

# Sustainable Laboratories Programme and the Global Laboratory Leadership Programme

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Pathway

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World  
Organisation  
for Animal  
Health

Organisation  
mondiale  
de la santé  
animale

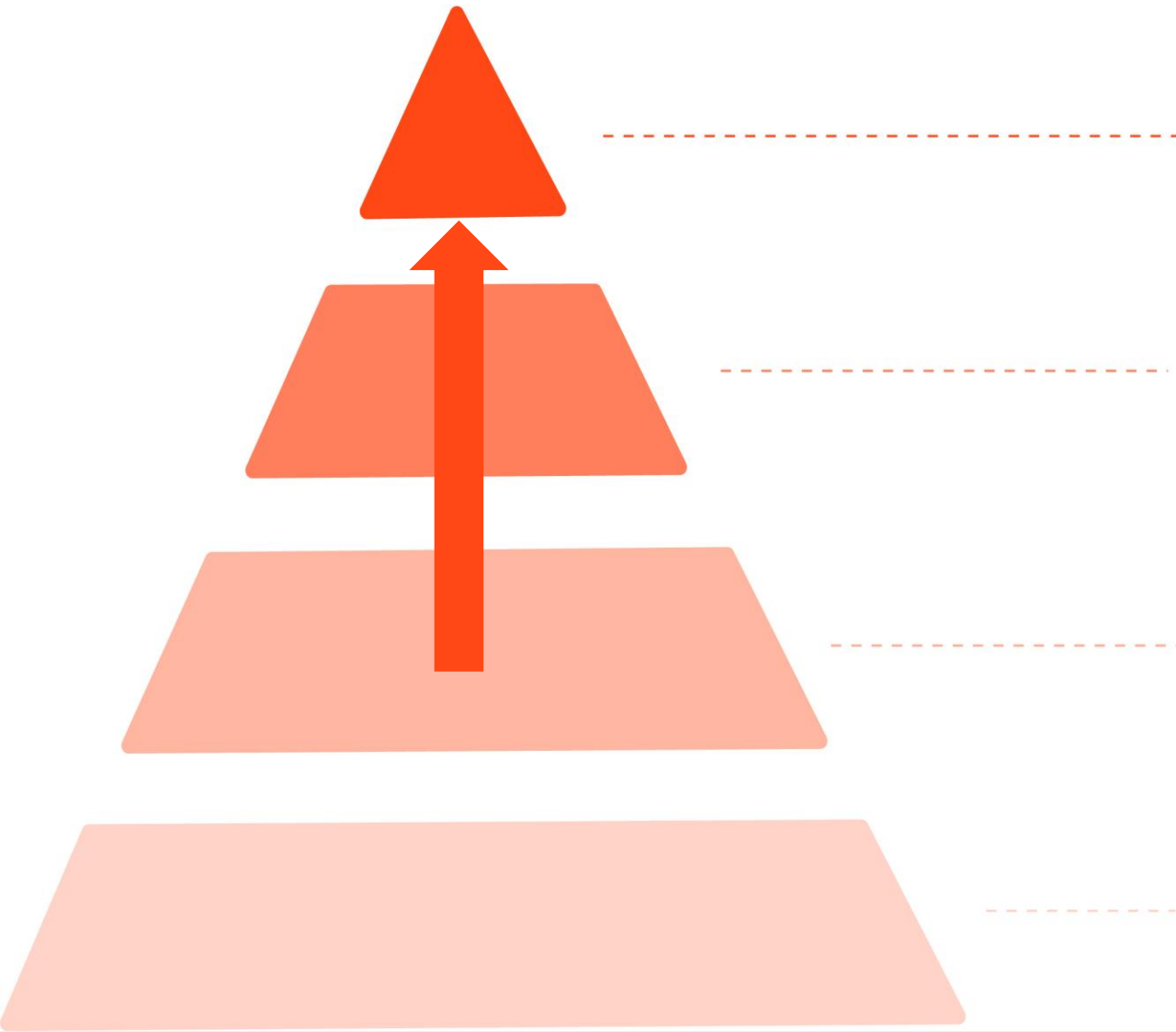
Organización  
Mundial  
de Sanidad  
Animal



