



# **TVEE**

**TEACHING VACCINE  
ECONOMICS EVERYWHERE**

*Creating the Architecture for Sustainable Vaccine Financing*

# Agenda

- Introducing the TVEE Project
- Exploring the TVEE Strategy
- TVEE in the Present
- Lessons Learnt

# The TVEE Project

## Collaborative Program

1. Johns Hopkins University
2. Makerere University SPH, Uganda
3. Aga Khan University, Karachi
4. IIHMR, Jaipur, India
5. WITS University, South Africa
6. University of Ougadougou, Burkina Faso



*Developing TVEE Curriculum, Feb 2017, JHU*

## Vision

To contribute to preventing deaths and disabilities by optimizing links from immunization policymakers' decision-making to data on what it costs to deliver vaccines efficiently, equitably, and sustainably

## Objective

To promote efficient use of resources by vaccine delivery programs in low and middle income countries through capacity building in vaccine economics and pharmacoeconomics for program managers, policy & decision makers

# Pillars of TVEE Strategy

## Developing Content

- Lectures
- Exercises and Case-studies
- Real-world examples
- Handbook Publication

## Building Capacity

- Regional Hubs
- Frequent workshops
- Degree Programs
- Continuing Studies Courses

## Establishing Sustainability

- Training of Trainers
- Capstone/Project Mentorship
- MOOCs
- Video Lectures
- Securing Funding Sources

## Growing a Global Community

- LinkedIn Alumni Network
- Workshop Collaborations
- Global Conferences
- Global Webinars

# Stakeholders

## Decision Makers

- EPI Managers
  - NITAGs
  - Analysts
- Program Managers
  - Supplies and procurement officials

## Academia and Researchers

- Professors
- Research Associates
- PhD Fellows

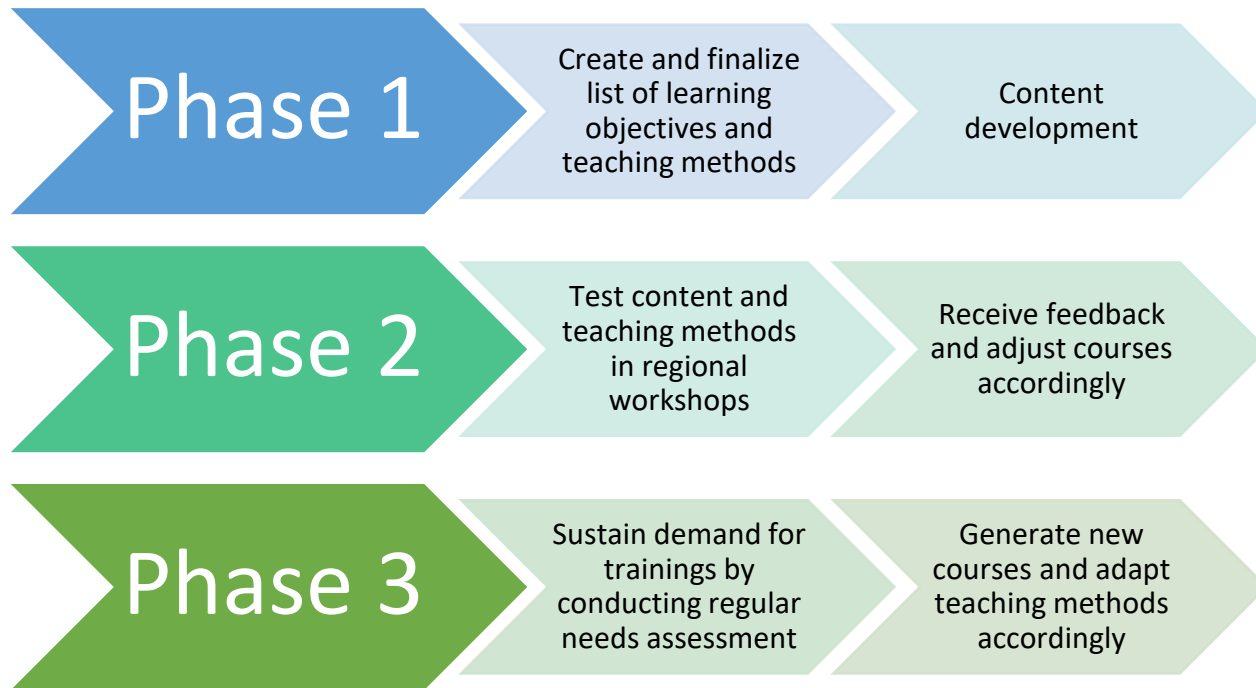
## Government Staff

- MOH Ministers
- Policy Analysts
- Civil Society

## International Organization and NGOs

- GAVI, WHO, UNICEF, MSF, CHAI, etc.

