

# **Innovative technologies to leverage health financing for UHC**

## **Some introductory notes**

**Inke Mathauer, MSc., PhD  
Senior Health Financing Advisor  
WHO Geneva**

# Focus of this session

- What are the effects of digital technologies on health financing and UHC?
- How best to develop, design and implement digital technologies for health financing?
- What are the foundational elements of digital technologies in health financing?
- What are challenges and risks and how can these be addressed or mitigated?
- How is this field developing?

Revenue raising

**Raising money to pay health system costs:**  
Which sources, who pays, how are funds collected?  
E.g., taxes, health insurance contributions, user charges.

Pooling

**Accumulation of funds so that the financial risk of having to pay for health care is borne by all members of the pool:**  
How to accumulate funds, how are pools organized? Risk adjustment?  
E.g. MOH budget, national health insurance scheme.

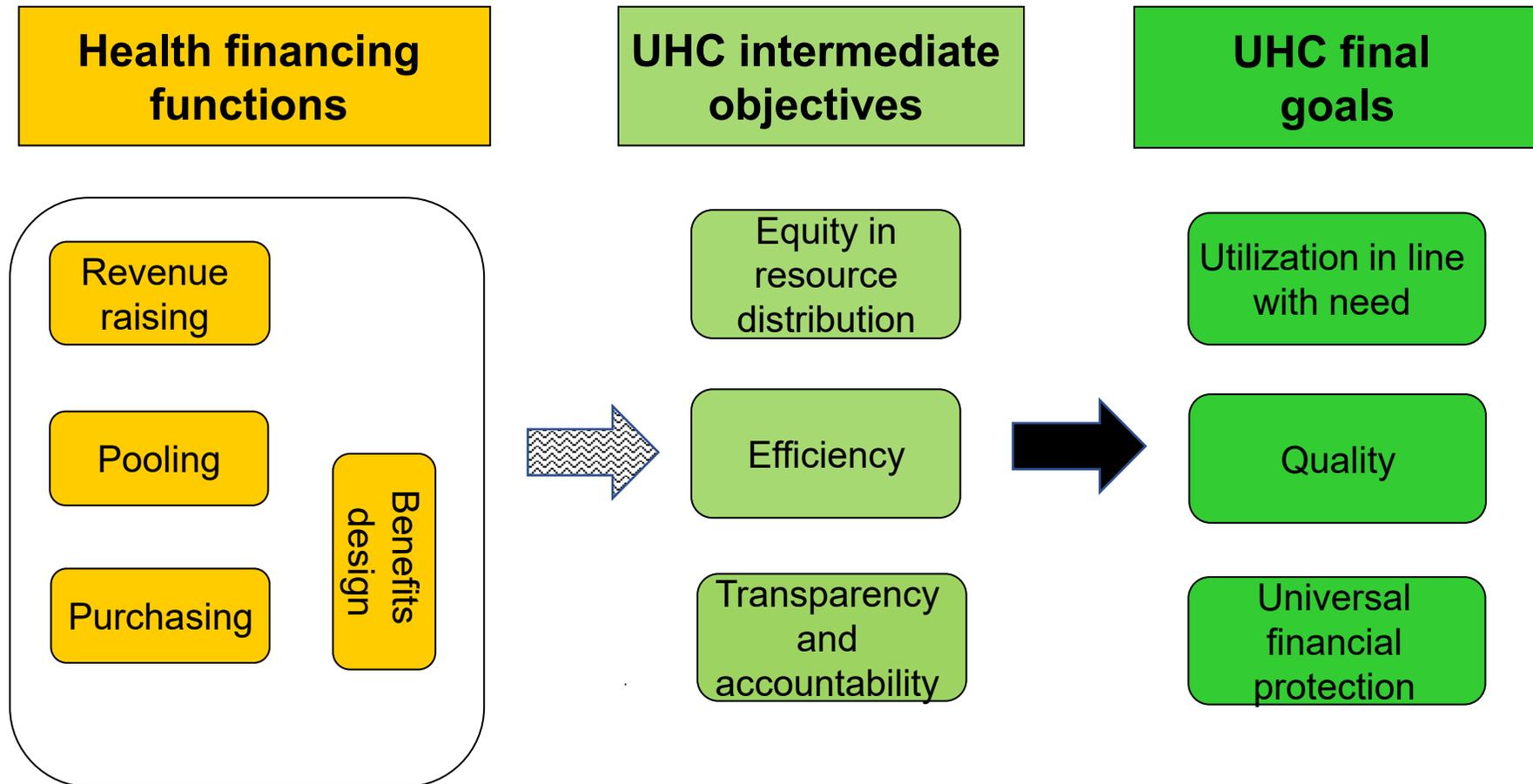
Purchasing

**Allocation of pooled funds from purchasers to health providers on behalf of the population for providing health services:**  
What to buy, from which providers, how to pay providers?  
E.g., setting payment methods and rates; provider selection.

