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# DHSC Global Health Security programme

## Theory of Change Narrative

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# Contents

## List of acronyms

| | |
|---|---|
| AMR | Antimicrobial Resistance |
| CEPI | Coalition for Epidemic Preparedness Innovations |
| CHAI | Clinton Health Access Initiative |
| DHSC | UK Department of Health and Social Care |
| FAO | Food and Agriculture Organisation |
| FIND | Foundation for Innovative New Diagnostics |
| GAMRIF | Global AMR Innovation Fund |
| GAP | Global Action Plan |
| GARDP | Global Antibiotic Research and Development Partnership |
| GHS | Global Health Security |
| GHSA | Global Health Security Agenda |
| ICARS | International Centre for Antimicrobial Resistance Solutions |
| IHR | International Health Regulations |
| LMIC | Low-and middle-income country |
| LSHTM | London School of Hygiene and Tropical Medicine |
| ODA | Official Development Assistance |
| R&D | Research and Development |
| ToC | Theory of Change |
| UK-PHRST | UK Public Health Rapid Support Team |
| UKVN | UK Vaccine Network |
| UNEP | United Nations Environment Programme |
| WHO | World Health Organisation |
| WOAH | World Organisation for Animal Health (formerly OIE) |

# 1 Introduction and background

A Theory of Change (ToC) is both a process and a product. It is an ongoing, multistakeholder process of critical reflection about how change happens, and is communicated using diagrams and narratives – the product.

A ToC is necessary because it allows us to communicate the purpose and logic of any programme. It also uncovers the assumptions made during programme design, allowing for them to be monitored closely and as such is used to inform monitoring and evaluation plans.

This report serves as the accompanying narrative to the UK Department of Health and Social Care (DHSC) Global Health Security (GHS) programme-level ToC diagram (see Figure 1: below). It describes each element in the diagram as well as how and why each level in the results chain is contributing to the next and the assumptions between each level that need to be monitored.

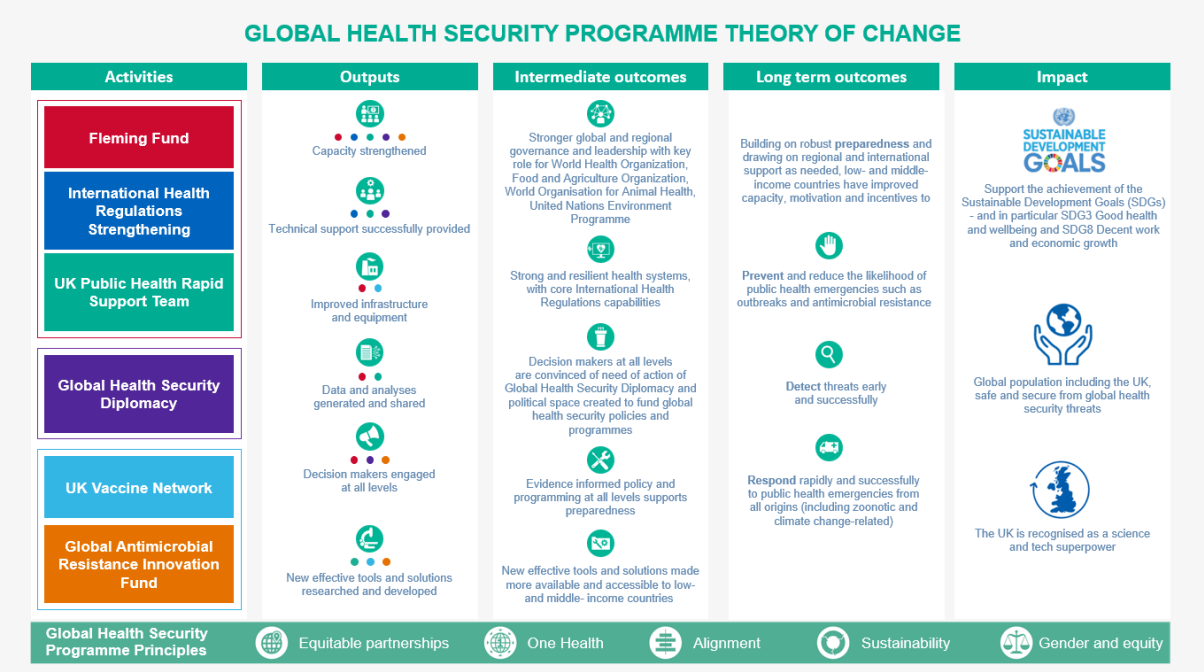


**Figure 1: DHSC GHS programme ToC diagram (revised July 2022)**

# 2 Underpinning principles

Five key principles underpin the work that the DHSC GHS programme undertakes. They are covered in turn below.

