



Department
of Health &
Social Care

UK-Public Health Rapid Support Team Annual Review – 2018/19

Global Health Security Programme

Clearance Checklist

	Name	Date
London School of Hygiene and Tropical Medicine (LSHTM) sign off	██████████, Director, London School of Hygiene and Tropical Medicine	23rd November 2020
Public Health England (PHE) sign off	██████████, Director for Health Protection & Medical Director	24th June 2019
National Institute for Health Research, Central Commissioning Facility (NIHR CCF) sign off	██████████, Assistant Director, Infrastructure and Faculty / CCF Lead for Global Health	17th June 2019
External Assurance - Independent body sign off	██████████, Independent Consultant: management and governance - International (humanitarian and development) organisations	17th June 2019
UK-PHRST Project Board sign off	UK-PHRST Project Board members were invited to give feedback on the draft report	5th June 2019
Global Health Security (GHS) Programme Board sign off	The Global Health Security Programme Board reviewed the document and discussed it during their meeting on 1 July 2019. It was approved with minor comments, which were taken on board in the final version.	1st July 2019

UK-Public Health Rapid Support Team Annual Review - 2018/19

AFRO	WHO African Region Office
ASG	Academic Steering Group
AVoHC	African Volunteer Health Corps
CDT	Core Deployment Team
COMAHS	College of Medicine and Allied Health Sciences, Freetown, Sierra Leone
CREDO	Clinical Research During Outbreaks
DFID	Department for International Development
DHSC	Department of Health and Social Care
DRC	Democratic Republic of Congo
ERAP	Epidemic Response Anthropology Platform
ESCAIDE	European Scientific Conference on Applied Infectious Disease Epidemiology
EVD	Ebola Virus Disease
FCO	Foreign and Commonwealth Office
FETP	Field Epidemiology Training Programme
GHS	Global Health Security
GOARN	Global Outbreak Alert and Response Network
ICRC	International Committee of the Red Cross

IDP	Internally displaced person
IHR	International Health Regulations
IPC	Infection prevention and control
IPM	Institut Pasteur de Madagascar
KCL	King's College London
LMIC	Low and Middle-Income Countries
LSHTM	London School of Hygiene and Tropical Medicine
LSTM	Liverpool School of Tropical Medicine
MOOC	Massive Open Online Course
MOU	Memorandum of understanding
NCDC	Nigerian Centre for Disease Control
NGO	Non-governmental organisation
NIHR	National Institute for Health Research
ODA	Official Development Assistance
PHE	Public Health England
ToC	Theory of change
UK-PHRST	United Kingdom Public Health Rapid Support Team

UVRI	Uganda Virus Research Institute
VfM	Value for money
WASH	Water, sanitation, and hygiene
WHO	World Health Organization

Introduction

Outline of programme

In the 2015 spending review the Global Health Security (GHS) team was given £477m of UK Official Development Assistance (ODA) funding to develop projects in and for low- and middle-income countries (LMICs), with the aim of contributing to a 'world safe and secure from infectious disease threats and promotion of Global Health as an international security priority.' This accounts for 34% of total Department of Health and Social Care (DHSC) ODA funding.

The programme is made up of five projects; Fleming Fund, Global Antimicrobial Resistance Innovation Fund (GAMRIF), UK Public Health Rapid Support Team, International Health Regulations Strengthening project and Vaccines Project. Through delivery of these projects the programme supports ODA eligible countries to:

- prevent and reduce the likelihood of public emergencies such as disease outbreaks and antimicrobial resistance (AMR)
- detect health threats early to save lives
- provide rapid and effective response to health threats

Outline of project in relation to the programme

The UK-PHRST programme objectives are to:

1. rapidly investigate and respond to disease outbreaks at the source, with the aim of stopping a public health threat from becoming a health emergency
2. conduct rigorous research to aid epidemic preparedness and response
3. generate an evidence base for best practice in disease outbreak interventions within LMICs
4. train a cadre of public health reservists for the UK-PHRST who could be rapidly deployed to respond to disease outbreaks

Deployment

Over 2018/19 there were deployments of UK-PHRST staff to 3 separate outbreaks, namely the Ebola virus disease (EVD) outbreak in the Equateur Province of the Democratic Republic of the Congo (DRC) in May to July 2018, the subsequent (and ongoing) EVD outbreak in North Kivu and Ituri Provinces (DRC), for which the UK-PHRST has provided support to the response since the outbreak was first declared in August 2018, and a Lassa fever outbreak in Nigeria in February to March 2019.

Deployments to DRC were through the Global Outbreak Alert and Response Network (GOARN), while 2 deployments Nigeria (Lassa fever) and Rwanda (EVD readiness) were through bilateral requests for UK-PHRST assistance. In addition, the team provided support to WHO headquarters for the ongoing EVD outbreak, through GOARN.

The first phase of recruitment to the UK-PHRST Reserve Cadre was completed in 2018/19. Eight new reservists were recruited alongside 4 Field Epidemiology Training Programme (FETP) graduates. Those 12 reservists were trained and prepared for UK-PHRST deployments.