# Project Pathway



# Developing Content

## Program Structure

**Module 1:** Principles of Vaccine Economics

**Module 2:** Costing in Vaccine Planning & Programming

**Module 3:** Economic Evaluation of Vaccine and Immunization Programs

**Module 4:** Financing Resource Tracking

**Module 5:** Systems and Logistics Analysis

**Module 6:** Program Evaluation of Immunization Programs

## Module Structure

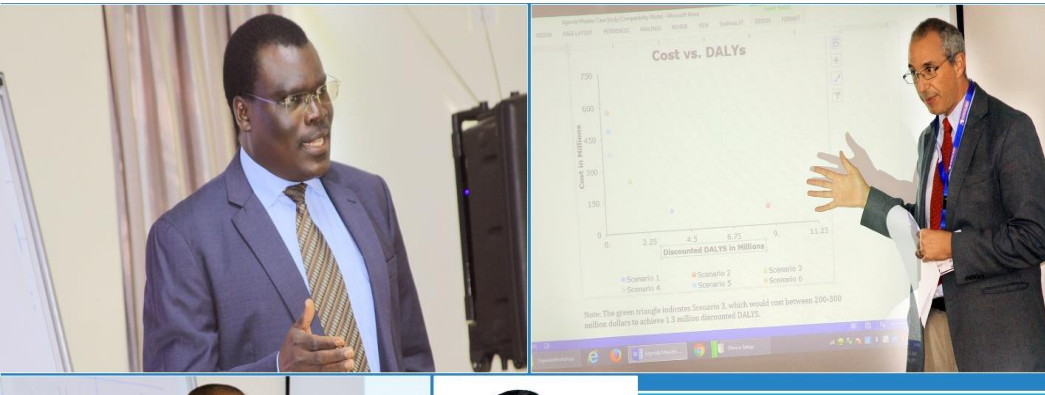
- Developing lectures that introduce and teach theory using real-world scenarios and examples
- Cement principles through exercises and case-studies that focus on working with real data and policy applications
- Encourage learning within and between groups through group exercises and discussion questions during lecture sessions.

## Create, Adapt, Update and Review Curriculum

- Review curriculum based on participant feedback and peer review
- Reach out to new and current partners to collaborate on development of new material
- Adapt curriculum to local/regional context using examples, case-studies, policy questions and data provided by TVEE partners
- Update curriculum to stay current with any new guidelines and standards
- Publish **handbook** using the material developed that can be used as a stand-alone or a support teaching tool

*All materials developed will be open source*

# Building Capacity



The TVEE Project has introduced capacity building activities through workshops at 4 regional hubs and global conference.

The introduction of the workshops and the regional response to it has enabled the regional hubs to strategize on the best way to offer these learning opportunities.



Our experiences have made us appreciate that each region responds to different strategies and has opened up avenues to further develop the initiative to offerings of degree programs, short courses, continuing studies, etc.

