

# Electronic Health: Using Information and Communication Technologies (ICT) to Enhance the Directly Observed Treatment Short-course (DOTS) Compliance Assessment Tool (DCAT) of the Philippine Plan to Control Tuberculosis

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# Problem

- Tuberculosis (TB) is “second only to HIV/AIDS as the greatest killer worldwide due to a single infectious agent (WHO 2013).”
- More than 95% of TB mortality occurs in low and middle-income countries.
- TB is among the top three causes of death for women between the ages of 15 and 44.
- In 2010, the Philippines ranked “ninth among the 22-high burden countries.”
- This leads to a socioeconomic burden of over 500,000 disability adjusted life years (DALYs) being lost due to illness and premature mortality from TB in the Philippines annually (Villaverde, et al. 2010).



# Context

- Philippines = free market economy and “democratic” governance
- decentralized and devolved system of gov’t
  - Result: allows for autonomy and innovations in program implementation (e.g. public health)
- Local Gov’t Code (1991) allows national gov’t to provide technical assistance to LGUs
- DOH offers Performance-Based Grants (PBGs)
  - To incentivize LGUs to comply with DOTS
  - Result: DOTS Compliance Assessment Tool (DCAT)



# Data from DCAT

- used to:
  - Determine DOTS compliance status of LGUs
  - Enhance TB plans at the LGU level
  - Harmonize regional NTP plans based on the identified needs
  - Entered as inputs to the Costing and Financial Tool (COSFIT)

COSFIT = software app that assists in estimating the cost of implementing a TB program at the local level in a multiyear period.



# Original DCAT (Excel Version)

- used in 40 provinces and 15 cities as of 2012 + 20 more in 2013

	A	B	C	D	E	F	G	H	I	J	K
1	<b>DOTS Compliance Assessment Tool (DCAT)</b>				ORIGINAL SCORE:	<u>0.0%</u>	NEGOTIATED SCORE:	<u>0.0%</u>			
2											
3	<i>For each objectively verifiable indicator, please rate yourself (0, 1, or 2).</i>										
4	<b>Parameters</b>	<b>Objectively Verifiable Indicators</b>	<b>Rating Scheme</b>	<b>Rating</b>	<b>Weighted Score (WS)</b>	<b>Negotiated Rating</b>	<b>Negotiated WS</b>	<b>ISSUES</b>			
5	STANDARD ONE: A network of provincial and functional municipal TB laboratories that maintains quality assured Direct Sputum Smear Microscopy (DSSM), both public and private laboratories and with access to TB Diagnostic Committee (TBDC) for the management of smear negative TB cases			0	0.0%	0	0.0%				
6	1. Functional TB laboratory in at least 70% of the rural health units (RHUs)/ health centers (HCs)	Directly Observed Treatment Short-course (DOTS) Certification of RHUs	0 – 0-35% of RHUs certified 1 – 36-69% of RHUs certified 2 – 70% and more RHUs certified		0.0%		0.0%				
7		Certificate of training from the Center for Health Development (CHD)/ National Tuberculosis Reference Laboratory (NTRL) for DSSM	0 – 0-35% of RHUs certified 1 – 36-69% of RHUs certified 2 – 70% and more RHUs certified		0.0%		0.0%				