Over the reporting period, UK-PHRST developed its own bespoke residential deployment training course. This five-day training event first took place in November 2018 and was attended by reservists, FETP fellows, and several core deployable team members. It was positively evaluated by participants and will be reviewed and re-run in 2019 for the new intake of FETP fellows and UK-PHRST reservists.

Capacity building

A range of capacity building activities were undertaken in 2018/19.

In Sierra Leone, the UK-PHRST was involved in:

- assistance to the Sierra Leone College of Medicine and Allied Health (COMAHS) Sciences in (i) developing a new MSc in Public Health Programme and (ii) teaching of a virology module on the BSc Medical Laboratory Sciences
- training of the local staff on the Lassa ward in Kenema, on research protocols in the context of the clinical research studies at Kenema.

Several training events and workshops were also supported in other ODA-eligible countries, including:

- a two-day Epidemic Response Team Training Programme sponsored by Africa CDC in Addis Ababa

- the organisation of a two-day 'train the trainer' training event on 'Outbreak Logistics and Supply Chain Management' in Nigeria, with colleagues from NCDC
- the development of a monkeypox project to set-up long-term sequencing capacity at NCDC (full rollout planned in August 2019), jointly with PHE's International Health Regulations strengthening project team, PHE's National Infection Service and NCDC
- the delivery of a one-week workshop on Public Health Information Services in Humanitarian Crisis, with WHO AFRO, in Dakar

Additionally, several capacity building activities were undertaken in the UK, and disseminated through wide networks in ODA-eligible countries and/or globally, including:

- the launch of the Epidemic Response Anthropology Platform (ERAP).
- an upcoming social science preparedness research workshop was developed, which will include participants from Sierra Leone, Liberia and Ghana
- a three-day workshop was organised in March 2019 in the UK titled, "Developing a strategic agenda around outbreak and humanitarian data collection and analytics," which was attended by over 60 experts from international organisations
- a baseline learning needs assessment was conducted Africa CDC's Epidemic Response Team, which will help Africa CDC's capacity building endeavours
- Support to a Massive Open Online Course (MOOC) in Disease Outbreaks in LMICs.

Research

Research projects in 2018/19 have involved all participating institutions in the UK-PHRST and covered all 5 priority research themes: epidemiology (including data science), microbiology (including genetic sequencing), patient centred clinical research, social science, and mental health and well-being.

A total of 16 projects were funded in 2018/19 addressing early-, mid-, and end-of-outbreak investigation. Of these, 5 are complete and 11 are ongoing. Completed studies include:

- a systematic review to assess the utility of pre-deployment psychological screening for staff deployed to crises
- a prospective cohort study of clinical characteristics of patients with pneumonic plague in Madagascar

- a diagnostic study investigating samples from an outbreak in Darfur.

The study of pneumonic plague, undertaken in collaboration with Institut Pasteur de Madagascar (IPM), has led to the development of a proposal for a trial of treatment for bubonic plague which has been approved for funding by the Wellcome Trust.

In its strive for innovation, the UK-PHRST can also report the first use of diagnostic patient swabs to sequence human avian influenza, which is an important addition to the field of outbreak response. This was through a study on the rapid identification and characterisation of avian influenza viruses by direct Nanopore sequencing.

Over the reporting period, the research work has broadened to include wider collaborations overseas. These include the Sudan Federal Ministry of Health and National Public Health Laboratory in Khartoum, as well as Karary University in Kassala. In the UK, collaborations have been expanded to include the Liverpool School of Tropical Medicine and the Rare and Imported Pathogens Laboratory (PHE).

Seventeen studies were published (n=11) or submitted (n=6) in peer-reviewed journals in 2018/19.

1. Outline summary of project's last year annual review

1.	Project Management	Amber (Medium)
2.	Finance	Red (High)
3.	Theory of Change	Not Applicable
4.	External Engagement	Amber (Medium)

Overall Delivery Confidence RAG rating from last annual review: Amber/Red (Medium/High)

Summarised key recommendations from the previous review

The following recommendations were made by UK-PHRST and accepted by the programme board at the last annual review:

Recommendations relating to project management for deployment activities

	Recommendations	Current status
1	Continue to respond to requests for emergency outbreak assistance.	Achieved and ongoing.
2	Maintain the log of lessons identified, implement those lessons, and revise Standard Operating Procedures and guidance documentation as appropriate.	Ongoing.
3	In addition to deployment with WHO-GOARN, explore opportunities for increasing the number of bilateral deployments, as well as through other international organisations, such as the International Committee of the Red Cross (ICRC).	Two bilateral deployments undertaken in 18/19, in addition to the many GOARN deployments. Deployment with other stakeholders has not happened and should be explored.
4	Balance deployments to outbreaks with capacity building activities and operational research. If there are fewer deployments than expected over one year, then the team will increase activities around research and capacity building.	Ongoing. Epidemiologist and data scientists have proportionally deployed more than colleagues from domains of expertise on the team. This has been considered in the recruitment of reservists.
5	Continue to identify areas to refine and improve the pre-, during- and post-deployment phases to ensure a rapid and efficient deployment of the UK-PHRST.	Achieved and ongoing. Debriefs have taken place after each mission.