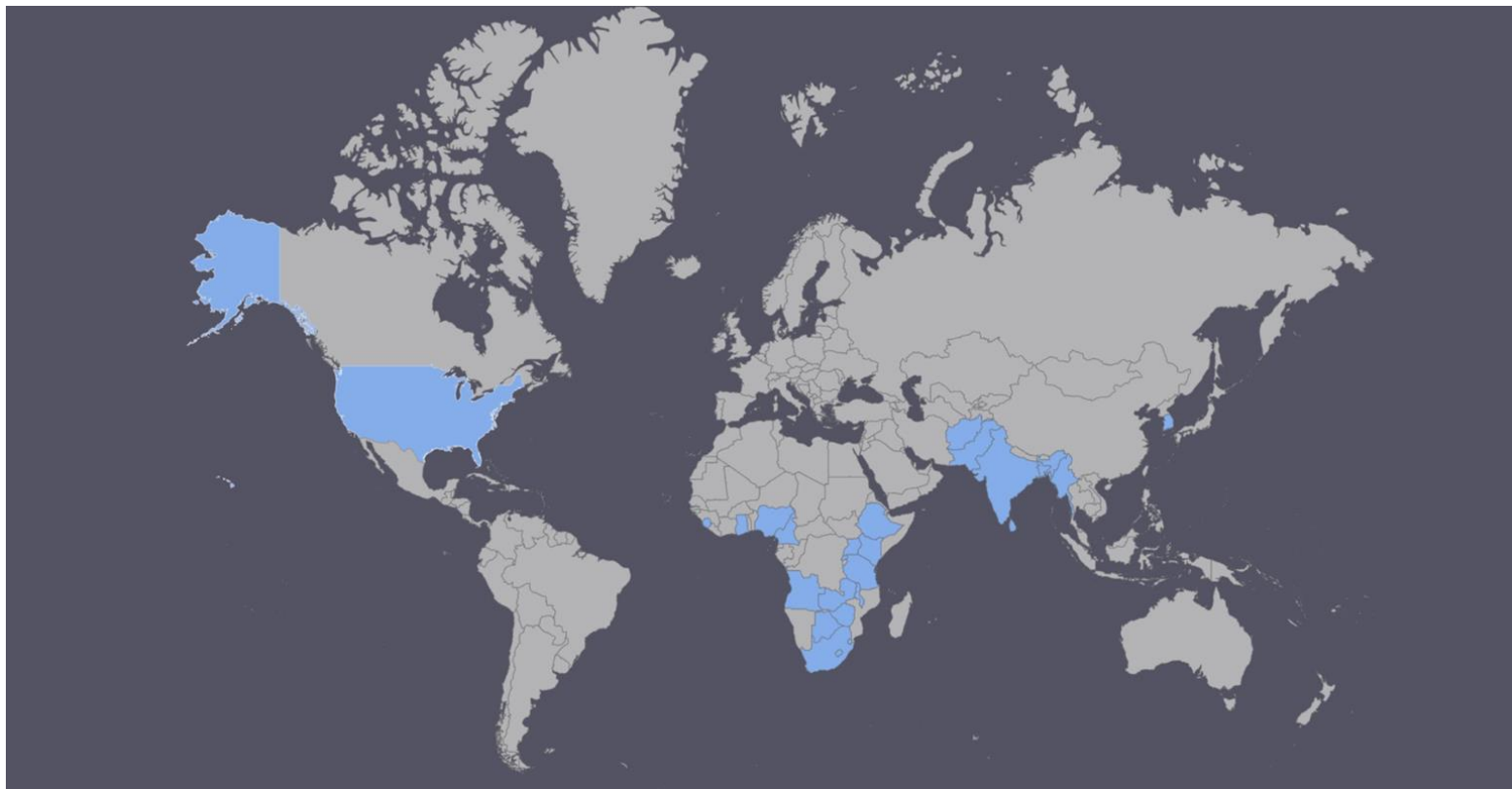
## Current Design of Workshops

- Regionalized – East and Central Africa (Uganda), Southern Africa (Wits, SA), Middle East and North Asia (AKU, Pakistan) and South-East Asia (IIHMR, India)
- Practical, working with case studies, hands-on exercises and take-home material
- Facilitators chosen across the board based on experience and expertise
- Each workshop covers 1-3 modules for a period of 2-4 days per workshop
- Privately-funded and Scholarship participants

# The Present

- Establishment of 5 regional hubs
- Development of 6 curriculum modules in vaccine economics
- Participants from 21 GAVI countries
  - 20-30 participants per workshop
  - Participants from all levels of immunization programs and activities
  - Participant review and satisfaction above 80%
- Curriculum being made available on JHSPH OCW
  - <http://ocw.jhsph.edu/index.cfm/go/find/browse#collections/collectionID/9/>
- Establishment of a global community for alumni
- Generated significant demand for future offerings of vaccine economics globally