# Definition of the Target: Sustainable Laboratory Networks



# Where do we want to go?



## Sustainable Laboratory System

Network of laboratories with focus on service delivery and sustained quality of outputs, with optimal capacity over time, cultivated client relationships and balanced budget

## Functioning Laboratory System

Laboratories working together, understanding clients and their needs thanks to significant external support. Their capacity is improved through technical trainings in short-term projects which fail to take into account the underlying challenges to sustainability

## Operational Laboratories

Laboratories working independently with heavy but short-term external support, disjointed from local clients

## Black Box

Laboratories producing results without regards to the conditions under which tests are conducted

### Overall Laboratory Diagnostic Capacity



# 27M

Tests conducted

On average, currently testing at

## 51%

of potential testing capacity, HR

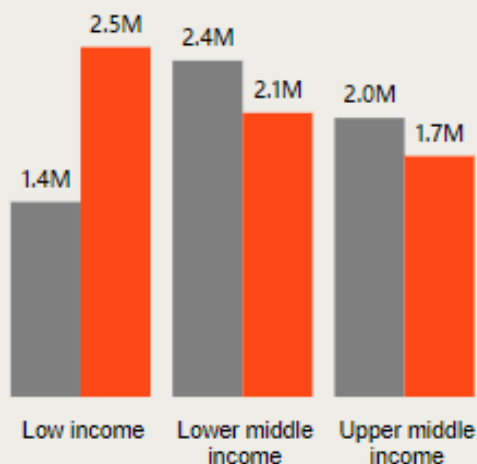
On average, currently testing at

## 30%

of potential testing capacity, equip...

#### Estimated Potential vs Actual testing capacity, HR, by WB Income Level

● Actual Testing Capacity ● Potential Testing Capacity



Laboratory networks are testing at **51%** of their potential annual capacity, based on available human resources, and at 30% based on equipment.

Underuse is a symptom of challenges between the field and the lab, low demand for lab services, and low sample input, among others. It is worst for low resource settings, who benefit most from external aid and have the most difficulty to finance their health systems through national budgets, legal, and financing frameworks.

Increased investment in improving bench-top capacity with multiple disease-focused projects at the lab or lab unit levels will likely not address or improve this indicator.