## 2.1 Equitable partnerships

The GHS programme is committed to working closely with national governments to ensure that all programming contributes to national health system strengthening and prioritises investment in public sector laboratories and surveillance systems.

Our grants support the implementation of national action plans for antimicrobial resistance (AMR) and the International Health Regulations (IHR), which means that we support the delivery of national governments' existing plans to tackle AMR/strengthen IHR core capacities. We do not create new priorities or parallel systems.

Through ongoing collaboration with national governments, we help establish cross-sectoral, country-led AMR/IHR governance structures, ensuring the ultimate owners of our investments are national governments.

Research partnerships between low-and middle-income countries (LMICs) and UK institutions can create a variety of opportunities and benefits for all parties. The GHS research and development (R&D) projects, both the Global AMR Innovation Fund (GAMRIF) and the UK Vaccine Network (UKVN), encourage equitable partnerships which help to ensure that research outcomes are mutually beneficial and more likely to achieve the desired development impact.

## 2.2 Sustainability

GHS projects are designed with a view to long-term sustainability. The health system strengthening projects in the portfolio consider countries' resources, priorities, motivations and existing AMR/IHR activities from the start, ensuring country ownership by investing in national action plans and considering affordability and exit strategies from the start of programme design. GHS aims to support public health systems, through our grants and capacity building programmes, so that future AMR/IHR work is sustained through national government budgets.

Sustainability is equally important to the GHS research and development portfolio. For example, GAMRIF invests in research into innovations that – to ensure the best value for money – apply to more than one country. GAMRIF also invests in implementation research and market shaping to ensure that there is a pathway to impact for innovations, ensuring sustainability. By crowding in other donors into the space of research and development, both GAMRIF and UKVN ensure that there is more funding (and preferably follow-on funding) to advance innovations through development.

## 2.3 Alignment

GHS programme funding aligns with key global frameworks, including the World Health Organisation's Global Action Plan (GAP) on AMR and IHR, and the GHS Agenda, and does not duplicate other donors' efforts.

GHS health system strengthening projects ensure investments are aligned at a country level by working closely with national governments to fund surveillance elements of AMR National Action Plans and supporting coordination through national AMR/IHR governance structures.

## 2.4 One Health

Because microorganisms spread freely in the environment and zoonotic diseases can spread between animals and people, the GHS programme promotes a multidisciplinary response to tackling AMR and other global health threats that include human health, animal health, food production and the environment as a means to improve human health. This concept is known as One Health.

GHS supports the research and development of effective tools and solutions (such as vaccines, therapeutics and diagnostics) across human, animal and environmental health.

## 2.5 Gender and equity

The GHS programme strives to mainstream gender and equity in the work it does for two main reasons.

Firstly, GHS upholds national and international commitments to gender equality and equity such as the Gender Equality Act and the International Development Act.

Secondly, to increase the effectiveness of any project to work towards equitable outcomes, it is crucial to bear in mind that global health threats affect groups differently based on their sex, gender, ethnic group, socioeconomic status and other characteristics, and that groups have varied health-

seeking behaviours. For example, the GHS research and development projects ensure that innovations are context-specific and sensitive to gender, specifically in animal health investments. This means taking traditional gender roles in family farming into account when designing products and awareness-raising activities.

To deliver equitable programming, the Fleming Fund:

- ensures that gender and equity is mainstreamed across the programme, ensuring activities that the project undertakes directly enhance opportunities for women;
- supports the collection, analysis and dissemination of AMR/AMU (antimicrobial use) data which is disaggregated by gender, and advocates for policy change which takes this into account; and
- identifies and proactively addresses gaps in knowledge of AMR linkages with gender and equity.