6	Produce an implementation plan and log-frame for Apr 2018-Mar 2019 to support project progression and aid delivery assessment.	Achieved.
7	Engage and consult with DFID in-country health advisors before UK-PHRST deployments.	Achieved. Regular contact with DFID health advisors both before, during and after deployments.
8	Invite feedback from partners' post-deployment through debriefing and evaluation, including face-to-face meetings with in-country collaborators.	Achieved. After Action meeting planned with stakeholders in June 2019.

Recommendations relating to project management for research activities

9.	To enhance the pace and to enable greater oversight and engagement with the research activities, increase frequency of Academic Steering Group (ASG) meetings from quarterly to monthly.	Achieved. Monthly ASG meetings held and portfolio substantially expanded in 2018/19
10.	Invite external experts to join the ASG to ensure outside perspectives.	Achieved.
11.	Continue the transition from short- to longer-term research projects, while reserving some funding for research needs arising during outbreaks and to fund occasional short-term pilot projects that offer innovation and promise.	In progress.
12.	Continue to seek wider collaborations in future research projects including, but not limited to, other academic as well as private-sector partners in the UK and overseas partners such as the Medical	Ongoing. An East African Research workshop co-hosted with Uganda Virus Research Institute (UVRI), and a launch event in Sierra Leone, enabled to strengthen collaborations with both

<p>Research Council - MRC Units in Gambia and Uganda (now administered by LSHTM) and the Institute Pasteur de Dakar.</p>	<p>East and West African partner institutions.</p>
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Recommendations relating to project management for Capacity Building activities

<p>13.</p>	<p>Continue to contribute to training in Sierra Leone in partnership with the College of Medical and Applied Science (COMAHS), as well as with Africa CDC in Ethiopia.</p>	<p>Ongoing. The MSc in Public Health is now running and the UK-PHRST have supported the curriculum development and have delivered several modules. The UK-PHRST is also teaching on the BSc in medical microbiology at COMAHS. Collaborative training work with Africa CDC is ongoing</p>
<p>14.</p>	<p>Continue discussions and development of field courses relative to outbreak response with MRC Gambia and Institute Pasteur de Dakar.</p>	<p>In progress. Field courses have not taken place in 2018/19. This is a key objective for 2019/20.</p>
<p>15.</p>	<p>Develop process for including partners from LMICs in the UK-PHRST deployable team and deploying them with our Core Deployable Team (CDT) during outbreaks.</p>	<p>Not achieved. Key objective for 2019/20</p>
<p>16.</p>	<p>Continue to contribute to Clinical Research During Outbreaks (CREDO).</p>	<p>Ongoing.</p>
<p>17.</p>	<p>Continue to shape and improve the international response to outbreaks by contributions to WHO GOARN Steering Committee and GOARN Research Working Group.</p>	<p>Ongoing. In addition, UK-PHRST is involved in the GOARN Steering Committee M&E Working Group.</p>

Cross cutting recommendations relating to overall project management approaches

18.	Conduct regular face-to-face meetings with NIHR and DHSC to review progress and budget expenditures and forecasts.	Ongoing. Regular meetings planned.
19.	Begin quarterly UK-PHRST Project Board meetings to communicate with and receive input from a broad range of internal and external stakeholders.	Achieved.

Commentary from delivery partners and / or contract managers

This section will be completed by GHS programme office – with input from specific delivery partners.

Commentary from NIHR contract management for Research Element of proposal

- NIHR CCF endorse the content of this report as an accurate reflection of reported UK-PHRST research activity in the preceding financial year (FY18/19).
- FY18/19 has been a year of considerable process reform for UK PHRST. NIHR has worked with the research leadership during FY18/19 to surface and then address some of the issues and concerns previously flagged in relation to project management and research delivery. New reporting templates have been designed and a revised process begun to be implemented. Improvements to financial forecasting and proposal content are already demonstrable. Improvements to overall quality, consistency and accuracy of reports is anticipated / expected.
- Recommendation 4 in the previous review alluded to the potential for deployment to delay research activities. We note that research proposals now usually highlight deployment as a possible risk factor and provide planned mitigation. However, despite proposed mitigations we are still seeing research delayed in relation to original predicted timelines but the reasons for this are not clear. Progress reports

indicate that despite the delays work is progressing successfully and objectives are being met. Therefore, to prevent a potentially unfair perception of project management failure in the customer community we recommend UK-PHRST adopt a more proactive stance to reporting of likely delays. The recent reported increase in ASG meeting frequency and composition (UK-PHRST response to recommendations 9 and 10), along with the agreement to supply ASG minutes to NIHR is potentially helpful in this respect. As a further improvement we welcome the recent invitation (June 2019) to participate in ASG.

- FY18/19 recommendations 11 and 12 advised moving towards longer-term projects and to expanding / identifying external collaborations. Given the often-considerable extensions required to deliver short-term proposals and the fact that UK-PHRST is entering its 4th year and penultimate year, consideration needs to be given to the feasibility of delivery of any longer-term projects in the remaining funding period. Lessons learned from the current portfolio will also be important to help manage customer expectations for the remaining term of the funding and for defining the requirements for any future iteration of research elements of UK-PHRST. In terms of the expansion of the number of research partners, we are aware of proactive efforts from UK PHRST to develop new partnerships. However, this element of the research development process is currently not well-evidenced by the existing reporting and monitoring processes. Again, future NIHR attendance at ASG should help us to provide the requisite evidence for action against this recommendation.