**18%**  
of tests not performed

**10,758**  
Tests conducted annually, per technical staff

**70%**  
of labs do routine sampling

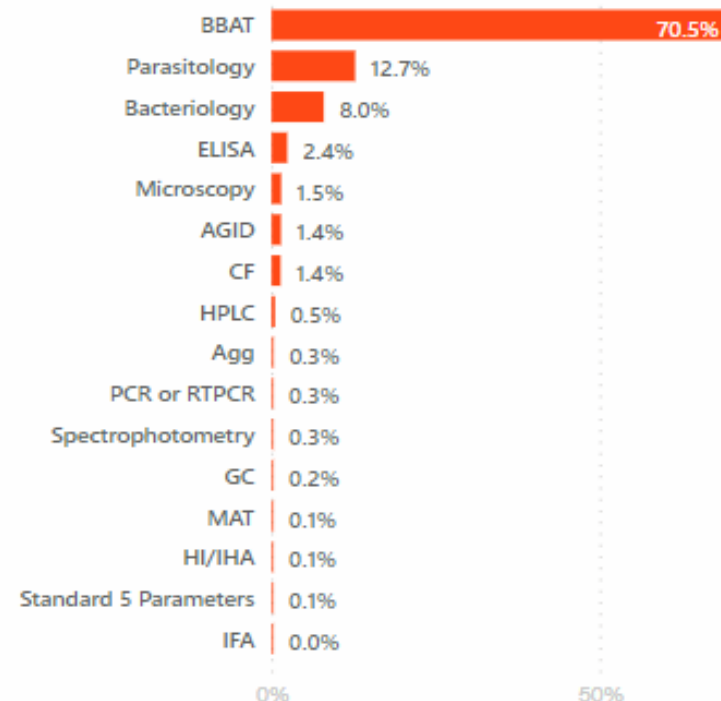
# 27

Methods reported

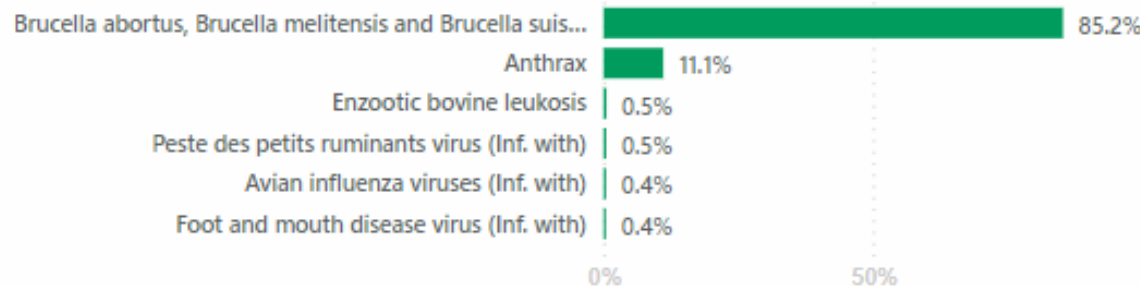
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Diseases reported

#### Tests reported, by method category



#### Tests reported, by WOAH listed Diseases






What is  
WOAH  
doing to  
address  
these  
challenges?

## Delivery of PVS Sustainable Laboratories Missions

Objectives of the PVS Sustainable Laboratories Mission

- *To evaluate the need and demand for laboratory services*
- *To evaluate the cost of service delivery*
- *To identify challenges to sustainability*
- *To propose options and actions to address them*
- *To deliver evidence-based insight ready to be presented to decisions makers*

**Global Laboratory Leadership Programme (GLLP)**



# Sustainable laboratory networks require strong laboratory leaders, not just well trained bench staff

## Our Mission:

To provide laboratory professionals with the tools to develop their laboratory **leadership competencies** and advance effective national laboratory systems for improved health security **using a One Health approach.**

# The GLLP Partners

A multisectoral collaboration of six leading organizations targeting laboratories with public health impact (e.g. environmental, agricultural, food, aquatic or chemical laboratories).

## GLLP Founding Partners

- Association of Public Health Laboratories (APHL)
- Centers for Disease Control and Prevention (CDC)
- European Centre for Disease Prevention and Control (ECDC)
- Food and Agriculture Organization of the United Nations (FAO)
- World Organisation for Animal Health (OIE)
- World Health Organization (WHO)

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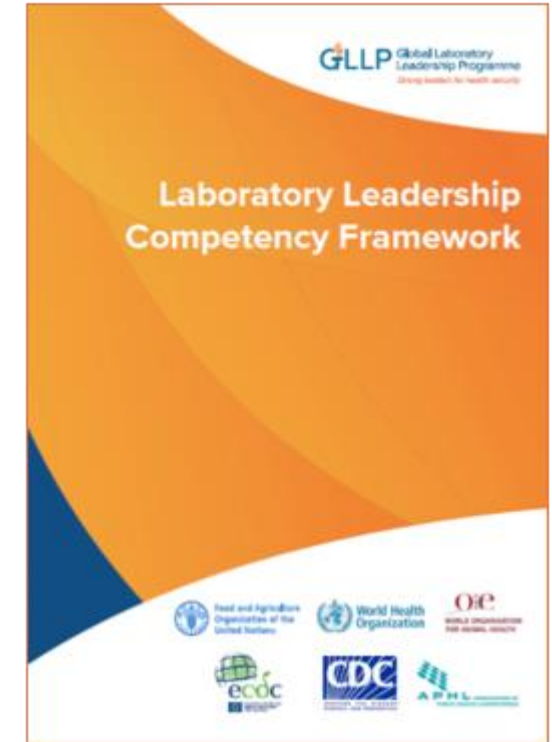
# GLLP Laboratory Leadership Competency Framework



# Laboratory Leadership Competency Framework

Purpose: To outline the essential competencies needed by laboratory leaders to build and direct sustainable national laboratory systems for disease detection, control and prevention in health systems