# 3 Projects and expected outputs

The DHSC GHS projects can be categorised into three groups, depending on the nature of their activities and their long-term objectives:

**Health system strengthening** – These are projects that directly aim to build LMICs' capacity and motivation through health system strengthening.

**Diplomacy** – These are projects that are focused on diplomatic efforts in relation to global health security, including AMR.

**Research and development** – These projects support the research and development of effective tools and solutions (such as vaccines, therapeutics and diagnostics) to prevent, detect and respond to public health emergencies, including AMR.

Sections 3.1–3.3 below provide a brief overview of projects under each of these categories, including their value, duration, aim and expected outputs.

## 3.1 Health system strengthening

### 3.1.1 Fleming Fund

**Aim:** The Fleming Fund aims to improve laboratory capacity and diagnosis and build and/or strengthen AMR surveillance systems in up to 25 LMICs.

**Expected outputs:**

- Data and analyses are generated and shared;
- Capacity is strengthened;
- Improved infrastructure and equipment; and
- Decision makers are engaged at all levels.

### 3.1.2 International Health Regulations strengthening project

**Aim:** The IHR strengthening project aims to strengthen international efforts to increase compliance with the IHR. The project supports the establishment of resilient and responsive national public health systems to ensure the timely and effective prevention, detection, response and control of public health threats; underpinned by evidence-based strategy, policy, systems and skilled workforce.

**Expected outputs:**

- Capacity is strengthened; and
- Technical support is provided.

### 3.1.3 UK Public Health Rapid Support Team (UK-PHRST)

**Aim:** UK-PHRST is a partnership between the UK Health Security Agency and the London School of Hygiene and Tropical Medicine (LSHTM). It works to address the threat posed by outbreaks of infectious disease within Official Development Assistance (ODA)-eligible countries.

The UK-PHRST's integrated triple remit includes:

- Outbreak response: with a multidisciplinary team of experts deployable at 48 hours' notice;
- Research: generating knowledge and tools for outbreak response, driven by needs from the field; and
- Capacity development: technical support for national and regional outbreak response agencies.

**Expected outputs:**

- Capacity is strengthened;
- Technical support is provided;
- Data and analyses are generated and shared; and
- New effective tools and solutions have been researched and developed.

## 3.2 Diplomacy

### 3.2.1 GHS Diplomacy

**Aim:** The non-ODA element of the GHS programme portfolio supports domestic and international efforts to strengthen global health security and global governance, with a focus on surveillance, implementation of IHR and addressing AMR. Working with the World Health Organization (WHO) and other members of the UN Quadripartite – the Food and Agriculture Organisation (FAO), the World Organisation for Animal Health (WOAH, formerly OIE) and the United Nations Environment Programme (UNEP) – to support a One Health approach. GHS Diplomacy also promotes UK priorities at a multilateral level, for example with the G7 and the Global Health Security Agenda (GHSA).

**Expected outputs:**

- Capacity is strengthened;
- Technical support is provided;
- Decision makers are engaged at all levels.

## 3.3 Research and development

### 3.3.1 UK Vaccine Network

**Aim:** The UKVN aims to address market failure in the development of vaccines against diseases with epidemic potential affecting LMICs. It supports the early-stage clinical development of vaccines and vaccine technologies to combat priority diseases, such as Ebola, Lassa, Zika, Plague and Middle East respiratory syndrome (MERS).

**Expected outputs:**

- Improved infrastructure and equipment; and
- New effective tools and solutions researched and developed.

### 3.3.2 Global AMR Innovation Fund

**Aim:** The GAMRIF aims to support early-stage innovative research in neglected/underfunded areas of AMR research and development for the benefit of people in LMICs.

**Expected outputs:**

- Capacity is strengthened
- Decision makers engaged at all levels; and
- New effective tools and solutions researched and developed.

# 4 Overview and killer assumptions

The remainder of the document presents each element of the ToC (starting with outputs, then intermediate outcomes and then moving on to long-term outcomes) as well as pathways of change (i.e. how and why each level is supposed to contribute to the next) and assumptions between the various levels of the results chain in the ToC, which can be seen as the pre-conditions, largely independent from the programme itself, that need to be in place for the programme to be successful.

