Session 613

FINDING OUTBREAKS FASTER: HOW DO WE MEASURE PROGRESS?
November 4-8, 2018

GOAL

ADVANCING TIMELINESS METRICS FOR RAPID OUTBREAK DETECTION AND RESPONSE.

OBJECTIVES

1. ACCOUNT FOR LESSONS LEARNED FROM 28 PILOT COUNTRIES.
2. DEVELOP GUIDANCE TO ADDRESS BARRIERS TO IMPLEMENTATION.
3. OPERATIONALIZE THE OUTBREAK METRICS FRAMEWORK FOR PROSPECTIVE MEASUREMENT.
4. ALIGN TIMELINESS METRICS FRAMEWORK WITH KEY GLOBAL GOVERNANCE INITIATIVES.
**Day 1**

**Sunday, Nov. 4**
- Participant Arrives!
- Welcome!
- Refreshments until 16:00 (ML)
- Welcome! (PH)
- Participant Intros.
- Coffee/Tea (ML)
- Program Objectives & Challenges to Participants (PH)
- Tour of the Schloss (CH)
- Dinner (ML)
- Informal Conversation & Networking (BS)

**Day 2**

**Monday, Nov. 5**
- Recap of Day 1 (PH)
- Outbreak Metrics - Methods & Experiences (PH)
- Coffee/Tea (ML)
- What is an Outbreak? Review Definitions & Thresholds: Breakout Groups (ML/CS/ACSH)
- Lunch (ML)
- Outbreak Metrics Discussion Panel (PH)
- Coffee/Tea (ML)
- What is an Outbreak Part 2 Breakout Groups (ML/CS/ACSH)
- Free Time
- Traditional Austrian Dinner (ML)

**Day 3**

**Tuesday, Nov. 6**
- Recap of Day 2 (PH)
- Refining the Timelessness of Metrics (PH)
- Coffee/Tea (ML)
- Refining the Timeliness of Metrics (cont'd) Knowledge Cafe (PH)
- Group Photo (PH)
- Group Photo (PH)
- From Metrics to Results: Designing a Framework for Prospective Implementation Breakout Groups (PH)
- Coffee/Tea (ML)
- Synthesizing Input on Framework for Prospective Measurement Report Out (PH)
- Dinner (ML)
- Informal Conversations & Networking (BS)

**Day 4**

**Wednesday, Nov. 7**
- Recap of Day 3 (PH)
- Socializing with Key Stakeholders (PH)
- Metrics - On Your Own! (COFFEE/TEA)
- Metrics Review (PH)
- Country Implementation (PH)
- Action Plan & Commitment Wall (PH)
- Lunch and Free Afternoon!
- Reception/Concert (PH)
- Gala Dinner (PH)
- Informal Conversations & Networking (BS)

**Day 5**

**Thursday, Nov. 8**
- So Long, Farewell!
- Departure Day
- Check Out Time 11:00
Welcome!

Connecting People across Divides!
- Bringing People together for Dialogue
- Challenge Future Leaders
- Work Together for Real Impact
- Human & Societal Well-Being
  - Researchers
  - Practitioners
  - Decision Makers
- Technology for meeting Human Needs better
- Disease Prevention needs to be high in the Order of Priorities!

"NEVER DOUBT that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."
- Margaret Mead

Salzburg Global
- Slow food for the Mind

Community
- Putting People in the Heart of the System
- Improving Science
- Cross Sector Partnerships
- Interdisciplinary Practices

Rethinking Care towards the End of Life

Max Reinhardt

SALZBURG GLOBAL
CLARE SHINE
VP & CHIEF PROG. OFFICER
MARK SMOLINSKI
PRESIDENT ENDING PANDEMICS

Technology - Systems Transformation

Climatic Environment

Human Health
INTRODUCTIONS

- DOMINIC REGESTER
  - SG Program Director

Expectations

- Define the Metrics. Communicate the Metrics in ways that will make people appreciate!
- Learn HOW to find outbreaks Faster! More Information!
- Let’s Move Beyond Talking and get to Action!
- If You can Measure it... You can Do it!
  - My Nomadic Life...
  - I’m hoping to BE ENRICHED by you all!
  - Country Perspective
  - Global Perspective

LEARN from “EXPERTS” like yourselves!! Your ideas help guide us w/our work!!

Share our experience with you all!! Finding outbreaks faster! Better! Happy to Join this Group!

See fantastic exchange of IDEAS! Worked w/Your Partners... and wanting to work w/New Partners!

New Learnings for our Programs!

Listening - working through things and coming out w/new ideas!

I came to get New Ideas! I want new Contacts!

LEARN from 2 lenses...

I want to DINE deeply into the METRICS.

Quantitative side.

Have a chance to learn from all of you! The Timeliness Metrics!

Interested in other Perspectives and how they see “Outbreaks”

Get ideas!! I will learn and take back to implement!

By end of the week...
  - Have a FRAMEWORK in place.
  - Network w/a number of People.

I’m expecting to share my ideas of what we’ve done in Alabama... and what we can do Beyond Metrics!

My daughters’ Birthdays... I want to learn a lot and communicate to others!!