- Multisectoral, One Health approach
- Addresses entire national health laboratory system
- Available in English, French, Russian, and Spanish



# Competencies

1. Laboratory System
2. Leadership
3. Management
4. Communication
5. Quality management system
6. Biosafety and biosecurity
7. Disease surveillance and outbreak investigation
8. Emergency preparedness, response and recovery
9. Research

## Framework Outline

### Competencies, competency domains and subdomains

Competency 1. Laboratory System	
Domain 1.1	Policy and legal framework
Domain 1.2	Information Systems
Domain 1.3	Infrastructure
Domain 1.4	Workforce

Competency 2. Leadership	
Domain 2.1	Strategic planning
Domain 2.2	Organizational leadership
Domain 2.3	Critical thinking, problem-solving and decision-making
Domain 2.4	Partnerships and coalition building
Domain 2.5	Ethics and Integrity

Competency 3. Management	
Domain 3.1	Laboratory Management
Domain 3.2	Resource Management Subdomain 3.2a <i>Budgeting and financial management</i> Subdomain 3.2b <i>People management</i>

Competency 4. Communication	
Domain 4.1	General communication skills
Domain 4.2	Proposal writing
Domain 4.3	Communication with media
Domain 4.4	Risk communication
Domain 4.5	Scientific communication

Competency 5. Quality Management System	
Domain 5.1	Process management Subdomain 5.1a <i>Sample management</i> Subdomain 5.1b <i>Process control</i>
Domain 5.2	Document and record management
Domain 5.3	Equipment and consumables
Domain 5.4	Purchasing and Inventory
Domain 5.5	Nonconforming events management
Domain 5.6	Assessments Subdomain 5.6a <i>Audits</i> Subdomain 5.6b <i>External Quality Assessment</i> Subdomain 5.6c <i>Norms and accreditation</i>
Domain 5.7	Continual Improvement
Domain 5.8	Customer focus

Competency 6. Biosafety and Biosecurity	
Domain 6.1	Biosafety
Domain 6.2	Biosecurity
Domain 6.3	Shipment of dangerous goods including nonbiological goods

Competency 7. Disease Surveillance and Outbreak Investigation	
Domain 7.1	Surveillance
Domain 7.2	Outbreak Investigation

Competency 8. Emergency Preparedness, Response and Recovery	
Domain 8.1	Preparedness
Domain 8.2	Response
Domain 8.3	Recovery

Competency 9. Research	
Domain 9.1	Health research
Domain 9.2	Innovation and development

### 6.2.3 Biosecurity policies and procedures

#### Performance activities

<b>Developing</b>	Identify biosecurity policies and procedures.
<b>Skilled</b>	Apply biosecurity policies and demonstrate biosecurity procedures.
<b>Expert</b>	Evaluate biosecurity policies and procedures.

### 6.2.4 Biosecurity programme management

#### Performance activities

<b>Developing</b>	Describe the features of a good laboratory biosecurity programme.
<b>Skilled</b>	Implement a laboratory biosecurity programme.
<b>Expert</b>	Design strategic and implementation plans for the establishment of a laboratory biosecurity programme.

### 6.2.5 Biosecurity risk assessment

#### Performance activities

<b>Developing</b>	Outline the steps involved in a biosecurity risk assessment.
<b>Skilled</b>	Apply biosecurity risk assessment to reduce risks.
<b>Expert</b>	Evaluate biosecurity risk assessment tools and apply relevant tools to the local context.

### 6.2.6 Biosecurity risk mitigation

#### Performance activities

<b>Developing</b>	Describe common laboratory biosecurity control measures and procedures.
<b>Skilled</b>	Apply biosecurity control measures and procedures.
<b>Expert</b>	Evaluate biosecurity risk mitigation measures and procedures for their suitability to address locally identified risks.

### 6.2.7 Biosecurity training

#### Performance activities

<b>Developing</b>	Describe the need for biosecurity training.
<b>Skilled</b>	Implement staff biosecurity training.
<b>Expert</b>	Design biosecurity training.

