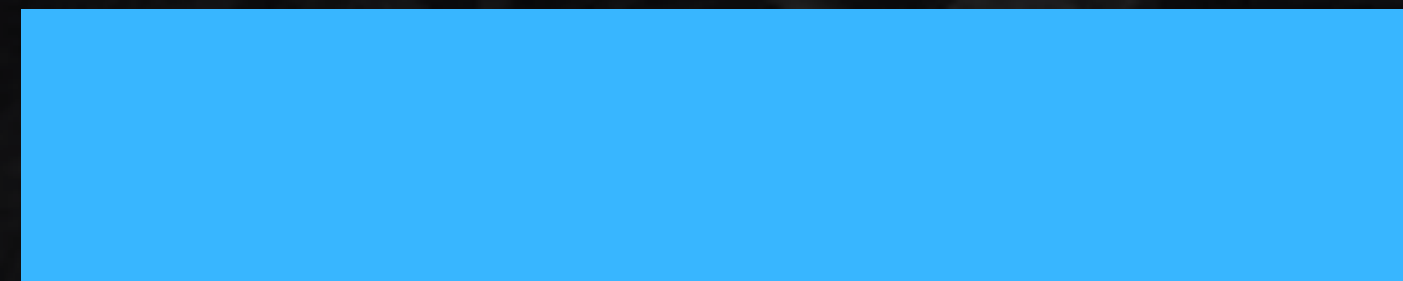




UNITED NATIONS COMMISSION ON SCIENCE  
AND TECHNOLOGY FOR DEVELOPMENT

**USING SCIENCE, TECHNOLOGY  
AND INNOVATION TO CLOSE  
THE GAP ON SDG3, GOOD  
HEALTH & WELL-BEING**

UN CSTD Secretariat  
Monday, 18 January 2021



# Presentation Outline

1. Applications of STI
  - Primary healthcare
  - Poverty-related diseases
  - Health emergencies and infectious diseases
2. Frontier technologies for healthcare innovation
3. National innovation systems for healthcare
4. Global cooperation
  - Strengthening national STI systems
  - Equitably sharing benefits of healthcare innovation
  - Multilateral cooperation



## Maternal and child health

STI for diagnosis and treatment of preventable and treatable diseases.

## Gender-responsive innovation

Digital technologies for gender-sensitive health information dissemination.

## Traditional medicine sector

Traditional medicine and indigenous knowledge systems are important parts of health service delivery in many countries.

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**Primary  
Healthcare**

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# Poverty-related diseases



## Remote Sensing

Mapping exercises for Infectious diseases, including meningitis and wild polio, among others

## Clinical Trials

European and Developing Countries Clinical Trials Partnership (EDCTP) which target HIV/AIDS, tuberculosis and malaria

## Private Sector

Converting major laboratories for diseases in the Global South

## Accelerating R&D

Multilateral efforts to accelerate R&D for neglected tropical diseases.

By the end of the first decade of the 2000s, only 10% of research was devoted to 90% of global disease burden

## Health emergencies and infectious diseases.

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Diagnostics (general and COVID-19)

AI-powered imaging solutions

Mobile app-based diagnostic tools

Early Warning and Disease Monitoring

Tele-epidemiology

Remote sensing and EO data

Risk analytics for COVID-19

Contact tracing

Digital health certificates

Public health data dashboards

Climate-induced public health threats

Therapeutic and vaccine development

# Frontier Technologies



- Artificial intelligence and robotics
- Machine learning and data science
- Synthetic biology and gene editing
- Blockchain
- Drones (UAS/UAV)
- 3-D printing
- Space-based technologies
- Nanotechnology
- 5G technologies
- IoT devices and drones

# Frontier technologies : Critical considerations

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## DIGITAL COMPETENCIES

Health workforce with digital skills  
and STI competencies

## BRIDGING DIGITAL DIVIDE

Extending global internet access  
(53% in 2019) for digital health

## REGULATION & GOVERNANCE

Appropriate measures to ensure  
safety, accessibility, privacy/security

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# **National STI Systems and Health**

**Strengthening healthcare  
innovation capacities**

**Building science/talent base**

**Commercializing healthcare  
R&D into products/services**

**Promoting whole-of-  
government approach**



# GLOBAL COOPERATION



## Supporting National STI Ecosystems



### DIGITAL HEALTH CAPACITIES

Build capacities for digital health at the national level

### SCIENTIFIC NETWORKS

Shape global scientific/R&D networks (e.g., recent global cooperation on COVID-19)

### CAPACITY DEVELOPMENT

Support human capacity development in STI for health.

### HEALTHCARE INDUSTRY

Strengthen STI-intensive healthcare industries, esp. in developing countries.

# GLOBAL COOPERATION

## Healthcare tech for all

Collaborative arrangements, financing, and public-private partnerships to make healthcare technologies accessible for all.

### Multilateral Cooperation

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UN's role in shaping global norms and frameworks on health innovation.



A close-up photograph of a person's hand being washed under a running faucet. The water is splashing, and the background is a blurred green, suggesting an outdoor setting. The image is overlaid with a semi-transparent dark grey filter.

**Thank you!**

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