Commentary from DHSC on policy delivery

- DHSC endorse the content of this report as an accurate reflection of UK-PHRST activity in the preceding financial year (FY18/19) and also endorses the comments from NIHR colleagues on the progress and successes made in the research area.
- Variety in deployment activity has been impacted by the Ebola virus disease (EVD) outbreak in the Democratic Republic of Congo (DRC). UK-PHRST staff were some of the first on the ground and have continued to provide support to this global health emergency. The success of their support has been evidenced by numerous positive references / feedback from WHO DG Dr Tedros and also by Bill Gates of the Gates foundation. The quality of their expertise is also apparent in the repeated requests for the team to lead relevant areas of the response.
- In terms of administration of the project all necessary documentation has been provided and the Project Board meets regularly with appropriate representation from stakeholders.

- Further work is planned in terms of assuring the delivery of UK-PHRST activity by DHSC. This will involve formalising / documenting the existing collaborative approach between UK-PHRST and DHSC as funder.

2. Key successes

Key achievements include:

Deployments

Operational deployments

Over 2018/19 there were deployments of UK-PHRST staff to work on 3 separate outbreaks (summarised in Table 1). These were:

- the Ebola virus disease (EVD) outbreak in the Equateur Province of the Democratic Republic of the Congo (DRC) in May to July 2018
- the subsequent (and ongoing) EVD outbreak in North Kivu and Ituri Provinces, for which the UK-PHRST has provided support to the response since the outbreak was first declared in August 2018
- the Lassa fever outbreak in Nigeria in February-March 2019

Deployments to DRC were through the Global Outbreak Alert and Response Network (GOARN), while deployments to Nigeria (Lassa fever) and Rwanda (EVD readiness) were through bilateral requests for UK-PHRST assistance. In addition, the team provided support to WHO headquarters for the ongoing EVD outbreak, through GOARN.

The UK-PHRST deployed for a total of 88.5 person-weeks (619.5 person-days) in 2018/19, two-thirds of which were in response to the ongoing Ebola virus disease (EVD) outbreak in DRC. Deployment time in 2018/19 amounted to approximately 2.5 full-time staff, or nearly 20% of all working days for the core deployable team, with the largest demand for epidemiological and data analytical support (up to 75% of staff-time on deployment for some staff members). One reservist and 3 Field Epidemiology Training Programme (FETP) fellows were also deployed in 2018/19 to 2 different outbreaks.

The UK-PHRST is still actively engaged in the ongoing EVD outbreak in DRC and has been instrumental in providing senior epidemiological support and in setting up the analytical cell, which is fully operational at the strategic coordination level (currently in Goma).

Deployment training

All core deployable team members and FETP fellows, as well as reservists (see below) have undertaken the necessary training to deploy. While most core deployable team members have taken the UK-Med deployment training in 2017, the UK-PHRST has now developed its own bespoke course, which first took place in November 2018 and was attended by reservists, FETP fellows, and several core deployable team members. The five-day residential course was positively evaluated by participants and will be reviewed and re-run in 2019 for the new intake of FETP fellows and UK-PHRST reservists.

Reserve cadre

The first phase of recruitment to the UK-PHRST Reserve Cadre was completed. Eight new reservists were recruited alongside 4 FETP graduates (12 reservists in total). Reservists were recruited from within the UK-PHRST partner and consortium institutions. The second round of reservists will be recruited more widely throughout the UK in June 2019.

Research

Research projects in 2018/19 have involved all participating institutions in the UK-PHRST and covered all 5 priority research themes:

- epidemiology (including data science)
- microbiology (including genetic sequencing)
- patient centred clinical research
- social science
- mental health and well-being

A total of 16 projects were funded in 2018/19 addressing early-, mid-, and end-of-outbreak investigation. Of these, 5 are complete and 11 are ongoing. Completed studies include:

- a systematic review to assess the utility of pre-deployment psychological screening for staff deployed to crises
- a prospective cohort study of clinical characteristics of patients with pneumonic plague in Madagascar
- a diagnostic study investigating samples from an outbreak in Darfur

The study of pneumonic plague, undertaken in collaboration with Institut Pasteur de Madagascar (IPM), has led to the development of a proposal for a trial of treatment for bubonic plague considered for funding by DFID and the Wellcome Trust, and which has now been approved for funding.

A landscape analysis of tools used for data collection, management and analysis in outbreaks is underway and is on track for completion in early July 2019, in collaboration with WHO and the Global Health Network in Oxford.

In its strive for innovation, the UK-PHRST can also report the first use of diagnostic patient swabs to sequence human avian influenza, which is an important addition to the field of outbreak response. This was through the study on the rapid identification and characterisation of avian influenza viruses by direct Nanopore sequencing. In addition, in 2019, the UK-PHRST has been involved in the development of the study protocol for Johnson and Johnson (JnJ) Ebola vaccine use in the context of the ongoing EVD outbreak in North Kivu, through its Director in his role as co-Principal Investigator (PI) on the study.

The research work has broadened to include wider collaborations, internationally, for example in Sudan with the Federal Ministry of Health and National Public Health Laboratory in Khartoum, as well as Karary University in Kassala. In the UK, collaborations have been expanded to include the Liverpool School of Tropical Medicine and the Rare and Imported Pathogens Laboratory (PHE).