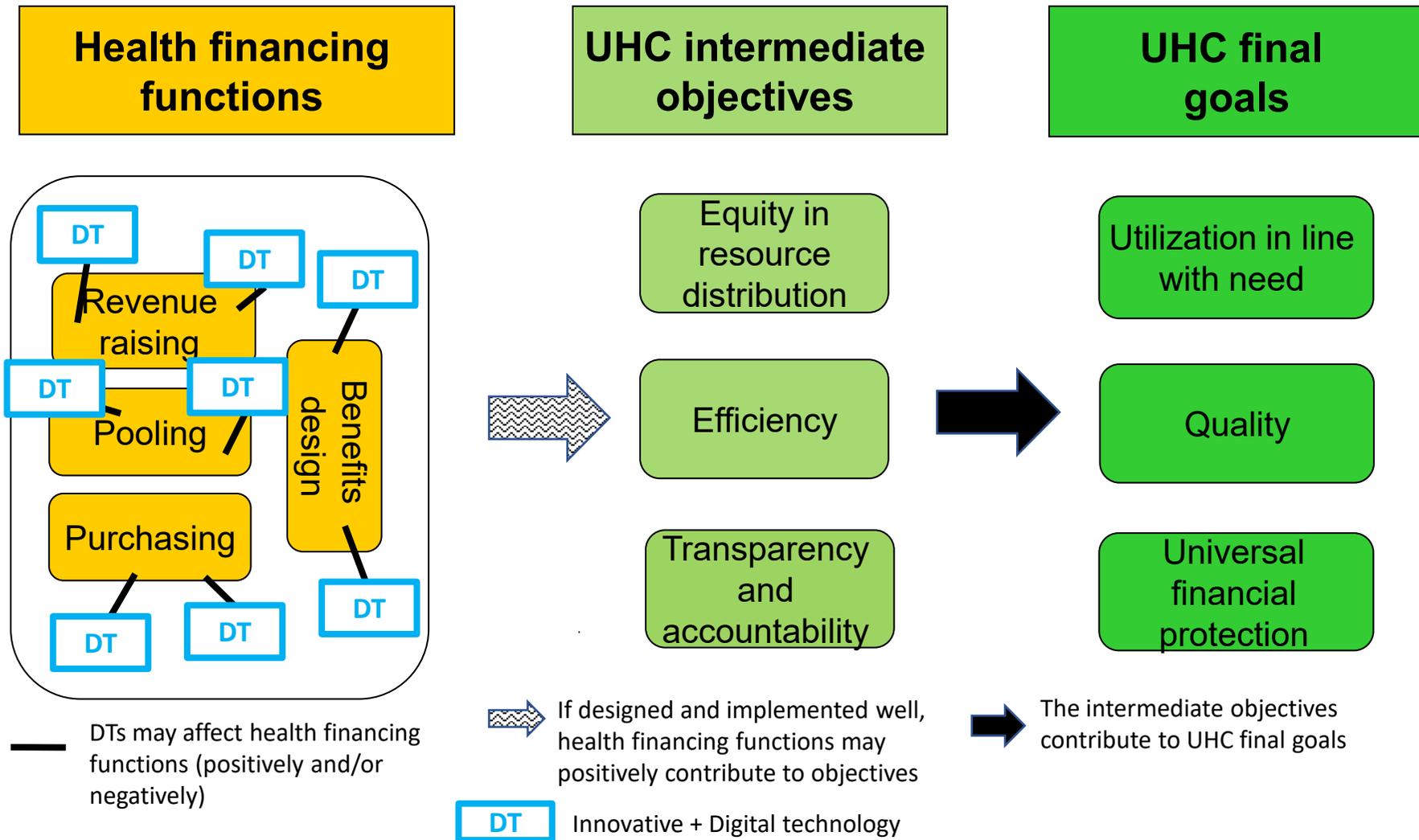
Benefits design

**Determining coverage policies:**  
Which services and what share of costs are covered, who is covered?  
E.g., setting benefits (incl. cost-sharing rates and exemption policies).

# The role of health financing for universal health coverage



# Digital technologies for HF and UHC objectives



# Digital technologies in health financing

- Web-based data bases and platforms, e-services
- Mobile phone applications
- Digital payments
- Big data analytics
- Machine learning & artificial intelligence
- Generative AI
- Block chain
- Etc.

**Digital technologies can change**

**how HF functions/tasks are undertaken and how HF stakeholders (MoH, purchasing actors, regulators, healthcare providers, patients) inter-act**

**Nonetheless, the core HF principles (must) remain valid:**

**Predominant reliance on public/compulsory funding sources**

**Maximizing redistributive capacity (by improving pooling, lowering out-of-pocket expenditure)**

**Information-based resource allocation to providers, reflecting provider performance and population needs (strategic purchasing)**

# Effects of DTs on health financing (HF) and UHC

## Positive scenario:

A DT can **enhance, simplify** or **support** a HF function (or specific task) or help to **inform HF policy** that is conducive to UHC.

# Effects of DTs on health financing (HF) and UHC

## Positive scenario:

A DT can **enhance, simplify** or **support** a HF function (or specific task) or help to **inform HF policy** that is conducive to UHC.

## But the use of digital technology may also play out in a negative way:

The application of a DT can negatively affect a HF function (or task), **due to inadequate design or implementation**, or due to the **lack of an appropriate digital ecosystem**.

or

The use of a DT can enhance, simplify or support a HF mechanism/scheme or inform HF policy that **by itself is not UHC-oriented** in the first place.

# Effects of DTs on health financing (HF) and UHC

## Positive scenario:

A DT can **enhance, simplify** or **support** a HF function (or specific task) or help to **inform HF policy** that is conducive to UHC.