We will walk away w/Metrics and how we can learn more!!

On Wednesday - Voting Results!
EXPECTATIONS contd...

Metrics in Health Security!

It's a luxury to be here to think about METRICS!

- Interested in the "country" perspective. How are Metrics being used?
- I want to learn about Health & Healthcare Public Health! I want to support you all!

- Listening & Learning from all of you! Share IDEAS but don't QUOTE...
- "Communications Associate"
- "Collective KNOWLEDGE"
- We want to INTERVIEW Everyone!

Expectations

- Data you USE = ACTION!
- Solve my issues!!
- Creative, practical and actionable IDEAS.
- LEARN from all of you!
  - Diff. Methods & platforms for communication
  - Metrics: Understand what does "Progress" mean?
  - Where does "ONEHEALTH" fit in?
- Listen, Learn and Compare our different EXPERIENCES.

- I want to Interview You!!
- I want a GOOD METRIC! to take back!
- CONCRETE & PRACTICAL!
  - I want to Play the Devil's Advocate!!
- Learning!
  - Understand how we can get this into Nate. Governments!
- Understand the Metrics and how to apply it!
- "One Health" the timeliness Metrics will be in future conversations!!
  - Always Ask the "SO WHAT" question.
  - Now we need the "NOW WHAT" question.
  - Meet all of you & connect you all w/each other!

- I'm here to learn from all of you! Contribute from my experience Access to Data!
MARK S MOLINSKI
PRESIDENT - ENDING PANDEMICS

ENDING PANDEMICS
Provides Technical Support and Financing

OUR STORY:
- Jeff Skoll, President, eBay
- Skoll Foundation supports Entrepreneurs

STOP Outbreaks Where They Start!
- We CAN DO it fast enough!
- How do you prove that this INVESTMENT can make a DIFFERENCE?

We never looked at HOW LONG it takes to find an OUTBREAK.
- We funded 28 countries
- Used METRICS to measure progress
- How long does it take to find an OUTBREAK?
- How many Countries?
- Which diseases should we look at?

RETURN ANALYSIS
KISS Keep it Simple!
- Can we MEASURE it?
- Can we AUTOMATE it?
- Do the METRICS make sense?
- Which DISEASES should we look at?

LET'S DEFINE the METRICS, let's help Countries make improvements!
- What are Countries doing?
- Let's compare our methods...
- Let's not reinvent the wheel - are we doing SIMILAR things?

BUILDING TRANSPARENCY
- Data Security
- Outbreaks Real-Time
- Record it in the System!
- There is NO INCENTIVE for Reporting

CREDIBLE DATA
- Is the Outbreak Real?
- Do we need LAB reports?

ECONOMICS
- How can we take this Metric and apply the Economic factor to it?

WHAT is a Life Worth?
Welcome!

Day 2
Monday, Nov. 5, 2018

Outbreak Timeliness Metrics - Methods & Experiences

- Timeliness metrics for WHO outbreaks
- Global Capacity for Emerging Infectious Disease Detection

How can we have more precise information?

Key Questions

- How do we define these timeliness metrics?
- How can different countries use these timeliness metrics and apply them?
- What are the challenges? The practical realities?
DETECTION OF INFECTIOUS DISEASE OUTBREAKS in ZIMBABWE 2003-2013

Dr. BANGURE DONELW
Epidemiologist, AFRICA CTRs. FOR DISEASE CONTROL, ETHIOPIA

- We moved from one district to another... it was difficult!

Data Sources:
- 179 OUTBREAKS 2003-2013
- Ministry of Health
- FETV

CONCLUSION
- Increase in # of outbreaks that were reported 2003-2013
- Decrease in overall time in outbreak discovery and response
- Improvement in surveillance!

NEXT STEPS
- Prospective measurement of milestones
- Need for monitoring outbreak
- Refine training (1DSR)

OUTBREAKS IN TAIWAN

Dr. HAO-YUAN CHENG
Epidemiologist, MINISTRY OF HEALTH, TAIWAN

2006-2013

- The EPIDEMIC Investigation Report Files Management System
  - Cases
  - Geographical Info
  - Dates for Timeline

- Respiratory Diseases
- Diarrhea disease
- Varicella
- Pneumonia and etc.

- Most Common Diseases.

- 6 DAYS Median Outbreaks Start → Detection.

- Different REPORTING SYSTEMS
  - 4%-5% Improvement every year.
  - Outbreak Start → Detection

- Local Health Care Worker
CONCLUSIONS:
- Timeliness of outbreak report and response improved.
- Diff sources of outbreak reporting have measurable influence on timeliness of outbreak detection.
- Good coordination bet. Local Health Dept. + Taiwan CDC were great help for Data Collection.

NEXT STEPS
- Set up operational definition of "an Outbreak", universal or specific disease.
- Key dates used were integrated into the data input interface while we upgraded the BRFMS system.
- Dev. of standardized workflow for reporting data collection database input.
- Further analysis on the impacts of improved timeliness may provide more incentives for building the FRAMEWORK.