Presentations of UK-PHRST research and its findings have been given at several meetings and conferences. These include presentations at the annual meeting of the American Society of Tropical Medicine and Hygiene, European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE), and at International Meeting on Emerging Diseases and Surveillance (IMED), the PHE Annual Conference as well as a few other workshops and meetings.

Seventeen studies were published (n=11) or submitted (n=6) in peer-reviewed journals in 2018/19. A full list of all UK-PHRST publications over 2018-19 is included as an additional paper to this report (please see Annex 1)

Table 1 - UK-PHRST Deployments 2018/19

Country (location)	Outbreak	Date	Mode of deployment	Deployment summary
Democratic Republic of Congo (Equateur)	Ebola Virus Disease	May-18	GOARN	Following a request for assistance issued by GOARN, UK-PHRST deployed a team to Equateur province, DRC to support the development and strengthening of early warning systems, contact tracing activities, active case finding, teaching, training, data management and analysis. Two epidemiologists and 1 data scientist were deployed. Staff time: 18 person-weeks
Rwanda (Kigali)	Ebola Virus Disease (preparedness)	Nov-18	Bilateral	In collaboration with the UK Emergency Response Department, UK-PHRST deployed a senior emergency preparedness expert as well as FETP fellow to Kigali. This was in response to a WHO request for assistance with establishment of an Emergency Operations Centre. Staff time: 7.5 person-weeks
Switzerland (Geneva) (WHO HQ)	Ebola Virus Disease (DRC support)	Dec-18	GOARN	Two UK-PHRST (FETP fellows) deployed to provide analytical and data management support to the incident management team (IMST) in WHO HQ Geneva on the ongoing Ebola Virus disease outbreak in North Kivu, DRC. Staff time: 10 person-weeks
Democratic Republic of Congo (North Kivu)	Ebola Virus Disease	Oct-18	GOARN	A series of UK-PHRST deployments through GOARN to support the MoH and WHO response to the Ebola virus disease outbreak in North Kivu. UK-PHRST deputy director of operations led the team approach. This included responding to the needs in the field, coordination and management of the analytical cell and epidemiological analytical strategy. UK-PHRST personnel were identified and brought in as required to support the epidemiological analytical cell. The UK-PHRST senior epidemiologist, data scientists (x 2), UK-PHRST director, field epidemiologist and UK-PHRST research nurse all deployed. Staff time: 44 person-weeks
Nigeria (Abuja)	Lassa Fever	Feb-19	Bilateral	In collaboration with the Nigerian Centre for Disease Control, UK-PHRST deployed one epidemiologist, one FETP fellow and the UK-PHRST field logistician to Nigeria in response to epidemic level transmission of Lassa virus. Staff time: 9 person-weeks

Capacity building

A range of capacity building activities were undertaken in 2018/19.

In Sierra Leone, the UK-PHRST was involved in:

- assisting the Sierra Leone College of Medicine and Allied Health (COMAHS) Sciences in developing a new MSc in Public Health Programme, and specifically develop the content of the outbreak preparedness and response training and teaching
- teaching a virology module in the BSc Medical Laboratory Sciences Programme at COMAHS
- training the local staff on the Lassa ward in Kenema, on research protocols in the context of the clinical research studies at Kenema

Several training events and workshops were also supported by the UK-PHRST in other ODA-eligible countries. Reports documenting the events, discussions and feedback were developed and shared with participants and stakeholders following each event. Activity includes:

- a two-day Epidemic Response Team Training Programme sponsored by Africa CDC in Addis Ababa, to which the UK-PHRST brought technical expertise
- organising a two-day 'train the trainer' training event on 'Outbreak Logistics and Supply Chain Management' in collaboration with colleagues from the Nigerian Centre for Disease Control, which included colleagues from around Nigeria
- developing a monkeypox capacity building project to set up long-term sequencing capacity at NCDC, with a full rollout planned in Nigeria in August 2019. This is a joint Public Health England (PHE) International Health Regulations strengthening project, PHE National Infection Service, Nigeria Centre of Disease Control (NCDC) and UK-PHRST initiative
- organising and delivering a one-week workshop on Public Health Information Services in Humanitarian Crisis, with WHO AFRO, in Dakar

Additionally, the UK-PHRST carried out a number of capacity building activities in the UK and disseminated through wide networks in ODA-eligible countries and/or globally, specifically:

- the Epidemic Response Anthropology Platform (ERAP) website was launched.
- The terms of reference for the upcoming social Epidemic Response Anthropology Platform (ERAP) science preparedness research workshop were circulated with applications from colleagues in Sierra Leone, Liberia and Ghana to attend in June 2019
- UK-PHRST jointly hosted an interactive 3 day workshop in March 2019 in the UK titled, “Developing a strategic agenda around outbreak and humanitarian data collection and analytics,” which was attended by over 60 experts from various international organisations, including UN, NGOs and Ministries of Health of ODA-eligible countries The key output of the workshop was a joint strategic roadmap for the field of data analytics in humanitarian health emergencies
- UK-PHRST also assisted by a UK-FETP fellow carried out a baseline learning needs assessment of the Africa Centre for Disease Control Epidemic Response Team which has a continent-wide remit. The assessment is currently being repeated post-simulation training among the ERT, and for the first time in the 800-strong African Volunteer Health Corps (AVoHC) to provide a baseline for capacity-building planning
- UK-PHRST has contributed to a Massive Open Online Course in Disease Outbreaks in LMICs