**How and for what DTs are used matters!**

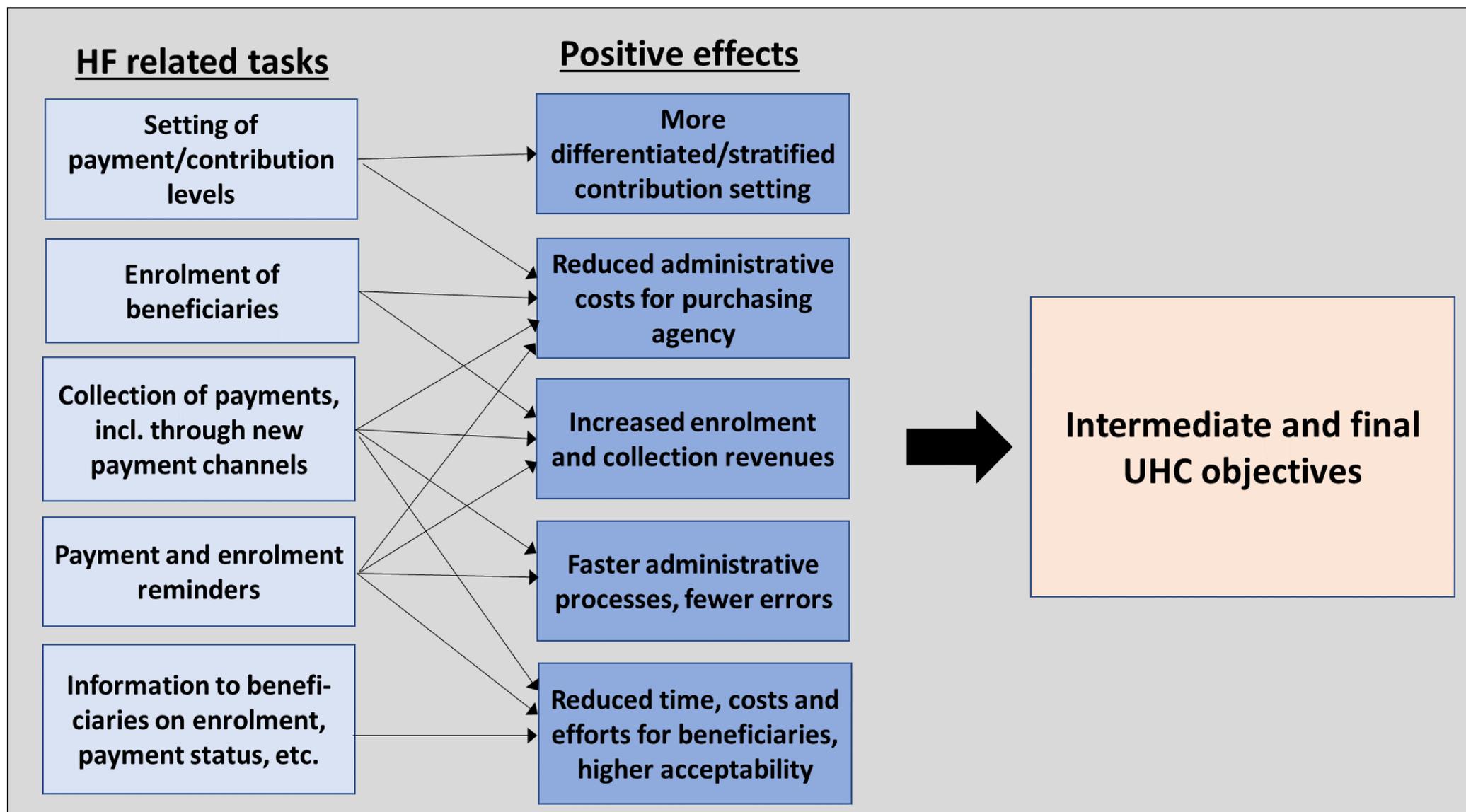
## But the use of technology may also play out in a negative way:

The application of a DT can negatively affect a HF function (or task), **due to inadequate design or implementation**, or due to the **lack of an appropriate digital ecosystem**.

