Syphilis Testing in Antenatal Care: Policies and Practices among Laboratories in the Americas

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Elimination Initiative

BACKGROUND:

- In 2007, the World Health Organization (WHO) launched the global initiative to ***Eliminate Mother-to-Child Transmission (EMTCT) of Syphilis***
- Substantial progress has already occurred. However, WHO estimated that in 2012 MTCT of syphilis still accounted for **350,000 adverse pregnancy outcomes including 205,000 perinatal deaths**
- *EMTCT of Syphilis* is based upon 4 pillars:
  - Sustained political commitment and advocacy
  - Increased access to quality maternal/newborn health services
  - Syphilis screening and treatment for ALL pregnant women
  - Quality surveillance, monitoring and evaluation of systems – **including laboratory systems**
- The **Americas Region is a global leader in EMTCT**, since 1994 calling upon its Member States to eliminate congenital syphilis. Since 2010 the Americas Region has promoted **dual elimination** in its ***"Elimination of MTCT of HIV and Congenital Syphilis in the Americas"*** strategy.

OBJECTIVES:

- To assess **syphilis testing policies and practices** used in laboratories in the Americas, emphasizing testing in pregnant women given regional elimination goal

METHODS:

- From **March – August 2014,** we surveyed laboratories in the **35 PAHO member-states**, recruiting:
  - National Reference Laboratories
  - Regional and Provincial/State Laboratories
  - Large Maternity Hospital Laboratories
  - Local antenatal clinic (ANC) laboratories or programs
- **Respondents** must have been the Laboratory Director or his/her designee (a laboratory scientist familiar with the facility's policies and standards)
- **Data** were collected using structured, electronically-delivered surveys with questions on:
  - Syphilis test types used
  - Syphilis testing algorithms applied
  - Turn around time for results
  - Quality control (QC) and quality assurance (QA) approaches used
  - Challenges experienced

RESULTS:

- **Surveys completed** by 69 laboratories representing **30 (86%) of 35 PAHO member states**
  - 94% were public sector facilities
- **71%** of labs reported existence of a **national algorithm for syphilis testing** during pregnancy
  - Most (72%) used both non-treponemal and confirmatory treponemal testing
  - Only 7 labs (5 countries) used rapid syphilis tests (RSTs) in their algorithm
- **Turn around time:** 96% of labs reported results back within 7 days
- **Types of tests** used

Non-treponemal
  - RPR only: 36%
  - VDRL only: 31%
  - Both: 22%
  - **None: 6%**

Treponemal
  - **FTA-ABS only: 16%**
  - TPPA or TPHA only: 10%
  - EIA or CIA only: 5%
  - Multiple of above tests: 36%
  - None of above tests: 32%
  - Rapid Test (any setting): 41%
  - **Rapid test (ANC setting): 36%**

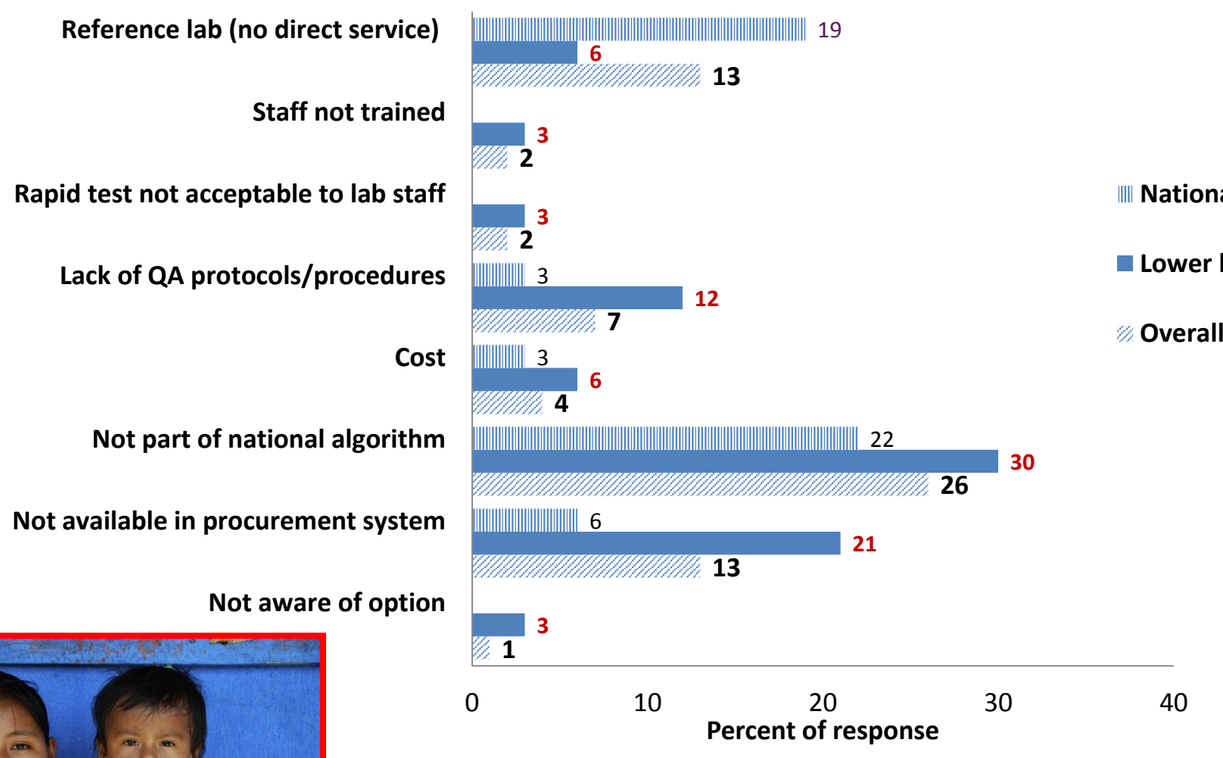
- **QC/QA approaches** reported:
  - **Any procedure: 80%**
  - Daily serologic testing: 81%
  - External QA program (at least annually): 68%
  - On site observation: 49%
  - **National proficiency testing program: 2% (1 country)**