*Who have we reached so far?*

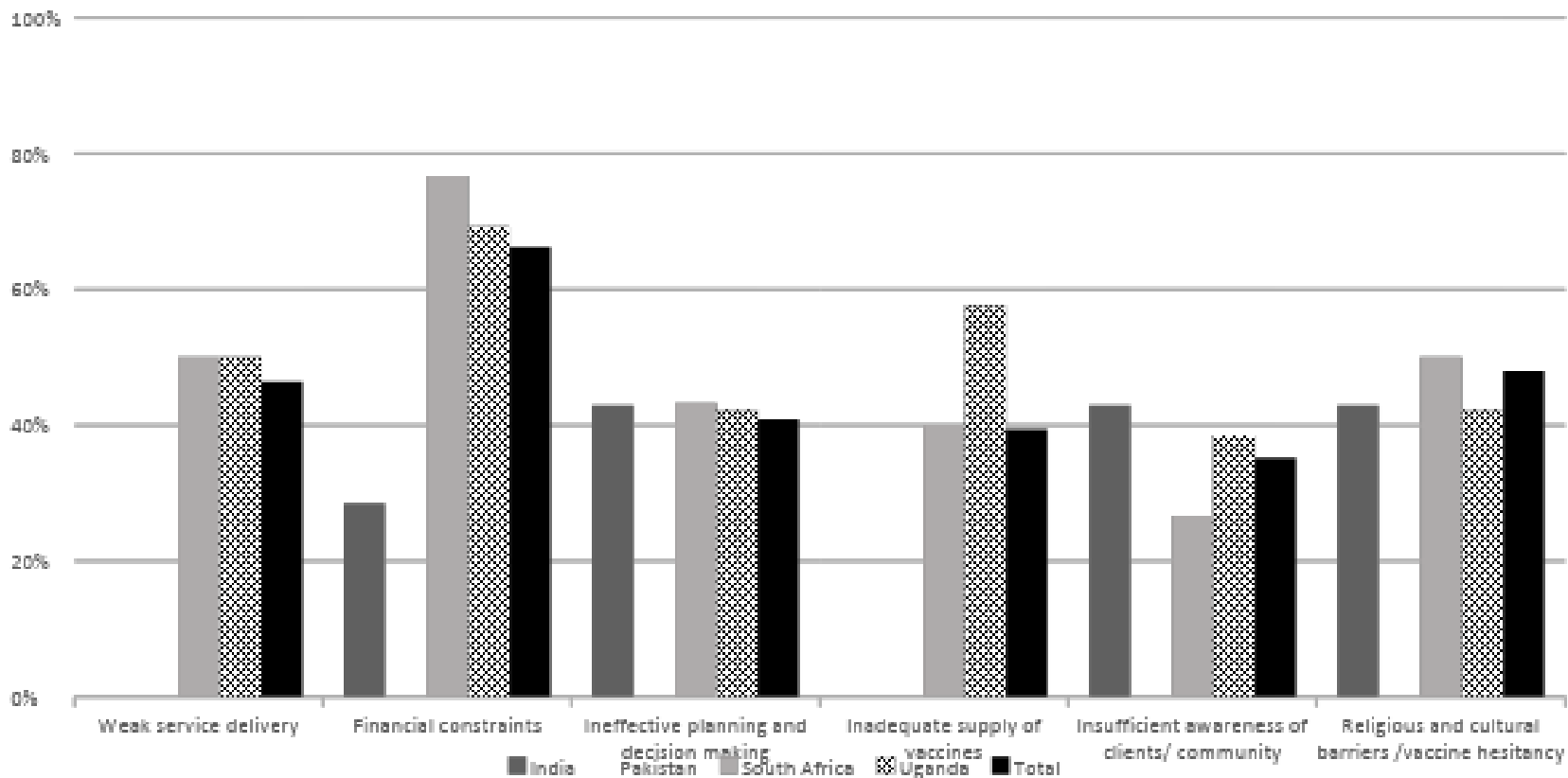
<b>WITS University, SA</b>	<b>Makerere University, Uganda</b>	<b>Aga Khan University, Pakistan</b>	<b>IHMR University, India</b>
6 workshops	5 workshops	6 workshops	4 workshops
110 participants	100 participants	101 participants	76 participants
Zambia, Zimbabwe, Malawi, South Africa, Botswana, Swaziland, Lesotho, Nigeria, Kenya, Angola, Cameroon, Ghana, South Korea	Uganda, Ethiopia, Rwanda, Kenya, Tanzania, Zambia	Pakistan, Afghanistan	India, Myanmar, Bangladesh, Sri Lanka, Sierra Leone, Ghana