Q&A
- What are we missing on the animal side?
- This method of measurement can be applied to the animal side (ONE HEALTH community)
- The Role of the Community?
  - How many of the OUTBREAKS are investigated?
  - What is the source of information?
- In Zimbabwe - community surveillance
- We need to bring the 2 components in our discussion.
Q&A cont’d

- Is there more DATA on HOW QUICK was the RESPONSE?
  - It’s a KEY ELEMENT.

- Outbreak → Response
  - Discovery → Response
  - Time is close.

- In TAIWAN it happens in a very short time period.

- Different countries have different needs...
  - “Distorted Data” ??

- Do some countries exclude singular cases?

- Some diseases are reported differently:
  - Is it an Outbreak?
  - How is it classified?

- Performance Improvement Monitoring
  - Event Based Surveillance - How does it fit into this FRAMEWORK?

- WHAT TYPES OF DISEASES and EVENTS need to be measured?
Q&A cont'd

- Too Much Data? Sorting the Data?
- We have to worry about how many resources go into the DATA
- Public Health
- It's about Saving Lives and Liveliness!
- The countries need the Data!!
- When is the Outbreak Over? Controlled?

- Communications?? Related to the Outbreaks?
- In TAIWAN the govt. is obsessed about communicating News Releases about OUTBREAKS
- Important ➔ Develop the LAB capacity
- ZIMBABWE
- How will these METRICS work w/Economic Analysis?
OUTBREAKS METRICS DISCUSSION PANEL

Panel Discussion

- MARK SMOLINSKI
  - Dr. Silvia Bino
  - Dr. Kujtim Mersini
  - Dr. Vikki de los Reyes

We needed a COMMON UNDERSTANDING of the definition of an OUTBREAK!

- We are trying to improve EVENT Surveilliance
  - Education of the Event FRONTLINE Fellows

Key stakeholders?
- Natl. Inst. of Public Health
- Local Public Health offices
- Hospitals + Natl. Epidemiologists

- What about the Timeliness Metrics in Animal data?
- In the veterinary field we have similar systems of surveillance.

It isn’t Rocket Science to put The 2 Systems together!

- How many INCUBATION Periods should there be?
  - Two or Three??

Need to connect more Data

- National Data
- Regional Data
- Local Data

Reviewing Our Data
For the "Response" we need the Animal data too.

We tried to align our analysis with Digital Systems.

A lot of fragmentation...

DATA DIGITIZED

CCHF - MALARIA

we have been looking at the data.

MAJOR CHALLENGES

- Reviewing our Indicators
- We have the Resources... Our challenge is Technology.
- We did everything w/email. We need a better platform.

TRUST & CREDIBILITY!

- Sharing data amongst the countries (we had permission from the Ministry)
- Documenting - Missing Data
- All the data was there to bring change, the issue was to Prove it.

People are institutionalize

Countries used the models of the systems.

- Use Indicators

New challenges??

- Economic Impact
- Indicators
- People
Can you COMPARE between countries?

- Albania
- Kosovo
- Bulgaria

- Common Definitions?
- Common Approaches?

- Adopting the Metrics at the case base.
- One event can have several Reports.

Q&A

- Unusual/Rare event
- HealthCare workers from all level. Training \rightarrow Outbreak Detection

Q & A

- Crossborder sharing

Collaboration - sharing information could be better.
- We need to be better organized.
- We need more collaboration @ the local level.
- Nobody is excited about "ON-LINE" Reporting.
- Detection of Outbreaks
  - Concerned citizens texts.
- "Response" should be Standardized.

- Build Performance Metrics into the training
  - Train medical doctors/nurses/technicians,
  - EMBED in all future Training Curriculum
  - Early Warning
  - Early Detection

- EPICORE
  - EPIDEMIOLOGY Training Program
  - CURRICULUM

- Climate Change
  - Human Health
  - Forestry
  - Wildlife
  - Animal Health
  - Density of Mosquitoes
• Events Based Surveillance System -
  • Much more INFORMATION!
• Well designed!
  • EMBEDED!
  • It's a System.
• the Curriculum EXISTS!
• We need to cast a bigger net!

• Events in Humans
• Events in Animal

• We need "Events" in our Studies!
• IHR is also TIMELINESS!

• Looking forward to CLARITY on the framework!
**WHAT IS AN OUTBREAK?**

- **Country**
  - Syndromes
  - Pathogens

- **How does a Country define an OUTBREAK?**
  - Discuss for 10 min @ your Table.

- **What are the CHALLENGES?**
  - What are the requirements needed for Declaration of an Outbreak?
  - Should an Outbreak be defined by... Country, Regional, Globally, Sub-Regionally?

- **Report Outs:**
  - Group 1: 2 cases vs 1 case
    - More than 2 cases that can relate
    - Unusual Events, context based
    - 2 cases of Dengue
  - Apply to different settings, different countries.
  - 1 case of Dengue is enough? No need to wait for a 2nd case.

- **Outbreak Breakdown**
  - Local Level
    - Political Obstacles
    - Economics: Not good for the tourist industry.

- **Outbreak Definition**
  - Defined at the lower level.

- **Group 2: DIVERSITY**
  - In Countries:
    - Certain diseases
      - Metrics will be similar.
    - At the Regional level:
      - There can be significant differences.