Programme

A regular review of the UK-PHRST indicators and milestones and progress was undertaken in 2018/19, and risk mitigation measures were put in place in areas of underperformance. These include:

- a mid-year review of the logical framework was undertaken in October 2018
- the regular publishing of key documents has provided the UK-PHRST a 'good' transparency score
- external evaluation has been procured and due to start in June 2019
- quarterly reporting against the logframe indicators and the 2018/19 implementation plan

- the maintenance of a quarterly operational risk register, a summary of which is submitted with the quarterly report

In addition, 2 successful events to explore partnership working with regional stakeholders were undertaken, in both West Africa (Sierra Leone) and East Africa (Uganda). As for all UK-PHRST events, formal reports documenting the discussions and feedback were prepared and circulated to attendees and key stakeholders:

- "Partnering for Outbreak Preparedness and Response", a two-day UK-PHRST launch event in Sierra Leone attended by experts from a number of key West African institutions was held in Freetown in September 2018
- a two-day meeting for 70 delegates at the Uganda Virus Research Institute (UVRI) to explore research and capacity building opportunities in the East African region was organised by the UK-PHRST and co-hosted by UVRI, in February 2019

Communications

Key achievements in terms of external communications of the UK-PHRST in 2018/19 include:

- UK-PHRST pages established on LSHTM and Gov.uk websites – LSHTM pages feature sections on research, capacity building, deployments, events and updates. Target audiences: all. Gov.uk is largely professional and government
- stories about the UK-PHRST team have been shared via LSHTM and PHE channels including social media channels (Combined >285,000 followers across LSHTM and PHE Facebook, Twitter, LinkedIn and Instagram channels). Internal and external newsletters which go to c.18,000 people, including policy makers, researchers, stakeholder and funder organisations, and interested members of the public
- the LSHTM alumni team shares news about the UK-PHRST with its network of c.20,000 alumni, many of whom are now working in senior positions in health agencies, governments, NGOs and research organisations. News has also been disseminated through the LSHTM Health in Humanitarian Crises Centre which regularly shares UK-PHRST events and updates with its network of internal and external stakeholders
- content distributed via PHE Chief Executive's Friday message which goes out to nearly 7,000 stakeholders

- PHE Comms delivered communications training to the deployable team to ensure awareness of protocols and how to gather content in the field. Evaluation by the participants rated the training from good to excellent
- UK-PHRST Comms steering group continues to meet regularly with representatives from PHE, LSHTM, Oxford, Kings College London and DHSC
- monthly UK-PHRST interest group meetings, held at LSHTM, with key speakers from the UK-PHRST, or affiliated institutions, to reflect on deployments, new research outputs, or other topics of interest. Open to all and recorded online
- 'Global Health' session at PHE's annual conference in September 2018, with 3 key speakers from the UK-PHRST and 1 speaker from the PHE International Health Regulations (IHR) strengthening project
- several external media events, such as Facebook live events, individual stories of UK-PHRST members on deployment (PHE blog, LSHTM website, WHO) and Gates Notes (Bill Gates blog) on the UK-PHRST

3. Project Management

Delivery confidence assessment for reporting year

	RAG rating	Changed since last year (Y/N)
Deployment	Green	Yes
Capacity Building	Amber	No
Research	Green	Yes

Overall RAG rating: Green/Amber

Evidence of managing the delivery of project

Quarter 1	Quarter 2	Quarter 3	Quarter 4
Amber	Amber	Amber	Amber

Overall delivery RAG rating over the reporting period: Amber

Key points

Overall, the project is delivering well. In particular:

- strengthened governance with senior level engagement both internally and externally, this includes monthly meetings of the UK-PHRST Academic Steering Group (ASG), quarterly meetings of the UK-PHRST Project Board, fortnightly meetings of the UK-PHRST Senior Management Team and monthly full team meetings
- quarterly finance and risk management meetings have taken place with strong engagement from both PHE and LSHTM, these regular finance meetings have helped improve the understanding of the financial processes within the different

organisations, and lead to stronger and more coordinated budget planning and management across all aspects of the programme

- LSHTM reviewed and agreed reporting templates in close collaboration with NIHR whilst maintaining a constructive dialogue with funders. The accuracy of financial forecasting by the research projects within the portfolio has improved. At the level of individual research projects, the LSHTM team have worked with delivery partners to develop suitable financial reporting processes and a clearer process for presenting new research proposals
- an LSHTM-based research coordinator was recruited to strengthen consistency, planning and coordination across research projects
- a monitoring implementation plan, with progress reporting processes have been agreed with delivery partners at Oxford University and Kings College London
- structured debriefs were undertaken, and end of mission reports were written and shared, after each operational deployment
- the continuous review of processes and guidance relating to operational deployment and staff wellbeing continued
- HR policies for recruitment of UK-PHRST reservists were scoped, developed, finalised and implemented. This led to successfully recruiting 8 individuals across a range of disciplines.
- meeting transparency requirements through publication of key documents continues

Evidence that the project is meeting the agreed milestones and deliverables

The following milestones / deliverables were made by UK-PHRST for this reporting year.