- **Supply chain problems** (a stock out of an essential supply) was the most frequently cited challenge, reported by **27 (39%) in 25 countries.** (Average length of stock out, 30 days)

Stock Outs of Syphilis Testing Supplies/Reagents within Past 12 Months, Regional Survey of Syphilis Testing in the Americas Region, 2014

Type of Test Reagent or Supply	Stock-out, N (%)		
	Yes	No	Don't know/Not Reported
Reagent			
RPR (n = 33)	10 (30)	4 (12)	19 (58)
VDRL (n = 11)	6 (55)	3 (27)	2 (18)
TPPA (n= 13)	3 (23)	3 (23)	7 (54)
TPHA (n = 17)	3 (18)	3 (18)	11 (64)
FTA (n= 24)	5 (21)	1 (4)	18 (75)
EIA (n= 13)	6 (46)	2 (15)	5 (39)
CIA (n = 2)	1 (50)	0 (0)	1 (50)
RSTs (test kit or buffer)(n = 25)	5 (20)	2 (8)	18 (72)
Supply			
RPR cards (n= 33	8 (24)	23 (70)	2 (6)
Pipettes (n = 54)	7 (13)	44 (81)	3 (6)
Gloves (n = 54)	9 (17)	43 (80)	2 (3)
Other (n = 54)	5 (9)	35 (65)	14 (26)
At least one item stock out (n= 54)	27 (50)	27 (50)	0 (0)

RESULTS: Reasons for NOT using Rapid Syphilis Tests (RSTs) Reported by 41 Laboratories not using RSTs, Regional Survey of Syphilis Testing in the Americas Region, 2014



CONCLUSIONS:

Laboratories in the Americas Region reported:

- Almost 1/3 of countries had no national syphilis testing algorithms. Existing algorithms may not fit the clinical setting (e.g., ANC)
- Many countries still used older, less specific syphilis tests (e.g., FTA); and less than half used RSTs – often because RSTs were not part of the algorithm or not available in the procurement system.
- One in five laboratories had no routine QA/QC procedures for syphilis testing. Only 2/3 of laboratories used external QA.
- Most experienced stock outs of essential syphilis testing supplies

EMTCT of syphilis in the Americas could be advanced by:

- Updating syphilis testing algorithms to fit the clinical setting and available laboratory capacity
- Ensuring testing standards are in place, and routine quality assurance of testing is implemented
- Availability of critical commodities (e.g., RPR kits, gloves, pipettes) through improved procurement strategies and effective distribution

Based on results, PAHO developed a regional guidance on syphilis testing (2015) to improve uptake, interpretation and quality of testing in different clinical settings.

Available at: http://www.paho.org

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Division of Sexually Transmitted Disease Prevention

More details can be found in: *Luu M et al. Int J Gyencol Obst (2015):S37-S42*

Pan American Health Organization

World Health Organization Americas