### 6.2.8 Biosecurity incident management

#### Performance activities

<b>Developing</b>	Outline the components of a biosecurity incident reporting and management system.
<b>Skilled</b>	Implement biosecurity incident management.
<b>Expert</b>	Develop policies and procedures for biosecurity incident response and reporting.

### 6.2.9 Sensitive information and technology (see also 4.1)

#### Performance activities

<b>Developing</b>	Describe processes and procedures for identifying, prioritizing and controlling sensitive information, agents and technology.
<b>Skilled</b>	Apply processes and procedures for identifying, prioritizing and controlling sensitive information, agents and technology.
<b>Expert</b>	Develop policies, processes and procedures for identifying, prioritizing and controlling sensitive information, agents and technology.

## Domain 6.3 Shipment of dangerous goods including nonbiological goods

### 6.3.1 Regulations

#### Performance activities

<b>Developing</b>	Outline various national and international regulations that may be applicable to the transport of dangerous goods within country and across national borders.
<b>Skilled</b>	Apply national and international regulations pertaining to the transport of dangerous goods within country and in regional contexts.
<b>Expert</b>	Evaluate compliance with national and internationally applicable regulations pertaining to the transport of dangerous goods.

### 6.3.2 Classification of dangerous goods

#### Performance activities

<b>Developing</b>	Outline the different classes of dangerous goods and provide general examples for each class.
<b>Skilled</b>	Apply dangerous goods classifications to materials that may be found in, or are applicable to, laboratory operations.
<b>Expert</b>	Develop standard processes and procedures to address dangerous goods classification requirements in the local laboratory context.

### 6.3.3 Classification of infectious substances

#### Performance activities

<b>Developing</b>	Outline the different biological substance categories and the classification of infectious substances.
<b>Skilled</b>	Apply categories and classification groups to potential infectious substances present in the local laboratory context.
<b>Expert</b>	Develop standard processes and procedures that address the use of infectious substance classification in the local laboratory context.

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# GLLP Learning Package

# Learning Package Overview

- Flexible program, adaptable to country needs
- GLLP Learning Package provides materials for implementation
  - GLLP Planning and Implementation Guide
  - GLLP Mentorship Guide
  - Virtual and in-person course materials
    - PowerPoint presentations
    - Instructor and participant guides

A preliminary version of the Learning Package is currently under piloting



### Training content (18 of 24 months)

- Interactive didactic sessions
- Practical, mentored laboratory experience and small projects between sessions support learning



### Mentorship (24 months)

- Mentorship at regular intervals throughout the programme duration to support learning and professional development
- In-person or through a relationship such as a twinning



### Projects: support learning and national needs (24 months)

- Small projects (complete during first 18 months of programme)
- Capstone project (complete during last 6 months of programme)



### Community building (24+ months)

- Community building activities within and between cohorts and over time, between cohorts from other areas (regional)
- Network building and creation of a community of practice



# Learning Package Components

- The course didactic materials are divided in:
  - 4 sections
    - Introduction
    - Laboratory Management
    - Laboratory Leadership
    - Laboratory Systems
  - 13 units
  - 43 modules



# Multisectoral Contributions to Development

- Contributors to the Learning Package
  - 140 total reviewers across all 6 Partners, including
    - 70 Human Health Experts
    - 57 Animal Health Experts
- Guidance Documents and Toolkits referenced across sectors
- International Standards and Regulations referenced across sectors
- Laboratory Operations Protocols referenced across sectors



# Delivery

- Face-to-face, virtual, or blended learning
  - A combination of methods based on adult learning principles:
    - Using your own experiences and knowledge to learn more
    - Highly interactive: plenary exercises, group work, individual exercises
    - Different types of exercises: brainstorm, test, quiz, role-play, discussions
    - Learning from others
- Activity-based learning
  - Between face-to-face sessions, complete on-the-job projects supported by mentors as needed