# Phase 2 Evaluation: Survey of Participants

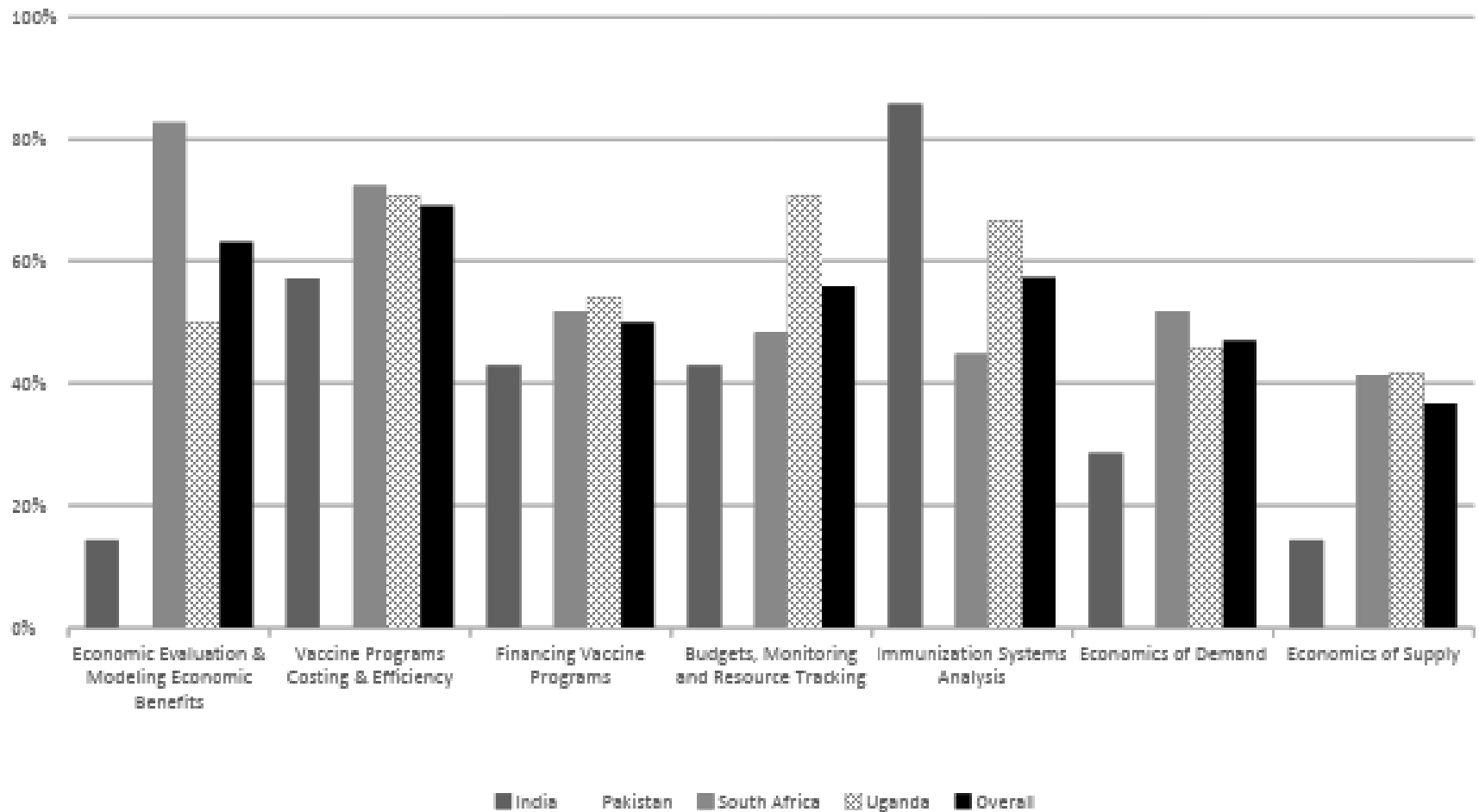
- **Anonymous surveys to 200 former participants on Qualtrics**
  - 86 replies, 71 complete replies
  - 30 from South Africa Workshops
  - 26 from Ugandan Workshops
  - 7 from Indian Workshops
  - 5 from Pakistan Workshops

# Overall Need & Demand for Vaccine Economics Training

Figure 1: Major Challenges to Vaccine Delivery Systems, by % respondents



# Vaccine Economics subdisciplines identified as requiring skill-building for job



## The magnitude of change in knowledge rating in 4 financial assessments after workshops in 4 regional hubs by % participants who report it