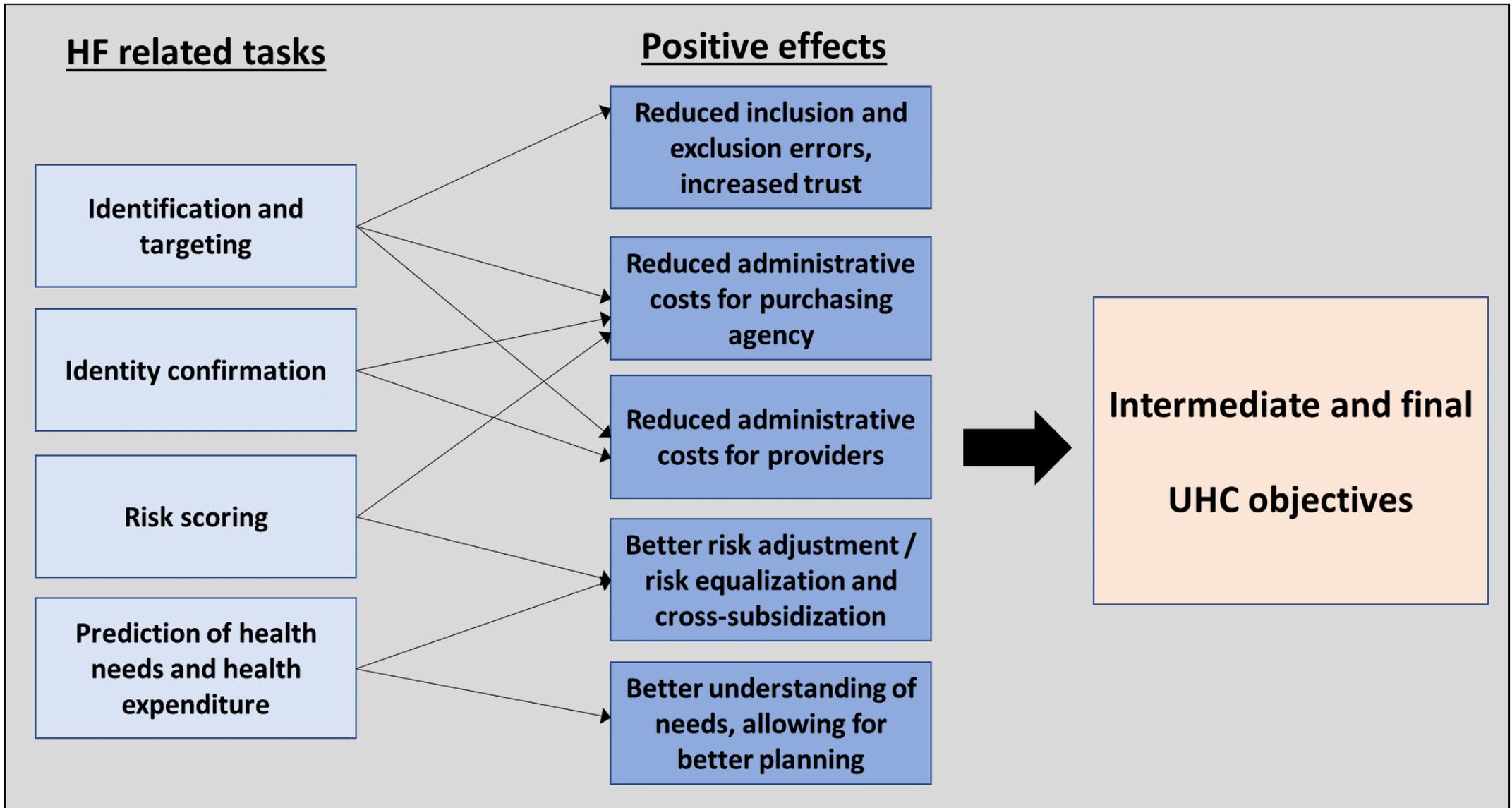
or

The use of a DT can enhance, simplify or support a HF mechanism/scheme or inform HF policy that **by itself is not UHC-oriented** in the first place.