- **Have a DECISION Framework**
  - Different Priorities.

- **Group 3: STANDARIZATION**
  - Policy Decision
  - Historical Data
  - Technical Challenges

- **Support Tool:** Algorithm-based.
  - Support the declaration of an Outbreak, and all the Logistics.
  - Data Quality
  - Legal requirements of that region and National level.
  - Economic Challenges.
  - Workforce issues.
  - Human Resources.
  - Detection at the lower level faster.

- **Group 4: RISK ASSESSMENT**
  - Understanding Threat!

- **Group 5: **
  - Unknown, Unusual, and Unexpected
  - Algorithem.
    - Thresholds different.
    - Scale the thresholds for BAU and the rest of the country.

- **Specificity**
  - Declaration and Notification
    - More important to trigger a response.

**Adapt our Training per Country.**
- We teach/train people @ the local level.
- The OUTBREAK Definition should be Practical, Adaptable.
- Importance of Collaboration for decision making!
**WHAT IS AN OUTBREAK?**

**Part 2  AMY KIRCHER**

**SMALLPOX**
- Consensus → Are there Operating Thresholds? **NO**...
- A disease list for every country?
  It should be determined by the country!
- Priorities
- Timelines/Targets for different pathogens?
- Polio → has established thresholds.
- Disease → A week? → A month?
- Specific Surveillance
- Labs need some cases for certain Pathogens.

**SPANISH FLU**
- What is our Intention??
  → Performance Mngmt.
  → Find and Stop!! the Unusual, Unknown and Unexpected!
  - Countries can create their own disease list.
  - Performance Mngmt will be good for countries.

- Syndromic
  - Incident Based
  - Event Based
  - Clear BENCHMARKS For Timeliness.
  - Clear Performance Metrics
TYPHOID
- Our theme was: DO IT YOURSELF!
- No country list.
- Pathogen Specific + Syndromic type Surveillance
- Push & Pull Reporting Surveillance
  ➔ Complimentary resources for TIMELINESS
- Using Data!!
  Metrics for Self-Improvement!
- We didn’t resolve if these metrics should be used? Measuring for all things??
**BLACK DEATH**

- What diseases should be on the list?
  - Smallpox
  - Novel Influenza
  - Polio
  - Google disease!

- Notifiable Diseases
  - SARS
  - Events:
    - Cholera
    - Yellow Fever

- Core Group of Diseases
  - WHO Report
    - Everyone should sign off!

- Surveillance → Event based
  - Continuous Surveillance
  - Systematic Approach!

- Gossip Based System!! → Event Based!

- How do we detect Events into Signals?
  - New strain of Influenza?
    - Noise → Signal

- How fast do we detect?
  - How do we detect fast enough to have an Impact?

- Digitize data?
- Google to Wikipedia?
Welcome!  
**DAY 3**  
TUESDAY, NOV 6, 2018

**QUESTIONS FROM THE BOARD**

- How do we track **COMMUNICATIONS**?
- How will the **METRICS** be refined and used?
- How can the **METRICS** be used to leverage the work of Community Health workers?
- Communication – to community:
  - To Be ahead of the Media
  - Inform the Public – reduce fear
- Which component of the Health System will these Metrics address?
- Metrics – as economic analysis!
  - Adoption and Uses.

**DEVELOPING SOLUTIONS**

**Outbreak Timeliness Metrics!**

- Date of OUTBREAK START
- Date of OUTBREAK DETECTION
- Date of OUTBREAK REPORTING
- Date of LABORATORY CONFIRMATION
- Date of PUBLIC HEALTH RESPONSE
- Date of FIRST PUBLIC COMMUNICATION
**REFINING the TIMELINESS METRICS**

- **GROUP #**
- **METRIC:** Outbreak Start

**CURRENT DEFINITION:** Date of symptom onset in the index case; if not available, date of first hospitalization or medical visit may be used.

**REVISED DEFINITION:** Date of symptom onset in the earliest first identified case.

*Was this the last case? If no, was it identified? Date of onset?*

**BOLD IDEAS!**

- Consider date of env. exposure
- 1 animal cases for zoonoses.

**RANK THIS METRIC FOR INCLUSION BY ALL!**

- **GROUP #1**
  - **GROUP #2**
  - **GROUP #3**
  - **GROUP #4**
  - **GROUP #5**
  - **GROUP #6**

**WHAT IS THE DATA SOURCE?**

- Line List
- Medical record system
- After action rpt.
- Clinical & Pub Rec
- Contact tracing interviews & case report form
  
- Earliest date of exposure or symptom onset or event suspicion.
- Requires retrospective invest.
  
- Early linking w/ 'event' start

**WHAT ARE THE CHALLENGES FOR THIS METRIC?**

- Index case not always found
- Access to care is critical
- Need to have an operational def. of Epi-lim
- Contact tracing challenges + recall bias
**REFINING the TIMELINESS METRICS**

- **GROUP #001**  
- **METRIC:** Outbreak Start

**CURRENT DEFINITION:** Date of symptom onset of the index case. If it is not available, first date of hospitalisation or medical visit may be used.