# Laboratory Competencies & Curricula

All technical vet laboratory staff

Laboratory Leaders

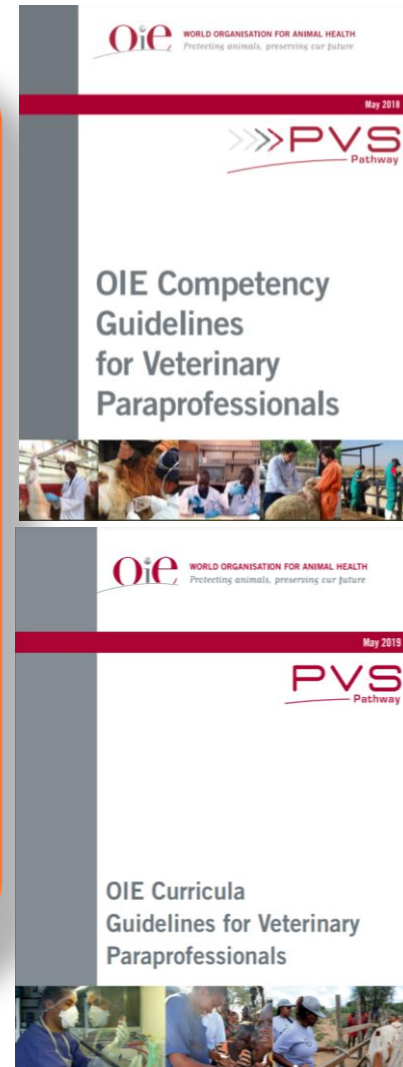
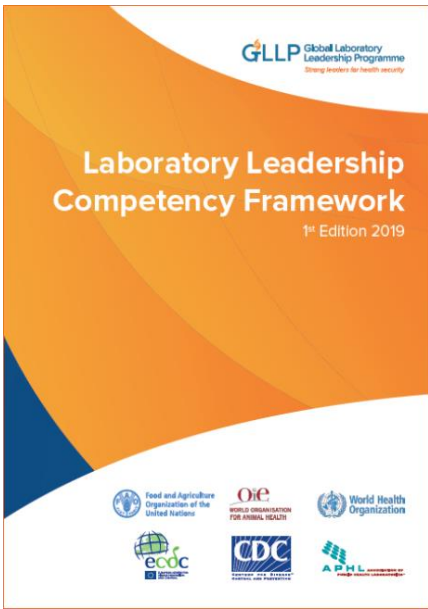
Directors  
Managers  
Dept. Heads


Laboratory Veterinary Paraprofessionals

Technicians  
Assistants

**GLLP**

**OIE VPP  
Lab track**





# Sustainable laboratory networks require strong laboratory leaders, not just well trained bench staff

Building and nurturing laboratory leadership supports compliance with OIE International Standards, provides tools to develop leadership competencies to advance effective national laboratory systems for improved health security, uses a One Health approach, and can improve sustainability of national laboratory systems

# GLLP Resources

- [GLLP At a Glance Document](#)
- [FAQs](#)
- [Learning Package](#)
  
- **Competency Framework**
  - [English](#)
  - [French](#)
  - [Spanish](#)
  - [Russian](#)
  
- **Publications**
  - [A Competency Framework for Developing Global Laboratory Leaders](#)
  - [Supporting the development of strong laboratory leaders for global health security: the Global Laboratory Leadership Programme \(GLLP\)](#)
  - [Critical gaps in laboratory leadership to meet global health security goals](#)
  
- **Partner Newsletters**
  - [OIE Bulletin](#)
  - [CDC Updates from the Field Newsletter](#)
  - [APHL Lab Matters](#)

# For more information

- **GLLP general email:**
  - [GLLP@who.int](mailto:GLLP@who.int)
- **GLLP partner contacts:**
  - APHL: Shannon Emery; [shannon.emery@aphl.org](mailto:shannon.emery@aphl.org)
  - CDC: Adilya Albetkova; [aalbetkova@cdc.gov](mailto:aalbetkova@cdc.gov)
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  - WOAHA: Jennifer Lasley; [j.lasley@woah.org](mailto:j.lasley@woah.org)
  - WHO: Virginie Dolmazon; [dolmazonv@who.int](mailto:dolmazonv@who.int)
- **GLLP website:**
  - <https://www.who.int/initiatives/global-laboratory-leadership-programme>



# Discussion

Questions?

Comments?



# Thank you

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