



Advances, Challenges, and Lessons Learned from CRVS Scale-Up Initiatives in 19 countries

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Presentation Outline

1. Bloomberg Philanthropies Data for Health Initiative
 - Purpose, Logic Model and Measurement
2. Examples of cross-country progress
 - Legal and Regulatory Review and Reform
 - Verbal Autopsy integrated into routine CRVS system
3. Country Examples
 - Peru, Bangladesh, Rwanda
4. Future directions



The Bloomberg Philanthropies Data for Health Initiative



Introduction

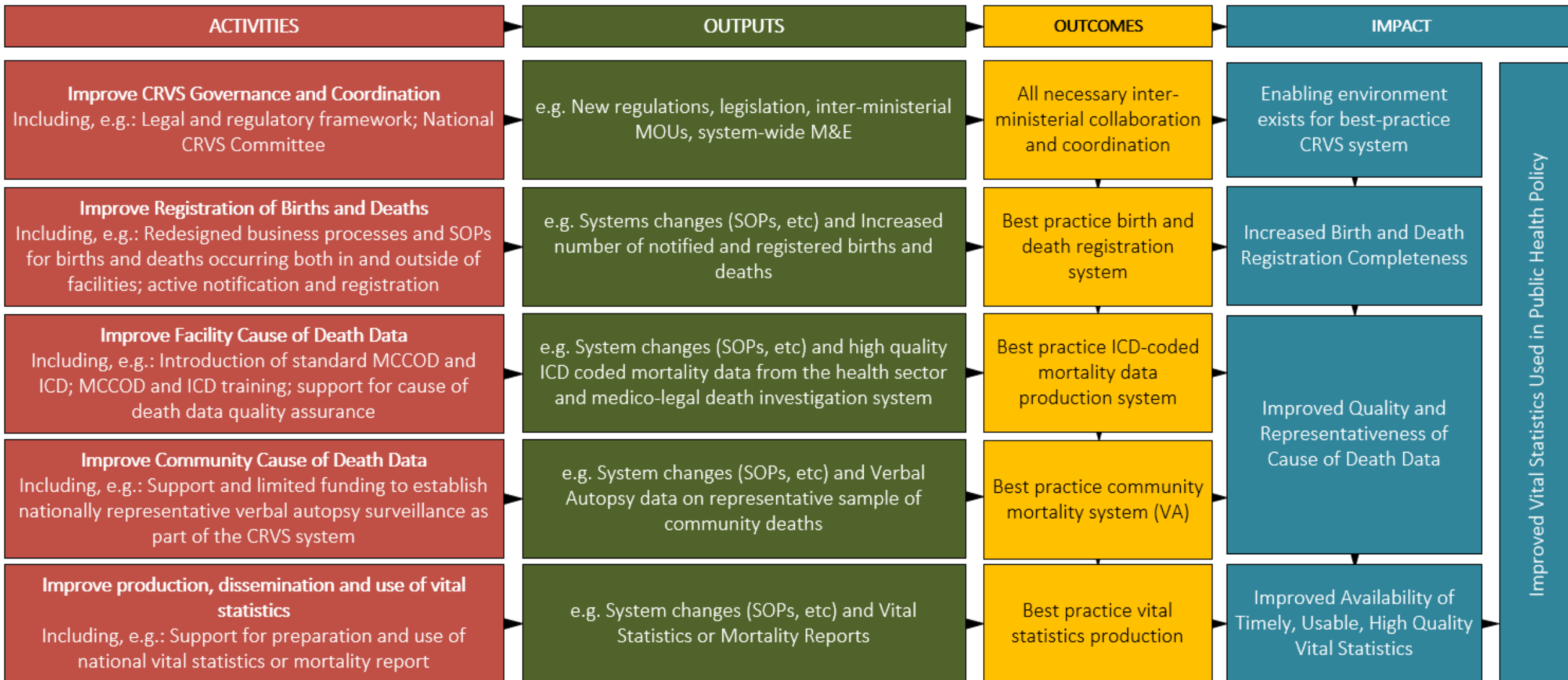
- Presentation concerns the production of routine civil registration and vital statistics data
- ‘Advances in data collection methods’ mostly operational:
 - Supporting countries to fix broken or poorly functioning CRVS systems, leading to universal registration, hence complete and reliable vital statistics
- Holistic approach based on principles of:
 - Government ownership and leadership
 - Capacity building
 - Sustainability and scalability