**REVISED DEFINITION:** Date of symptom onset in case. (+ note if earliest case is primary or not)

- **WHAT IS THE DATA SOURCE?**  
  - Clinical + medical records
  - Outbreak invest. + line list
  - Outbreak reporting forms (FERP + EDS)

- **WHAT ARE THE CHALLENGES FOR THIS METRIC?**  
  - Primary case not always found
  - Need of def. of epi-link
  - Contact tracing challenges + recall bias
  - Retrospective in nature
  - Access to care
  - Consistency of case definitions

**NEW METRIC:** Event Start - E.g. exp or animal cases of zoonoses.

- Deep dive on case studies to better assess the steps where we can improve.
REFINING THE TIMELINESS METRICS

EVENT OUTBREAK:

CURRENT DEFINITION:
DATE THAT THE OUTBREAK THRESHOLD CASE PRESENTS TO A HOSPITAL, CLINIC, LABORATORY, E.H., OR PUBLIC AGENCY

REVISED DEFINITION:
THE DATE THE OUTBREAK IS DETECTED THROUGH AN E.R.S. NETWORK CONFIRMATION OR NOTIFICATION, AND THE DATE THE DISEASE EVENT IS FIRST RECORDED IN ANY SOURCE OR SYSTEM.

WHAT IS THE DATA SOURCE?
WHO HAS IT?

MEDIA/NEWSPAPERS
COMMUNITIES/SCHOOLS/WORKPLACE
E.B.S.
RUMOR LOGS
CLINICAL/HOSPITAL RECORDS
LAB VETS

WHAT ARE THE CHALLENGES FOR THIS METRIC?
HOW IS THIS DIFFERENT FROM "REPORTING"
MAKE SURE METRIC IS ACTIONABLE
REFINING THE TIMELINESS METRICS

CURRENT DEFINITION:

REVISED DEFINITION:
The date the outbreak or disease-related event is first recorded in any source or system.

BOLD IDEAS!
- Integrate with animal surveillance
- Conduct case studies for deep dive on each metric

RANK THIS METRIC FOR INCLUSION BY ALL!

GROUP #1

GROUP #2

GROUP #3

GROUP #4

GROUP #5

GROUP #6

WHAT IS THE DATA SOURCE?
- Media/newspapers
- E.B.S. (event-based surveillance)
- Community "reporters"
- Schools & workplaces
- Rumor logs
- Clinical/hospital records
- Labs

WHO HAS IT?

WHAT ARE THE CHALLENGES FOR THIS METRIC?
- How is this different from reporting?
- Make sure final metrics are actionable
REFINING the TIMELINESS METRICS

GROUP # ____________ MMEetric: Reporting

CURRENT DEFINITION: Defined as the date that the outbreak threshold case presents. Is reported to public health authorities at local, regional, national, or international level.

REVISED DEFINITION: Defined as the date that the outbreak is 1) reported to public health authorities at local, regional, country, international levels. 2) First reported to public health authority per protocol. 3) Identified outbreak is officially reported to the responsible public health authority through our organization structure. 4) Sub-study on when there are "delays" in reporting (escalation) AND failures in the system.

WHAT ARE THE DATA SOURCES?

- Geographic public health authority
- Form - paper, system
- Electronic - email, mobile

WHO HAS IT?

- Need for coordinated system

WHAT ARE THE CHALLENGES FOR THIS METRIC?

- Is the "receipt" of report or "send" of report when does someone "read" the report?
- Multiple reporting metrics in one outbreak
- Outbreak "officially reported" distinction & detection vs. report
- Officially reported - country, international
- "Reporting" is different
- Communication failures in the system
- Outbreaks moving between human and animal communities
- Verification of report
- Time differences to report
- Is this "official" reporting? NOT necessarily

WHAT IS THE AVERAGE?

4.91
REFINING the TIMELINESS METRICS

**GROUP # 4**  **METRIC:** REPORTING

**CURRENT DEFINITION:**

**REVISED DEFINITION:** Defined as the date the outbreak is first reported to a public health authority.

**BOLD IDEAS!**
- Sub-study on where there are "delays" in reporting (as escalating communication failures in the system)

**WHAT IS THE DATA SOURCE?**

**WHAT ARE THE CHALLENGES FOR THIS METRIC?**
- How specific should this metric be?
  - Can it be generalized and allow country to specify
REFINING THE TIMELINESS METRICS

- GROUP # ND
- METRIC: DATE OF LAB CONFIRMATION

CURRENT DEFINITION:
DATE OF FIRST LAB REPORT OF THE CAUSATION PATHOGEN
FROM AN EPIDEMIOLOGICALLY LINKED CASE

REVISED DEFINITION:
DATE OF CONFIRMATION OF THE CAUSATIVE PATHOGEN
(DATE OF RESULT RECEIVED BY PUBLIC HL)

WHAT IS THE DATA SOURCE?
WHO HAS IT?

- DIST. LAB
- NAT' LAB
- ACADEMIC INST.
- REGIONAL REF LAB
- PRIV. LAB
- MDH
- LAB NETWORK

WHAT ARE THE CHALLENGES FOR THIS METRIC?