Output 1: More effective UK response to outbreaks, including established operational capacity and processes to support rapid deployment for optimal field performance and assess value for money

Output Indicator	Milestones / deliverables	Current status
1.1	<p>Trained cadre of UK experts (epidemiology, laboratory, social science, clinical management, infection prevention and control, data science, logistics, research) deployable within 48 hours for outbreak response. Training includes UN Department of Safety and Security (UNDSS) basic security, UNDSS advanced security, induction, Security Awareness in Fragile Environments (SAFE), SAFE+, and deployment course.</p> <p>Year 3 Milestone: ≥ 95% of core team in post and ready for deployment; 8 reservists recruited; 67% (4/6) FETP fellows trained and available to deploy</p>	<p>Achieved and exceeded.</p> <p>100% of Core Deployment Team in post and ready for deployment (10/10).</p> <p>100% of FETP in post and ready for deployment (13/13)</p> <p>75% of reservists in post and ready for deployment (9/12)</p>
1.2	<p>Laboratory capacity supported in response through development of a "suitcase laboratory" for deployment in ODA-eligible countries</p> <p>Year 3 Milestone: Field test of case laboratory in the UK</p>	<p>Achieved. Flight case laboratory ready for deployment and tested in the UK. However, deployment has not happened in 2018/19 due to the absence of formal request</p>
1.3	<p>Sharing of lessons learnt from deployment within the team to continuously improve performance</p>	<p>Achieved for all deployments undertaken</p>

	<p>Year 3 Milestone: All deployments with formal debrief and lessons identified; procedure for on-call response to incidents, accidents or near-miss developed</p>	
1.4	<p>Monitoring framework developed and implemented into operational processes</p> <p>Year 3 Milestone: Monitoring framework developed</p>	<p>Achieved. Monitoring framework developed. Review of the logframe (Oct 2018) and implementation plan developed as per monitoring framework</p>
1.5	<p>Value for money assessed through benchmarking salaries and training costs of those deployed (including backfilling of reservists) against hiring external consultants</p> <p>Year 3 Milestone: Net benefit</p>	<p>Completed.</p>

Output 2: Research to build an evidence-base for optimum prevention and response conducted before, during and after outbreaks. Knowledge sharing and external funding to maximise benefit

Output Indicator	Milestones / deliverables	Current status
2.1	<p>Research infrastructure established (strategy, protocol development, tools)</p> <p>Year 3 Milestone: Implementation of research strategy; > 2 research protocols developed/adapted to guide early-, mid- and end-of-outbreak investigation; review of existing tools completed</p>	<p>Achieved. Research strategy outlined as part of overall RST strategy. Five priority research themes identified and research underway in all 5.</p>

2.2	<p>External funding to build on the UK-PHRST platform</p> <p>Year 3 Milestone: >2 funding applications submitted (to complement UK-PHRST budget) for research or capacity building projects from external sources (named UK-PHRST investigator included)</p>	<p>Achieved.</p> <p>Application to Wellcome for the Research Tool for Collaborative Social Science in Epidemics</p> <p>Application to Resolve To Save Lives for Positive Deviance Study on Outbreaks</p>
2.3	<p>Knowledge sharing through presented and published analyses of evidence on optimal approaches to outbreak response</p> <p>Year 3 Milestone: >3 articles or abstracts submitted for publication or international presentation; >6 presentations on UK-PHRST or its work at meetings and conferences where audience includes key stakeholders</p>	<p>Achieved. See annex on publications</p>

Output 3: Improved capacity for prevention, detection and control of outbreaks in ODA-eligible countries

Output Indicator	Milestones / deliverables	Current status
3.1	<p>Change in surveillance capacity in hub sites in ODA eligible countries</p> <p>Year 3 Milestone: East African hub site identified, and capacity development plan made; implementation commenced</p>	<p>Partially met. Milestone to be reviewed as decision not to develop an East Africa hub but instead work</p>

		through networks. Capacity building activities, through the strengthening of lab capacity, training at COMAHS, and research in Kenema have all led to increased preparedness and response capacity.
3.2	<p>Change in trained personnel for outbreak prevention, detection and response in ODA eligible countries</p> <p>Year 3 Milestone: Training supported in >1 ODA-eligible country with >75% of participants meeting learning outcomes</p>	<p>Achieved.</p> <p>Country-specific training provided in three ODA-eligible countries with additional training provided through networks (WHO AFRO, Africa CDC).</p>
3.3	<p>Change in capacity through sharing knowledge with key stakeholders in-country</p> <p>Year 3 Milestone: Annual UK-PHRST workshop with partners in an ODA-eligible country</p>	<p>Ongoing. Two workshops undertaken in 2018/19, including 1 in Sierra Leone with West African institutions and 1 in Uganda with East African institutions.</p>
3.4	<p>Development of a competency framework for training of staff in LMICs</p>	<p>Not achieved. Starting</p>

<p>Year 3 Milestone: Competency framework agreed upon by any new partner with whom UK-PHRST engages for capacity development in LMICs</p>
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Deployment

The UK-PHRST has deployed to 3 outbreaks in 2018/19, including the ongoing Ebola virus disease outbreak in North Kivu and Ituri Provinces of DRC, for which the UK-PHRST has provided technical support since it was first declared in August 2018, and continues to provide support.