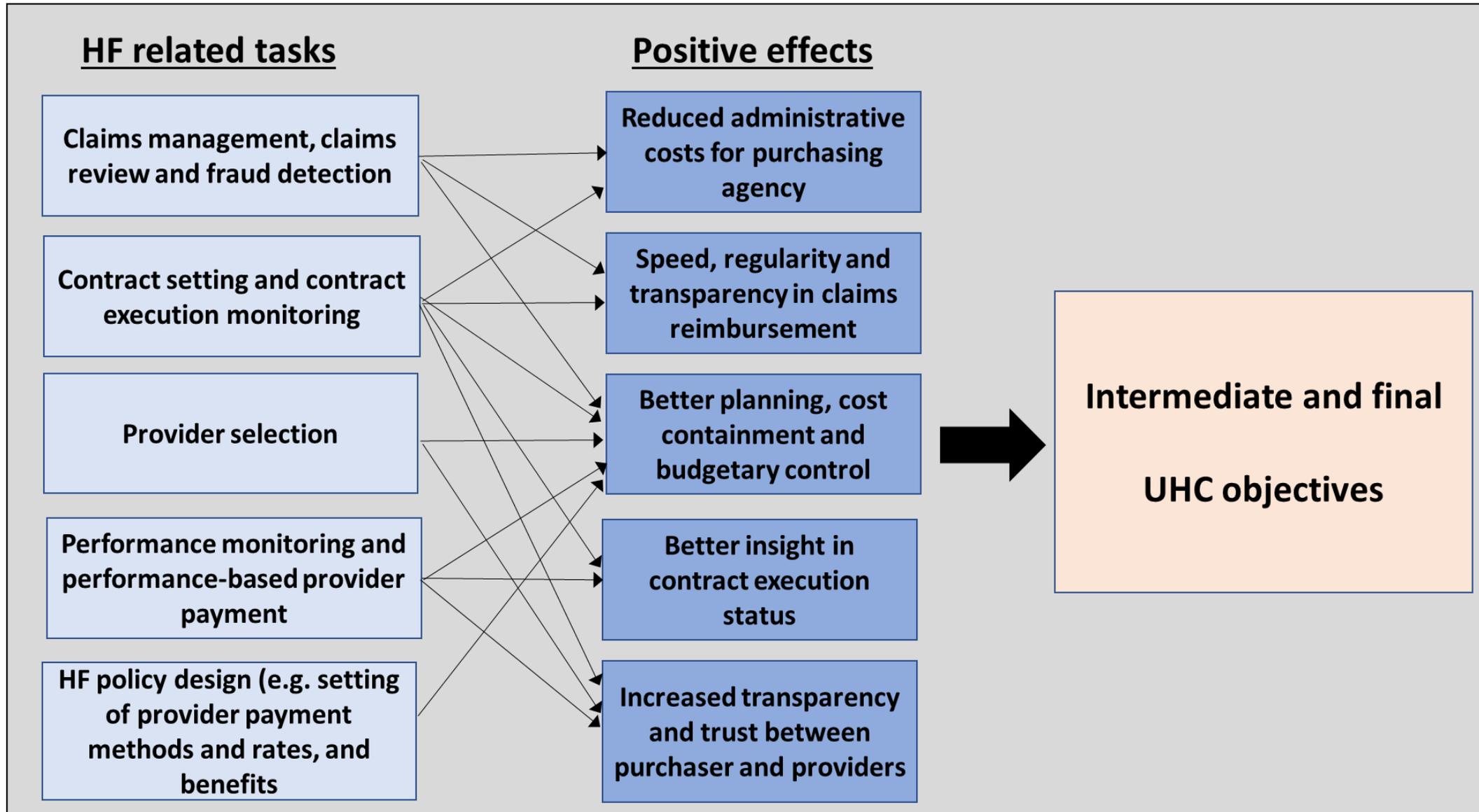
# Revenue raising tasks supported by DTs and potential positive effects



# Pooling tasks supported by DTs and potential positive effects



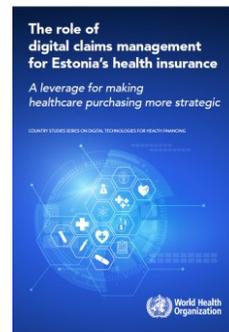
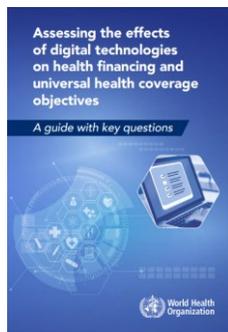
# Purchasing tasks supported by DTs and potential positive effects



# Thank you very much

[mathaueri@who.int](mailto:mathaueri@who.int)

<https://www.who.int/teams/health-financing-and-economics/health-financing/health-financing-policy/digital-technologies>





**Toomas Raiter**  
Health Systems  
and Financing  
WHO, Estonia



**Akihito Watabe**  
Health Specialist  
Human and Social  
Development Office,  
ADB, Philippines



**Trisna Sari**  
Officer  
BPJS Kesehatan,  
Indonesia

Speaker

Speaker



**Tiranee Achalakul**  
President  
Big Data Institute,  
Thailand



**Mark Jit**  
Chair and Professor  
Department of Global and  
Environmental Health, NYU  
USA

# Presentations

## Country-related

1. Digital technologies in health financing in Estonia
2. Optimizing health financing digital solutions against healthcare inefficiencies, waste, abuse, and fraud: experiences from Asia
3. Indonesia's Mobile JKN to support health financing tasks
4. A data system to support smart financing in Thailand

## Cross-cutting

5. Advanced analytics to inform public health and health financing decision making