- THE SOURCE HUMAN/ANIMAL
- COST
- WHAT IS CONFIRMATION (RDTs?)
- CAPACITY NOT ALWAYS THERE
- MULTIPLE PATHOGENS
- TRUST / G-A & G-C

CLINICAL CONF MAY BE SPECULATIVE
REFINING the TIMELINESS METRICS

GROUP # J M
METER: DATE OF “PUBLIC HEALTH RESPONSE”

CURRENT DEFINITION: Earliest date when the local public health professionals took actions to stop or control the outbreak in the community.

REVISED DEFINITION: Earliest date of any public health intervention that took place to control the outbreak in the community.

WHAT IS THE DATA SOURCE? WHO HAS IT?

OUTBREAK INVESTIGATION REPORT
OUTBREAK FINAL REPORT
CL IN PROSPECTIVE: Standard practices to collect that from local level.

IHS (incident management system)
EMS-LIKE platform (county level)
[to complement with other source]

WHAT ARE THE CHALLENGES FOR THIS METRIC?

* Continual actions, difficult to identify first
* "Outbreak" with multiple locations
* Do we need to consider time between decision and effective action?
* Retrospective analysis — let’s go quickly, very difficult
* Explaining what action is
* "Submetrics"? e.g. Human vs. Animal, Public health situation
**REFINING the TIMELINESS METRICS**

**DATE OF FIRST**

**GROUP # MELISA**  **METRIC: PUBLIC COMMUNICATION**

**CURRENT DEFINITION:** Date public info about outbreak appeared in local/international, informal/official verbal/written reports or newspapers in the country, news articles, TV/radio broadcasts, internet postings, social media, or informal disease reporting networks (PROMED, HEALTHMAP).

**REVISED DEFINITION:**
Date of 1st official release of information to the public about the outbreak, from responsible health authority (any platform).

**WHAT ARE THE CHALLENGES FOR THIS METRIC?**

- What if there are different messages/different dates??
- Resources needed, person power
- Who is tracking this? How would you capture?
- Effectiveness
- Falls between authorities
- Defining "information"?
- Declaration, risk, consensus
- Measuring quality of info
- Training how to count?

**WHO HELPED WITH THIS?**

- [List of groups and their rankings]
REFINING the TIMELINESS METRICS

- GROUP # Melissa
- METRIC: Date of first public communication

Purpose: risk reduction (behavior change)
- Improve surveillance system
- Build trust and credibility

CURRENT DEFINITION: Date that public info. about the outbreak appeared in local/international, official/unofficial, written reports, including official press releases or newspapers in the country, news articles, TV/radio broadcasts, internet postings, social media, or informal disease reporting networks (PROMED, HealthMap).

REVISED DEFINITION:
Date of first official release of information to the public about the outbreak from the responsible authority.
- local, country, international
- any platform
- public health or gov't

WHAT IS THE DATA SOURCE? WHO HAS IT?
- press release, media item, transcript, etc.
- public health agency
- MoH, MOI, etc
- archives
- Google/other scanning tool
- other websites

WHAT ARE THE CHALLENGES FOR THIS METRIC?
- resources needed, person power
- effectiveness
- "information" implies risk reduction
- what about declaration?
- which authority communicates? which tracks? Disconnect?
Cholera

Framework for Measuring Prospectively

- Resources Needed to Measure Prospectively?
  - Time:
  - Money:
  - People: Political Commitment, Institutional Buy-In, Staffing + Training

- Frequency of Measurement?
  - Real-time
  - Timeliness dashboard

- Metrics for Inclusion?
  1. Critical/Primary Metrics: Days vs. Hours
     - Outbreak Start
     - Detection
     - Reporting
     - Response
     - Lab Confirmation
  2. Optional Metrics: Expose Date of Outbreak Closure
     - Public Communication
     - Triggering Event

- Existing Systems That Could/Should Incorporate Timeliness Metrics?
  - Outbreak Reporting Forms → Event Management System
  - Field Epidemiology Program → Event Management System

- How Would You Use These Timeliness Metrics?

- Should These Timeliness Metrics Be Shared?
  - WITH WHOM?
    - Operational Stakeholders in [real-time]
    - Informal Surveillance Networks
    - Neighboring/Regional Partners
    - Local Surveillance partners
  - WHEN?
    - Annual Self-Assessment
    - Tie to INR

- How? Format?
  - After-action reports
  - EOC Dashboard
  - Summary/Trend Rpts.

- Tie funding support + transparency
FRAMEWORK FOR MEASURING PROSPECTIVELY

RESOURCES NEEDED TO MEASURE PROSPECTIVELY?
- TIME: ADAPT, SPT
- MONEY: Buy in (political)

PEOPLE:
- Tech support: CDC/WHO
- MINISTRY
- HEALTH
- FIDEL
- AG/WILDLIFE

METRICS FOR INCLUSION?
- OUTBREAK DETECTION
- REPORTING
- LAB AND\/NNL LAB
- INTERVENTION
- COMM

EXISTING SYSTEMS THAT COULD/SHOULD INCORPORATE TIMELINESS METRICS?
- JEE (+PYS)
- IHR - COMPLIANCE
- COUNTRIES (PREP. + RESQ)
- WASH

FREQUENCY OF MEASUREMENT?
- 1x/yr

SHOULD THESE TIMELINESS METRICS BE SHARED?
- WITH WHOM?
  - MINISTRY
  - HEALTH
  - FIDEL
- AG/WILDLIFE
- WHO
  - REGIONAL
  - HEALTH\/ECON ORG\/NETWORKS
- WHEN?
  - 1x/yr
- HOW?
  - FORMAT?