Data for Health Initiative

- **Purpose:** Improve population health by partnering with countries to collect and use accurate public health information
 - Strengthen civil registration systems, including cause of death
 - Help policy makers better use data to make decisions
 - Sub-set of countries:
 - Complement traditional health surveys with innovative mobile phone surveys
 - Strengthen cancer registries
- Eight-year commitment of Bloomberg Philanthropies in partnership with Australian Department of Foreign Affairs and Trade
- First institutionalize system changes and demonstration of scalable, sustainable impact on systems and processes

Theory of Change & Areas of Technical Assistance



Measurement

Key Metrics:

- Number of VAs conducted
- Number of CRVS Tools and Manuals Produced
- Number of countries producing vital statistics
- Number of articles published on CRVS
- Number of people trained in any CRVS area by face-to-face training
- Number of people trained in any CRVS area by e-learning
- Number of countries with people trained in any CRVS area

Output Indicators

- OP1 Number system level changes births
- OP4 Number of system level changes deaths
- OP5 Number of system level changes COD facility deaths
- OP6 Number of system level changes COD home deaths
- OP7 Number of D4H-produced training packages adopted for country use
- OP8 Training resource production

Outcome Indicators

- OC1 CRVS Governance and Coordination Score
- OC2 Composite score birth registration
- OC3 Composite score death registration (TRACER)
- OC4 Composite score COD facility and MLDI causes of death
- OC5 Composite score COD home deaths
- OC6 Composite score Vital Statistics Production
- OC7 Training completeness
- OC8 Proportion of medical schools teaching proper cause of death certification as part of pre-service curriculum

Impact Indicators

- I1. Birth notification completeness
- I2. Birth Registration Completeness
- I3. Percent health sector births notified to CR
- I4. Death notification completeness
- I5. Death registration completeness (TRACER, VSPI)
- I6. Percent health sector deaths notified to CR
- I7. Vital Statistics Performance Index Quality (VSPIq)
- I8. Percent of deaths with medically certified COD in the last calendar year
- I9. Percent of deaths with unusable COD in the last calendar year
- I10. Length of mortality cause list
- I11. Number of medically impossible diagnoses in the last calendar year
- I12. Percent of deaths with age or sex unspecified in the last calendar year
- I13. Percent VA completeness in target/sample populations in the last calendar year
- I14. Vital Statistics or Mortality Report published annually for at least past three consecutive years
- I15. In the last calendar year, sex ratio of registered births within a year of occurrence
- I16. Sex ratio of death registration completeness in the last calendar year
- I17. Geographic gap in death registration completeness in the last calendar year



Partners

- CDC Foundation
- Global Health Advocacy Incubator
- Johns Hopkins University, Bloomberg School of Public Health
- UN Economic Commission for Africa
- UN Economic and Social Commission for Asia and the Pacific
- US Centers for Disease Control and Prevention
- University of Melbourne
- World Health Organization



Examples of Cross-Country Progress



Legal and Regulatory Review and Reform

- 14 Countries undertook review of CRVS legal and regulatory environment (through 2018)
 - Enabled critical inter-governmental exchange of data for the first time
 - Identified fundamental gaps in governing legislation and proposed births and deaths acts *de novo*
 - Established duty of health sector to use international standards for cause of death of assignment and reporting
 - Sanctioned health sector cadres to serve as notifiers of vital events



Innovative Applications of Verbal Autopsy

- Tanzania, Rwanda, Bangladesh, Myanmar
 - **Purpose:** to derive nationally representative picture of causes of deaths occurring outside of hospitals
- Brazil, Shanghai
 - **Purpose:** to reduce the proportion of deaths coded to unusable or uninformative causes (e.g. 'heart failure;' 'cancer')
- Philippines
 - **Purpose:** to function as a decision aid to medical officers charged with certifying home deaths with access to medical records
- Colombia
 - **Purpose:** to derive accurate picture of mortality in remote, rural locations where most deaths occur at home



