Integrated Surveillance

Dr. Oliver Morgan
IANPHI Webinar
7 June 2022
The beginning – John Snow 1854

https://www.ph.ucla.edu/epi/snow/highressnowmap.html

https://sphweb.bumc.bu.edu/otlt/mph-modules/ep/ep713_history/ep713_history6.html
Foundation of Surveillance is Case Identification
The Origins of Integrated Surveillance

Malaria Control in War Areas (MCWA), The precursor to establishing CDC in 1946

Source: CDC (Public Health Image Library ID #8148)

- Stephen Morse
- Jack Woodall
- Barbara Hatch Rosenberg

Source: Nature, 432:544,2004
WHO’s Disease Intelligence Unit Established, 1994

Plague in Surat, India, 1994

Source: Council on Foreign Relations https://www.cfr.org/blog/surat-yumen-plagued-paranoia
Growth of Event-based Surveillance 1997-2022

Global Public Health Intelligence Network

Epidemic Intelligence from Open Sources

HealthMap

Global Health Security Initiative
Integrated Disease Surveillance and Response

- Surveillance Systems
- Information Systems
- Laboratory Resources
- Response
- Management and Coordination

[Page 9, IDSR Technical Guidelines]
Building Future Surveillance Systems

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Implementation requirement</th>
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<tr>
<td>Population-based</td>
<td>Denominators for mortality rates and disease burden</td>
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<tr>
<td>Laboratory confirmation</td>
<td>Cases accurately tracked</td>
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<tr>
<td>Digital data</td>
<td>Systems interconnected and privacy protected</td>
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<tr>
<td>Data transparency</td>
<td>Visibility of all national threats by NPHIs and by WHO for transnational threats</td>
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<td>Adequate financing</td>
<td>Sustainable country-owned systems</td>
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<td>CRVS= civil registration and vital statistics. NPHI= national public health institute.</td>
<td>Automated reporting to NPHI with a subset to WHO and regional bodies</td>
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<td>Invest US$1–4 per capita annually</td>
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Table: Core principles for integrated disease surveillance

Lancet (2001) 397; 2317-2319
WHO Hub for Pandemic and Epidemic Intelligence

Better data
Better analytics
Better decisions

https://pandemichub.who.int/
Thank you.