Some of these assumptions are largely the same across the whole ToC and closely interlinked. For this reason, they could be considered as the 'killer assumptions' that need to be closely monitored throughout programme implementation as they have the potential to cause high risks at the programme level.

These are:

1 Countries see global health threats such as AMR and disease outbreaks as a high national priority and have the political commitment to urgently address them.

2 Sustainable resources are committed nationally and internationally for GHS.

Additional specific assumptions are presented in each section below as relevant.

# 5 How and why outputs are expected to contribute to intermediate outcomes

## 5.1 Pathways of change

This section provides a description of intermediate outcomes in the GHS ToC and an overview of how outputs are expected to contribute to those intermediate outcomes.

### 5.1.1 Stronger global and regional governance and leadership with a key role for the United Nations Quadripartite: WHO, FAO, WOAH and UNEP

The GAP on AMR, adopted by the World Health Assembly in 2015, sets out five strategic objectives to tackle AMR. The UN Quadripartite organisations are mandated to support member states to design systems to increase their capacity to successfully and sustainably implement evidence-informed One Health[1] policies on AMR. This includes optimising the use of antimicrobial medicines

[1] The accepted definition of One Health by the Quadripartite is: One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes the health of humans, domestic and wild animals,

in critical sectors and reducing the incidence of infection in human and animal health, farms, food systems and communities. This is achieved through reduced environmental contamination, increased biosecurity, and effective sanitation, hygiene and infection prevention measures.

Regional organisations, for example, Africa Centres for Disease Control and Prevention, and global organisations such as the GHSA, also have an important role to play in providing governance, leadership and support to strengthen countries' capacity, motivation and incentives to prepare for, prevent, detect and respond to global health emergencies from all origins.

**How are DHSC GHS outputs contributing?**

Through the engagement of global and regional decision makers and the provision of technical support to organisations within the UN Quadripartite, the GHS programme contributes to strengthening global and regional governance around GHS issues, particularly AMR.

### 5.1.2 Strong and resilient health systems, with core IHR capabilities

Crises such as the 2014–2016 West Africa Ebola outbreak or the ongoing COVID-19 pandemic have shown the importance of strong and resilient health systems to successfully prevent, detect and respond to global health threats.

The IHR provide an overarching legal framework that defines countries' rights and obligations in handling global health threats. IHR require that all countries can detect, assess, report and respond to public health risks and emergencies. WHO plays the coordinating role in IHR implementation. AMR is an IHR core capacity under ´prevent´.

**How are DHSC GHS outputs contributing?**

Through strengthening partner capacity, sharing learning, providing technical support, improving infrastructure and equipment, and developing new effective tools and solutions, the GHS programme is contributing to strong and resilient health systems, with core IHR capabilities, not only in the countries where the GHS programme operates bilaterally but around the world. Our research and development programmes in particular benefit people most vulnerable to disease outbreaks and drug-resistant infections, in many LMICs.

### 5.1.3 New effective tools and solutions made available and accessible to LMICs

New effective tools and solutions such as vaccines, diagnostics and therapeutics (across the One Health arenas of human, animal and environmental health) are needed for countries to have the capacity to successfully prevent, detect and respond to global health threats. In some cases, tools and solutions already exist but there are high barriers to access for patients and practitioners living in LMICs. In other cases, existing tools are not effective, and new tools and solutions are needed to tackle threats.

**How are DHSC GHS outputs contributing?**

Through its research and development work, the GHS programme contributes to making new tools and solutions available to tackle some of the greatest global health threats. In most cases, it relies on other partners to improve LMICs' access to such innovations (see assumptions 5 and 6 in section 5.2). For example, through product development partnerships such as the Foundation for Innovative New Diagnostics (FIND), the Global Antibiotic Research and Development Partnership (GARDP) and the Coalition for Epidemic Preparedness Innovations (CEPI). GAMRIF also works with the Clinton Health Access Initiative (CHAI) and the International Centre for Antimicrobial Resistance Solutions

plants, and the wider environment (including ecosystems) are closely linked and inter-dependent. The approach mobilizes multiple sectors, disciplines and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, taking action on climate change, and contributing to sustainable development.