Country Examples



Bangladesh: Introduced Active Registration

- CRVS Secretariat at the Cabinet Division, ORG and the Ministry of Health and Family Welfare collaboration
- Enforcement of existing mandate for frontline medical workers to assist with the civil registration of births and deaths.
- Birth and death registration up from 50% to 83% and from less than 10% to 90%, respectively
- ‘Kaliganj model’ adopted for national scale and replicated in at least one sub-district in each division of Bangladesh so far



Bangladesh: Better Cause of Death Data

- **Better Facility Cause of Death Data:**
 - New certificate meets WHO standards since 2017
 - Government rollout to 56 major hospitals so far; 100% district level hospitals by 2021
 - **44,000 properly coded medical certificates of cause of death** that can be analyzed for policy and planning
- **Understanding Community Mortality:**
 - Approximately 75% of deaths in Bangladesh occur outside of hospitals with no doctor in attendance
 - Verbal autopsy to be implemented in nationally representative sample, including USD 1.2m investment by government
 - Over 25,000 verbal autopsies have been collected, giving the government access for the first time to cause-of-death data for communities collected as part of routine CRVS activities.

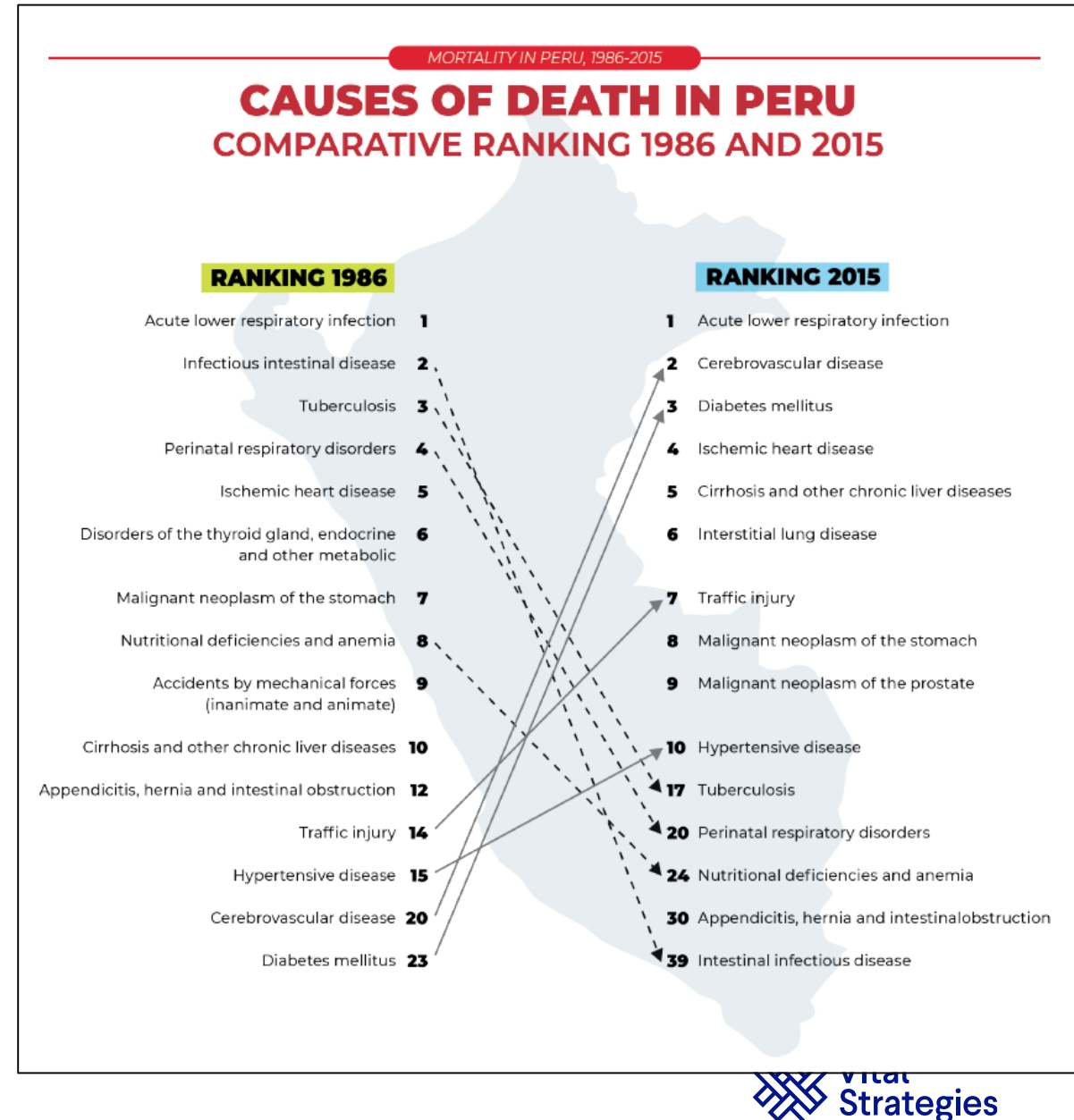


Peru: Automating Facility Mortality Data

- Government had concept of online death certification for physicians at hospital (SINADEF)
- Implemented at major Lima hospitals and expanded to additional public facilities with connectivity
 - Work arounds for offline entry
- From 2017-18 online certification of deaths increased from 19% of annual deaths (35,215) to 39.9% (73,792) of annual deaths
- Reduced lag time in data availability from years to weeks
- Based on success, government allocated USD\$6.75m to expand and sustain SINADEF
- SINADEF now operating in 370 institutions nationwide

Peru: Mortality Report

- First trend analysis of leading causes of mortality at national and subnational levels
- Resulted in policy directives related to
 - Pneumococcal vaccine expansion
 - Increased screening for cervical and breast cancer
 - Increased access to medications for mental illnesses
- More complete data now possible via SINADEF





Rwanda: Improving Death Registration and Cause of Death Data