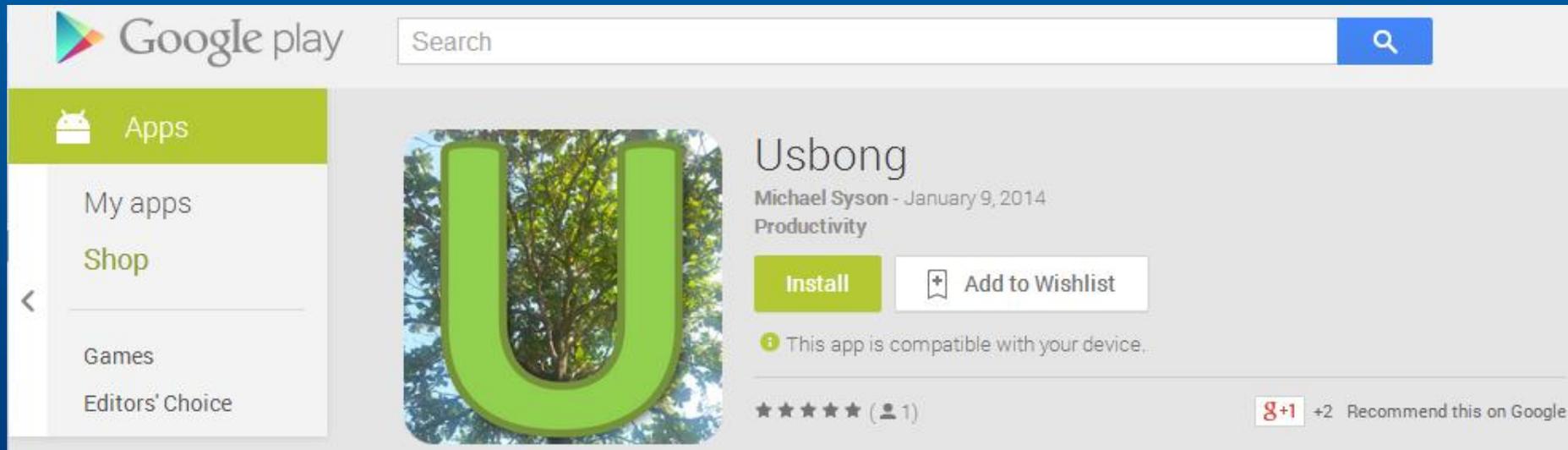
# Original DCAT (Excel Version)

- Results:
  - need to address mistakes in the scoring and computations
  - need for a step-by-step guide
  - need to integrate the separate DCAT files (e.g. tool, guide, Excel)
  - need to have a laptop/mobile device when doing the assessment in the field setting



# Usbong DCAT (Android Version)

Usbong is an open source platform that helps non-technical people create their own Android apps for use in data collection, assessment, training, and digital storytelling.



[www.usbong.ph](http://www.usbong.ph)

Usbong = “to grow” (Filipino word)

ATENEO DE MANILA UNIVERSITY  
PHILIPPINES



# Usbong DCAT (Android Version)

Copies of reports for activities conducted  
(Weighted Score)

- 0 - No TB program specific activities of multi-sectoral groups/ CBOs
- 1 - At least one (1) TB program specific activity of the multi-sectoral groups/ CBOs
- 2 - At least two (2) TB program specific activities of the multi-sectoral groups/ CBOs

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My DCAT Summary  
DOTS Compliance  
Assessment Tool (DCAT)

For each objectively verifiable indicator, please rate yourself (0, 1, or 2).

STANDARD ONE: A network of provincial and functional municipal TB laboratories that maintains quality assured Direct Sputum

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Copies of reports for activities conducted  
Weighted: 0.8  
Negotiated: 0.8  
ISSUES: none

//----- STANDARD 8  
(TOTAL)  
Total (Rating): 4.00  
Total (Weighted Score): 8.50  
Total (Negotiated Rating): 4.00  
Total (Negotiated WS): 8.50

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Usbong = “to grow” (Filipino word)



# Usbong DCAT (Android Version)

- Results from end-user evaluation of platform:
  - 6 of 8 agreed and 1 totally agreed: software can increase efficiency and productivity
  - 5 of 8 agreed and 1 totally agreed: use of software will facilitate shortening of data gathering period for research projects
  - For further technical assistance and exchanges:
    - a) eHealth Philippines (<http://ehealth.ph>)
    - b) Usbong end-users Google group



# Analysis and Conclusion

- adoption of ICT-enabled assessment tools for the Philippine Plan of Action to Control TB (PhilPACT) = an innovation being pursued by the DOH NTP.
- objectives for the MDGs, eHealth Strategic Plan, and Integrated TB Information System (ITIS) are being partially addressed.
- findings from the development of Usbong DCAT revealed that the tech product has to find its value and location in various social processes involved in decision and policy-making.



# Analysis and Conclusion

- Thus, development of Usbong DCAT involves technical, social, and political processes.
- At the same time, it is important to keep in mind that the objective of all this developmental work is “to make the people realize in all truthfulness, that in the end, they did it all themselves (Tiongco 1996).



# Next Steps

- Perform inter-rater reliability testing to determine whether Usbong DCAT > Original Excel DCAT
- Conduct the DCAT revision process using a Delphi panel interview to determine which indicators in the scorecard will be revised or retained.
- Develop Usbong DCAT version 2