		CA	CEA	BIA	PEA
Overall	none	41%	45%	44%	43%
	1 point	36%	43%	40%	45%
	2 point	20%	12%	14%	8%
	3 point	3%	0%	2%	3%
	N	61	60	57	60
South Africa	none	35%	40%	33%	42%
	1 point	35%	44%	50%	46%
	2 point	23%	16%	13%	4%
	3 point	8%	0%	4%	8%
	N	26	25	24	26
Uganda	none	43%	50%	54%	39%
	1 point	39%	46%	25%	48%
	2 point	17%	4%	21%	13%
	3 point	0%	0%	0%	0%
	N	23	24	24	23
India	none	33%	50%	40%	50%
	1 point	50%	33%	60%	50%
	2 point	17%	17%	0%	0%
	3 point	0%	0%	0%	0%
	N	6	6	5	6
Pakistan	none	50%	50%	33%	50%
	1 point	25%	25%	67%	25%
	2 point	25%	25%	0%	25%
	3 point	0%	0%	0%	0%
	N	4	4	3	4

# Adaptability to Work and Workplace Barriers

Table 4 showing Likert scale rating of (A) opportunity to apply skills at work, (B) supervisor/team response to change, (C) extent of reward/appreciation for changes made, (D) extent of knowledge/skill transfer to peers/teams and (E) peer interest in attending

	A	B	C	D	E
Definitely yes	31 (72%)	15 (36%)	13 (30%)	20 (46%)	25 (58%)
Probably yes	12 (28%)	21 (50%)	22 (51%)	18 (42%)	15 (35%)
May or may not	0	6 (14%)	6 (14%)	5 (12%)	2 (5%)
Probably not	0	0	2 (5%)	0	1 (2%)

# Feedback on Improving Teaching Methods

- Increase the number of practical, hands-on exercises in the curriculum
- Offer the workshops online
- Adopting the curriculum into short academic programs
- Include a practicum or field work project
- The need to be connected to additional career resources for joint collaboration in immunization activities.

# Was the workshop affordable?

- Most of the participants were provided with scholarships to attend the initial workshops.
- 87% of the responses reported that the workshop was affordable and accessible for them (n=62)

To those that answered yes to the above statement –

- If scholarships were not available, the resources available for them to attend are (n=45)
  - None – 40%
  - Self-funds – 20%
  - Online resources – 4%
  - Employer sponsorship – 16%
  - Government sponsorship – 11%
  - Other organization and partners – 9%

# Organization Appreciation vs Funding for Training

	The extent to which organizations have appreciated the new skills and knowledge attained from the workshop			
Has the change in work encouraged more funding opportunities for training	Far above average	Somewhat above average	Average	
Yes	62.50% (5)	26.67% (4)	28.57% (4)	
No	37.50% (3)	73.33% (11)	71.43% (10)	

# Limitations of the survey

- Low response rate of 43%
- Varied response rate from each regional hub
  - South Africa is heavily represented
- Unable to make inter-regional comparisons

# Lessons Learned

- Each regional hub has different needs modules and teaching methods
- Facilitator retreats before the workshops build teaching capacity
- Pre-course orientation helps users digest materials before workshop
- Multiple shorter didactic sessions + more group work and exercises
- Developing more data-based exercises and field visit initiatives
- Need WIFI infrastructure to support access to online training material
- Focus more efforts in securing financial support and buy-in from governments and international organizations

# Establishing Sustainability



- **Expansion** of TVEE activities to more regional hubs
- Introduction of **Training of Trainers** workshops to allow countries to organize their own training workshops in vaccine economics.
- Provide graduates with the opportunity to be mentored in their projects through the **Capstone/Project Mentorship Program**
- Focus on building partnerships with global and regional organizations to **obtain synergy** of all efforts and to provide training for essential staff
- **Strengthening sustainability** plans for current regional hubs
- Publishing curriculum as Open-Source MOOCs with video lectures to encourage **learning without barriers**
- **Translation of curriculum** to reach more non-English participants

# Growing a Global Community



## **Social Media and LinkedIn Group**

Stay connected and network with TVEE trainers and participants from all the regional workshops .

TVEE Trainers are available to discuss potential immunization projects post-workshop (<https://goo.gl/G5GVJw>)

## **Collaborate with TVEE Workshops**

Regional hubs welcome all local, regional and international partners to collaborate on workshops and teach sessions and/or provide materials to develop curriculum

## **Online Curriculum**

TVEE curriculum is available online easily and freely for participants to use

<http://ocw.jhsph.edu/index.cfm/go/find.browse#collections/collectionID/9/>

## **Global Conferences**

Present business case to invest in immunization capacity building and encourage future trainers, students and financiers to participate

# Q & A

*Ask us about anything!*



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