td>
</tr>
</tbody>
</table>
ProMED Posts: 2013
ProMED Posts: 2014
ProMED Posts: 2015
ProMED Posts: 2017
ProMED Posts: 2018 Q3
Event-based “informal” surveillance

- Ministries of Health
- WHO
- Media
- Laboratories
- Local health officials
- Lay public
- Healthcare workers

Informal-source surveillance
### Non-Traditional Information Sources Are Also Known as:

- Informal
- Non-governmental
- Unofficial
- Off-the-record
- Unconfirmed
- Unstructured data
- Rumors
### Pros and Cons of Innovative Surveillance

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Fast detection and reporting</td>
<td>● Information captured might not be accurate or significant</td>
</tr>
<tr>
<td>● Not constrained to certain events</td>
<td>● Sources may present biased information</td>
</tr>
<tr>
<td>● Multiple sources of information (e.g., clinicians, labs, media reports, internet blogs)</td>
<td>● Uses broad case definitions</td>
</tr>
<tr>
<td>● Leverages publicly available information, increasing transparency</td>
<td>● No standard data format, takes additional time to synthesize</td>
</tr>
</tbody>
</table>
Global Internet Users Since 1990

Source: Ourworldindata.com
Global Internet Users Since 1990

Source: Ourworldindata.com
MOSCOW (The Borowitz Report)—Calling it “the biggest disappointment of my political career,” Vladimir Putin conceded late Tuesday night that he had lost control of the United States House of Representatives.

Putin made his concession speech from the Kremlin, where he congratulated the Democrats for waging a “tough fight.”

“Maybe if Facebook and Twitter hadn’t banned so many of my fake accounts, the results would have been different,” Putin said. “But I don’t want to make excuses—I threw everything I had at these races, and I lost.”

Putin did, however, have harsh words for Donald Trump, who opted for a fear-mongering closing argument about immigration despite the Russian President’s objections.

“I warned him that that would kill us in the suburbs, and he ignored me,” Putin said. “I hope this teaches him never to disobey my orders again.”
Fake News?
Junk news audience

Cameron Hickey, Information Disorder Lab
Shorenstein Center on Media, Politics and Public Policy, Harvard Kennedy School
Trust in Media Plunges to All-Time Lows

Edelman Trust Barometer, 2018
Building Trust in the Media

- Timeliness
- Accuracy
- Transparency
Timeliness versus Accuracy
How Fast is Fast?

WHAT DOES IT TAKE TO COVER INFECTIOUS DISEASES, DURING AND IN BETWEEN OUTBREAKS?

A conversation with:

- **Karen Weintraub**, Independent Health/Science journalist
- **Lena Sun**, National Reporter focusing on health, The Washington Post
- **Michaeleen Doucleff**, Reporter, NPR Science Desk and Goats and Soda, NPR's Global Health and development blog (via Skype)
- **Helen Branswell**, Senior Writer for Infectious Diseases and Public Health, STAT
- **Stefanie Friedhoff**, Senior Editor & Assistant Director of Communications, Harvard Global Health Institute, Nieman Fellow ’01, (moderator)
SCENE 1
THE NEWSROOM
IF IT BLEEDS, IT LEADS
“All online publications we surveyed also run stories that are not in-depth news but that are intended to attract audiences.”

- Bridging the Gap: Rebuilding Citizen Trust in Media, report
Timeliness versus Accuracy
Timeliness AND Accuracy
EPICORE

A global network to verify outbreaks

ProMED receives outbreak report from a region

ProMED sends RFI to EpiCore members in that region

Epicore member responds to RFI:
- Correct the information
- Verify outbreak information

Verified information is shared globally on ProMED

Phoning a Friend or Colleague
Checking Local Media
Checking Social Media
Checking Official Reports
Original Source
Calling a Local Hospital, Clinic or Health Center
### EpiCore responses to RFI’s: examples

<table>
<thead>
<tr>
<th>RFI</th>
<th>Location</th>
<th>Time</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholera, # of cases</td>
<td>Lusaka, ZB</td>
<td>10min</td>
<td>confirmed, 11 cases</td>
</tr>
<tr>
<td>CCHF, suspected</td>
<td>PK</td>
<td>&lt;1 hr</td>
<td>not confirmed</td>
</tr>
<tr>
<td>Cutaneous leishmaniasis, #?</td>
<td>Kathmandu, NP</td>
<td>&lt;2hr</td>
<td>confirmed, &gt;10</td>
</tr>
<tr>
<td>HPAI, serotypes H5N8, H5N1?</td>
<td>Tehran, IR</td>
<td>&lt;3 hr</td>
<td>confirmed</td>
</tr>
<tr>
<td>Polio – ?WPV, cVDPV, VAPP</td>
<td>Gilgit, PK</td>
<td>&lt;1 hr</td>
<td>confirmed - WPV</td>
</tr>
</tbody>
</table>

EpiCore RFI’s: Most common subjects

ProMED database unpublished data.
EpiCore Disease Surveillance, Nov 2015 – Sep 2017

2068 members, 142 countries

732 RFI’s posted to 112 countries
1873 responses to RFIs
736 responses with content
320 responses used in ProMED post

2 billion more people on the Internet in 10 years

Source: Ourworldindata.com
Emerging infectious disease “hotspots” worldwide

Anonymity and the Internet
YOU can be anonymous on ProMED
Building Trust in the Media

ACCURACY  TRANSPARENCY
ProMED information flow

- Media Reports
- Official Reports
- Proactive search

Receipt

ProMED Top Mod

Carrion and Madoff, International Health 2017; 9:177–183
ProMED information flow

Receipt

- Media Reports
- Readers

ProMED Top Mod

- HealthMap
- Official Reports
- Proactive search

Expert Subject Area Moderator

- EPICORE
- Outside Experts

Copy Editing & Technical Review

- ProMED Top Mod

Carrion and Madoff, International Health 2017; 9:177–183
ProMED information flow

Receipt
- Media Reports
- Readers
- ProMED Top Mod
- Proactive search
- Official Reports

Review - Verification - Commentary
- EPICORE
- Expert Subject Area Moderator
- Outside Experts
- Copy Editing & Technical Review
- ProMED Top Mod

Dissemination
- Facebook
- Twitter
- RSS

Carrion and Madoff, Int Health 2017; 9:177–183
Reporting outbreaks in an on-line world

- Informal surveillance: ProMED’s place in the ecosystem of disease surveillance
- Strive for accuracy AND timeliness
- Building quality means building collaborations
- Share processes and data
- Enhance access and lower barriers to submitting information
- *Trust, but verify!*
Mass media looks at infections
Thanks to:

EPICORE

HARVARD Kennedy School
SHORENSTEIN CENTER
on Media, Politics and Public Policy

HARVARD Global Health Institute

HealthMap

INTERNATIONAL SOCIETY FOR INFECTIOUS DISEASES

TEPHINET
Training Programs in Epidemiology and Public Health Interventions Network

ProMED
INTERNATIONAL SOCIETY FOR INFECTIOUS DISEASES
Trends in disease emergence reporting: Through the ProMED lens

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