IDEALLY

HOW WOULD YOU USE THESE TIMELINESS METRICS?
- FUNDING
- SIST CHANGE FOR IMPROV. SURV.
- GAP - IDENTIFICATION BARRIERS
- Accountability
  - IMPACT OF PROGRESS
Spanish Flu

Framework for Measuring Prospectively

**Resources Needed to Measure Prospectively?**
- **Time:** Approval, Designing
- **Money:** $100K over 10 years!
- **People:** Monitoring, Training

**Frequency of Measurement?**
- Operational: Ongoing
- Evaluation: Annual

**Metrics for Inclusion?**
- **Time:** Reporting, Confirmation
- **Response:** Public Communication

**Existing Systems That Could/Should Incorporate Timeliness Metrics?**
- FETP Outbreak form
- Outbreak Report (local, regional, country)
- Event Management System
- National Institutes
- WHO/Guidance

**Frequency of Measurement?**
- Economic Impact

**How Would You Use These Timeliness Metrics?**

**Should These Timeliness Metrics Be Shared?**
- With Whom?
- When?
- How? Format?
Typhoid

FRAMEWORK FOR MEASURING PROSPECTIVELY

- Resources needed to measure prospectively?
  - Time:
    - Governance/legislative mandate for access to health system data
  - Money:
    - Dedicated/staff training
  - People:
    - Standardized investigation reports/forms

- Metrics for inclusion?
  1) Outbreak starts
  2) Outbreak detection
  3) Outbreak reporting (at levels)
  4) Verification (LAB-EPI-EOs)
  5) Intervention
  6) Risk communication
  7) Outbreak end

- Existing systems that could/should incorporate timeliness metrics?
  - Outbreak reporting form (edited/standardized)

- Frequency of measurement?
  - Analysis: after action review
  - Analysis: for selected outbreaks
  - Country decides based on possibilities

- How would you use these timeliness metrics?
  - Look periodically at performance
  - Annual report and identify improvement areas

- Should these timeliness metrics be shared?
  - With whom?
    - Context/country specific
    - Authorities
    - Training?

- When?
  - Regularly
  - In case of relevant outbreaks (analysis)

- How? Format?
  - Reports, ideally dashboards
  - Dynamic
    - Interactive (with interpretation)

- Other uses/analysis
  - Economics, tourism

Real-time
Black Death

Framework for Measuring Prospective

- Resources needed to measure prospectively?
  - Time: ++++
  - Money: ++++
  - People: +++++

- Metrics for inclusion?
  - All six

- Existing systems that could/should incorporate timeliness metrics?
  - Electronic medical records
  - Disease reporting forms
  - Environmental systems

- How would you use these timeliness metrics?
  - Quality assessment
  - Management of outbreak

- Should these timeliness metrics be shared?
  - Yes

- With whom?
  - Public health systems
  - Animal & environment counterparts
  - Stakeholders
  - Donors
  - Researchers
  - Public

- During every outbreak + annual aggregated report

- Automating the systems

- Shared platform
  - Generate alerts

- E.O.C.
  - Animal/Environmental systems
  - D.H.S.

- J.E.E./I.H.R.S.
  - Monitoring & evaluation
  - Policy
  - Drive change

- Annual report
  - Derive: best practices
  - Tourism
OUTBREAK TIMELINESS METRICS ARE MEASURED AS THE TIME INTERVAL BETWEEN TWO RELEVANT OUTBREAK MILESTONES.

OUTBREAK MILESTONES

- OUTBREAK START
- OUTBREAK DETECTION
- OUTBREAK NOTIFICATION
- OUTBREAK VERIFICATION
- LABORATORY CONFIRMATION
- OUTBREAK INTERVENTION
- PUBLIC COMMUNICATION
- OUTBREAK END

DEFINITION

- DATE OF SYMPTOM ONSET IN THE PRIMARY CASE OR EARLIEST EPIDEMIOLOGICALLY-Linked CASE.
- DATE THAT THE OUTBREAK OR DISEASE-RELATED EVENT IS FIRST RECORDED BY ANY SOURCE OR IN ANY SYSTEM.
- DATE THE OUTBREAK IS FIRST REPORTED TO A PUBLIC HEALTH AUTHORITY.
- EARLIEST DATE OF OUTBREAK VERIFICATION THROUGH A RELIABLE VERIFICATION MECHANISM.
- EARLIEST DATE OF LABORATORY CONFIRMATION IN AN EPIDEMIOLOGICALLY-LINKED CASE.
- EARLIEST DATE OF ANY PUBLIC HEALTH INTERVENTION TO CONTROL THE OUTBREAK.
- DATE OF FIRST OFFICIAL RELEASE OF INFORMATION TO THE PUBLIC FROM THE RESPONSIBLE AUTHORITY.
- DATE THAT OUTBREAK IS DECLARED OVER BY RESPONSIBLE AUTHORITIES.
SOCIALIZING THE OUTBREAKS METRICS

Which ORGANIZATIONS do we need to engage?