- 2016-17 review of the CRVS legal framework resulted in new proposed births and deaths act and two ministerial orders:
 - Established all hospitals as registration points for births and deaths
 - Mandated the use of international standard medical certificate of cause of death
 - Ensure timely reporting of high quality mortality data from hospitals
- Also recognized frontline service providers as legitimate registration agents
 - Home-Based Care Providers



Challenges and Lessons Learned



Operational Challenges and Lessons Learned

- Legal and regulatory reform is necessary, feasible, and has impact in relatively short period of time
- CRVS Committees favor impact
- Facility-based sources of mortality ripe for improvement
- Sustainable data quality assurance systems rare
- NSOs can be wary of completeness and quality issues but often just need new protocols, SOPs, or skills
- Demand for representative samples for cause of death surveillance can be difficult to create
- Being intentional about fostering institutionalization and commitment to scale – always



Technical Challenges and Lessons Learned

- What we need
 - Denominators for death registration completeness in small areas
- What we do
 - $CDR_{\text{national}} \times \text{Estimated Midyear Pop} = \text{Total Expected Deaths}$
 - Or consultant-led exercise in complex indirect methods
- What we're doing about it
 - Working with NSOs and international statisticians to develop and apply new, easy, and sustainable methods
- What we're going to do in future
 - Ensure institutionalized capacity and suitability of methods for routine updating (e.g. reliance on routine and administrative data sources)



Technical Challenges and Lessons Learned

- What we need
 - A single, agreed, validated, best-performing automated verbal autopsy cause of death assignment method (e.g. algorithm; panel of algorithms; NLP and AI...)
- What we do
 - Make a reasoned decision about which to use based on competing claims of performance from among three to four single algorithm solutions
- What we're doing about it
 - Promoting a consortium approach
 - Calling for multi-country evaluation study
 - Calling for proper study to validate alternative automated approaches and for development of new methods
- What we're going to do in future ... for now
 - Rely on incremental improvements, being transparent about limitations, decisions on which algorithms to use, etc.