(ICARS), funding market-shaping and implementation research to maximise the access/uptake of innovations.

#### 5.1.4 Evidence-informed policy and programming at all levels supports preparedness

Policy and programming that supports preparedness should be based on evidence of what works and what does not work to increase countries' capacity to prevent, detect and respond to global health threats. Evidence (for example on transmission routes, relative burden, and various options to prevent, detect and respond to health threats) is also needed to prioritise scarce resources as well as to raise awareness among decision makers, practitioners and the general public.

**How are DHSC GHS outputs contributing?**

Through the engagement of decision makers and the generation and sharing of relevant data and analyses, the GHS programme contributes to strengthening the basis for evidence-informed policy and programming at all levels in support of preparedness.

#### 5.1.5 Decision makers at all levels are convinced of the need for action on GHS and political space is created to fund GHS policies and programmes

This outcome reflects the 'motivation' element of behaviour change. Decision makers must be motivated by the gravity of the risk presented by global health threats to feel compelled to make changes. For decision makers to be convinced, they need to trust the evidence, believe health threats are an urgent problem, and believe that they can do something about them at a reasonable cost.

**How are DHSC GHS outputs contributing?**

Through the engagement of decision makers and the generation and sharing of relevant data and analyses, GHS programmes contribute to decision makers at all levels being convinced that global health threats (including AMR) are an urgent problem. They also contribute to the creation of political space to allocate resources to prevent, detect and respond to health threats.

### 5.2 Key assumptions between outputs and intermediate outcomes

For outputs to contribute to intermediate outcomes, a series of assumptions, beyond the killer assumptions presented in section 3, need to hold. These can be summarised as follows:

1 UN Quadripartite agencies are willing and able to collaborate on and provide technical support and guidance to countries on preparedness, prevention, detection and response.

2 Outputs delivered are relevant, good quality and delivered according to the GHS ToC principles (see section 2).

3 Key stakeholders have the power to influence the agenda and public discourse in favour of the inclusion of IHR capacities in health systems planning despite competition from other agencies for resources and attention.

4 Intellectual property and licensing regulations do not obstruct equitable access to health products during an outbreak response.

## 6 How and why intermediate outcomes are expected to contribute to long-term outcomes

## 6.1 Pathways of change

This section describes long-term outcomes and gives an overview of how intermediate outcomes are expected to contribute to those long-term outcomes.

### 6.1.1 Building on robust preparedness and drawing on regional and international support as needed, LMICs have improved capacity, motivation and incentives

Countries are usually supported by regional and international organisations in their preparedness work. The resilience of national systems to emergencies depends on strong health systems. This is why the GHS programme supports countries not only to respond, manage crises quickly and detect outbreaks to prevent international spread but also strengthens national capacities and health systems before a crisis occurs. Preparedness work encompasses all three elements (prevent, detect, and respond).

To prevent, detect and respond to global health threats, countries need to have the necessary capacity (in terms of quantity and quality of workforce available, as well as the other WHO health systems 'building blocks' – i.e. leadership and governance; service delivery; health system financing; medical products; vaccines and technologies and health information systems) but also have the motivation and incentives to do so.[2]

### 6.1.2 Prevent and reduce the likelihood of global health threats such as outbreaks and AMR

The first step in tackling global health threats including AMR is to prevent their emergence and spread, for example by working on biosafety/security systems and other infection prevention and control measures; investigating transmission routes; developing and administering vaccines; etc.

### 6.1.3 Detect threats early and successfully to save lives

The second step is to detect global health threats early and successfully, for example by setting up and strengthening surveillance systems, and developing and deploying diagnostic systems.

### 6.1.4 Rapidly and successfully respond to global health threats from all origins (including zoonotic and climate change related threats)

The third step is to respond rapidly and successfully to global health threats once they are detected with measures such as contact tracing, social distancing, and the development and provision of effective treatments.