- We need to talk to DECISION MAKERS:
  - Purpose
  - Incentives
  - Economic Argument
  - Information

- Political Organizations are hungry for this type of information. They want to invest!!

We can't just keep the information amongst ourselves. (Academics)

- Ministries
- Government
- Directors of Public Health Agencies
- Regional offices that help governments
- Reactivate Existing Networks

We need to SHOW the linkages that exist in this metrics.

*Let's Plan Studies!!* Systems Training

- Strategic Serendipity
- Regional Political/Economic Organizations
- International community
- West Health Organization

- ORGANIZATIONS
- LEADERS

- Have more Stories that show RESULTS of the use of these Metrics.

- We need to PERSUADE the technical people. Show them it has Value!

- Implementation
  - Culture
  - Based on the training

1. 1st How to adapt the System

- WHO organization
  - System's Reform
  - Validity Reduction in numbers
  - Digitilization

- GH

PHILANTHROPISTS can BE good PARTNERS!

- LABORATORIES → We need more people from laboratories to be involved in these gatherings.
Metrics "have indicators, but we need targets!"

We need communications in a very clear way.

Measure the capacity of the public health system.

Convince the technical people of member states (Africa).

Regional Centers.

Jointly work together w/member states.

EAST AFRICA. What kind of information do we want to share?

"Attributes" need to be incorporated into Metrics.

Socialization.

Prepare information!

National action plans.

Preparedness network.

Working together?

Select countries that are interested - low income countries.

We need to transform this good will into a reality.

How do we get a change of mindset?

Shift to a new normal!

Integrate w/ the IHME.

Holistic approaches.

Mainstream security.

Simplicity.

Precise, well documented economic information.

Practical & strategic communications.

Strategic storytelling.

Gain traction with the unconvinced.

Money & security.

Financial risk.

Technical assistance.

How do you talk to people? That sit in the hot seat.

Bring empathy.

What about business?

Healthy workforce.

Sustainable development goals.

How do we become more proactive & creative?

The players.

Political decision makers.

Technical people.

Regional players.

Intellectual organizations.

Select countries that are interested.

- low income countries.

We need to transform this good will into a reality.
METRICS REVIEW

**GROUP DISCUSSION...**

- **Revised TIMELINESS METRICS**
  - Outbreak Verification
    - Add "reliable" verification
    - Reliable laboratory verification
  - More Focus
    - By laboratory or other verification
  - Needs to be documented
    - You need it at some point
    - What if a country has no lab??
  - Add and/or
    - Consider the types of sources we have available
  - Outbreak verification
    - Laboratory verification (timeliness is the capability)
    - Other verification (triggers response)
    - For timeliness purpose is fine
    - By what method can people verify?
  - Careful: How words are used - in IHR "verification" is real
    - Without LABS you don't know what vaccines to use

- **Important:**
  - The way we FRAME it!
  - Infectious Disease Outbreak

- **We want to find METRICS that allow fast ACTION.**
  - Outbreak Start is the anchor point
  - Date of symptom onset
  - During investigation - Many things will change
    - We can update

- **RISK COMMUNICATION**
  - Risk communication may be the 1s intervention in "Outbreak Intervention"
  - Change it to Public Comm.?
    - When it's JUST communication from a Valuable Authority -> TRANSPARENCY
  - Change to Public Communication
    - Date of 1st release of info to the Public from the responsible authority
    - End dates!! Add a new metric: When did the outbreak end?

- **Outbreak Start**
  - Date of "Primary Case"
  - "Diagnosis"
  - Date of disease-related event
  - Case history:
    - When is the date of system or diagnosis recorded?
    - How do you measure the variables?
  - Monday
  - When does the "outbreak" start in the system?

- **Add**
  - Where did the Outbreak end?
COUNTRY IMPLEMENTATION

- Take it to countries that have already done the RETROSPECTIVE and New Countries!
- Use the Metrics to CREATE change.
- Get the low hanging fruit. Macedonia
  - Don't pick countries that will be hard to do this.
- Respect that some countries have already been doing this.
  - Sense of Empowerment.
- Go to Places and tell People the Story.
  - Sell the Idea! Help the countries to use it.
- Country limitations -
  - We need the Data to convince the
    - Ministry of Health
    - Technical People
- Countries and the Regions need to have ownership of this.
- Take advantage of all meetings (globally) and present the metrics!
- Routine Collections of Data
- New Prospective Systems.
- Routine Opportunities to look at the data.
  - Countries can do this Routinely and Systematically.

"Incentives" for countries to invest.
- India Pilots Timelines
- "Dreams" Communication Package

Different countries can share information
- Examples of How they integrated the Metrics?
- Pull examples from other Stakeholder countries.

Marketing Tools Infographics
  - Data analysis and Data Visualization to show Policy Makers.