### 6.1.5 How are DHSC GHS intermediate outcomes contributing?

The DHSC GHS programme contributes to LMICs having improved capacity, motivation and incentives to prevent, detect and respond to global health threats. The programme contributes in other ways such as through their contribution to new and effective tools being available and accessible, through evidence-informed policy and programming at all levels, decision makers being convinced, political space being created, and by supporting strong and resilient health systems with core IHR capabilities.

Country-level capacity, motivation and incentives are also supported by regional and international support. Through its work on strengthening global and regional governance and leadership with a

[2] You can find more information about the WHO building blocks and how the UK government recognises them as the foundation to health systems strengthening and health security here: Health systems strengthening for global health security and universal health coverage - GOV.UK (www.gov.uk)

key role for the UN Quadripartite agencies, the GHS programme also contributes to this support being available to countries.

## 6.2 Key assumptions between intermediate outcomes and long-term outcomes

For intermediate outcomes to contribute to long-term outcomes, a series of assumptions, beyond the killer assumptions presented in section 3, need to hold true. These can be summarised as follows:

1 Countries are willing to follow the leadership and guidance of WHO, FAO, WOAH and UNEP in global health threat preparedness, prevention, detection and response.

2 New tools, solutions and health products are sufficiently funded, manufactured and made available, affordable, context specific, easy to use and actually taken up by patients and practitioners in LIMCs.

# 7 How and why long-term outcomes are expected to contribute to impact-level changes

## 7.1 Description of impact-level changes

This section provides a description of impact-level changes in the GHS ToC and an overview of how long-term outcomes are expected to contribute to those impact-level changes.

### 7.1.1 Supports the achievement of the Sustainable Development Goals (SDGs), and particularly SDG3 'Good health and well-being' and SGD8 'Decent work and economic growth'

The 2030 Agenda for Sustainable Development was adopted by all UN Member States in 2015. At its heart are the 17 Sustainable Development Goals (SDGs), which apply to all countries in the world in a global partnership. SDGs particularly linked to the GHS programme are SDG3 'Good health and well-being' and SGD8 'Decent work and economic growth' but also indirectly SDG1 'No poverty' and SDG2 'Zero Hunger'.

**How are long-term outcomes contributing?**

If LMICs have improved capacity to prevent, detect and respond to global health threats, this should reduce illness and death. This will in turn contribute to the SDG related to good health. It will also reduce the costs associated with responding to global health threats late, thereby contributing to the SDG related to economic growth. Also, if people live longer and healthier lives, they can be more productive (which will translate into higher income and less risk of mal- or undernourishment).

### 7.1.2 Global populations, including the UK, are safe and secure from global health security threats

Global (public) health security is defined by the WHO as 'the activities required, both proactive and reactive, to minimise the danger and impact of acute public health events that endanger people's health across geographical regions and international boundaries'.

**How are long-term outcomes contributing?**

If global health threats are successfully prevented, detected early and effectively responded to, this will translate into the global population (including people living in the UK) being less at risk of contracting an infectious disease or a disease that is drug resistant.

### 7.1.3 The UK is recognised as a Science and Tech Superpower

In line with what is set out in the Integrated Review of Security, Defence, Development and Foreign Policy, the UK's aim is to have secured the 'Science and Tech Superpower by 2030' status. In order to achieve that, the UK will redouble its commitment to research and development, bolster its global network of innovation partnerships, and improve national skills. To lay the foundations for long-term prosperity, the UK will establish itself as a 'global services, digital and data hub' by drawing on the nation's strengths in digital technologies, and by attracting inward investment.

**How are long-term outcomes contributing?**

As a secondary benefit of its involvement in global health security, the UK will strengthen its reputation internationally as a Science and Tech Superpower in line with the vision set out in the Integrated Review. For example, it will harness its world-leading research institutions to address some of the greatest global health threats of our time and set the agenda for cutting-edge research and development to tackle AMR.

## 7.2 Key assumptions between long-term outcomes and impact level changes

For long-term outcomes to contribute to impact-level changes, a series of assumptions, beyond the killer assumptions presented in section 3, need to hold true. These can be summarised as follows:

1. Other regional and international support is available as needed.
2. Global health threats such as disease outbreaks and AMR can be averted, or, when they can not be prevented in time, their impact can be lessened by human action.

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