All deployment milestones have been met and/or exceeded in 2018/19. All core deployable team members have been trained for deployment, as well as all FETP fellows and 8 new reservists. The latter 2 have benefited from a new UK-PHRST-owned residential deployment course, which was conducted in November 2018. The second round of UK-PHRST reservists will be advertised in June 2019.

The UK-PHRST has had its first deployment with a UK-PHRST reservist, in February and March 2019, to respond to a Lassa fever outbreak in Nigeria. In addition, 3 FETP fellows have been deployed through the UK-PHRST in 2018/19.

The UK-PHRST has increased its footprint during international deployments. It provided the first GOARN deployment during the ongoing EVD outbreak in DRC and has steadily been able to contribute to responses by taking on specific specialist domains as a team, such as outbreak analytics during the ongoing EVD response in DRC, rather than individual input. The growing number of reservists in 2019/20 will enable the team to further strengthen response capacity and ensure appropriate transfer of knowledge.

Although the flightcase laboratory is technically ready for deployment, no specific requests have been made for the laboratory to deploy in 2018/19, but the UK-PHRST stands ready to deploy microbiologists in 2019/20. The laboratory has travelled as part of UK-PHRST capacity building activities to Sierra Leone. This gave an opportunity for the team to test processes ahead of a deployment request.

Pre-, during- and post-deployment communication and support mechanisms are well in place, and in-depth debriefs are conducted following each deployment.

Capacity Building

A Sponsorship Agreement between UK-PHRST and The College of Medicine and Allied Health Sciences, (COMAHS) under the University of Sierra Leone was completed. All but 1 of the components of this agreement has been delivered with clear plans in place for delivery of the last component. Activities have involved the development of a library, the revision of and review of the MSc in Public Health, and delivery of the course module on outbreak preparedness and response.

Additional work at COMAHS includes support to the BSc Medical Laboratory Science by providing a two-week virology module and the incorporation of BSc placements in UK-PHRST research activities in-country.

In addition, 2 regional meetings were held with key stakeholders on capacity building and research needs, including in Sierra Leone (Sept 2018) and in Uganda, co-hosted by the Uganda Virus Research Institute (UVRI) (February 2019). Finally, the UK-PHRST has provided technical and financial support to the development of a Massive Open Online Course (MOOC) in Disease Outbreaks in LMICs.

Several training events and workshops were also supported by the UK-PHRST. These include the following:

- a two-day Epidemic Response Team Training Programme sponsored by Africa Centers for Disease Control (Africa CDC)
- the organisation of a two-day 'train the trainer' training event on 'Outbreak Logistics and Supply Chain Management' in collaboration with NCDC
- the development of a monkeypox capacity building project to set up long-term sequencing capacity at NCDC, with a full rollout planned in Nigeria in August 2019. This is a joint IHR-NCDC-UKPHRST initiative
- the organisation of a one-week workshop on Public Health Information Services in Humanitarian Crisis for WHO AFRO in Dakar
- the launch of an online Epidemic Response Anthropology Platform (ERAP)
- the organisation and delivery of a three-day workshop in March 2019 in the UK titled "Developing a strategic agenda around outbreak and humanitarian data collection and analytics," attended by over 60 experts
- a baseline learning needs assessment of the Africa CDC Epidemic Response Team which has a continent-wide remit

- A comprehensive capacity building strategy is being developed and will guide activities in 2019/20

Research

Research projects running during this period involve all participating institutions in the UK-PHRST and cover all 5 of the priority research themes identified:

- epidemiology (including data science)
- microbiology (including genetic sequencing)
- patient-centred clinical research
- social science
- mental health and well-being

The projects collectively address early-, mid- and end-of-outbreak investigation. Examples of this scope include a systematic review to assess the utility of pre-deployment psychological screening for staff deployed to crises; a prospective cohort study of clinical characteristics of patients with pneumonic plague in Madagascar, and a study evaluated legacy samples from an outbreak in Darfur. For each of these projects, along with all other completed projects, manuscripts have been submitted for publication.

A landscape analysis of tools used for data collection, management and analysis in outbreaks is underway and is on track for completion in early July 2019, in collaboration with WHO and the Global Health Network in Oxford.

The research work has involved a wide range of other collaborators outside the UK-PHRST, including: Federal Ministry of Health and the National Public Health Laboratory in Khartoum, Karary University in Kassala, Liverpool School of Tropical Medicine and the Rare and Imported Pathogens Laboratory at PHE. One study with Institut Pasteur Madagascar has led to the development of a proposal for a trial of treatment for bubonic plague considered for funding by DFID and the Wellcome Trust.

Presentations of UK-PHRST research and its findings have been given at several meetings and conferences. These include presentations at the annual meeting of the American Society of Tropical Medicine and Hygiene, ESCAIDE, and at International Meeting on Emerging Diseases and Surveillance, the PHE Annual Conference several other workshops and meetings.

Evidence of risk management

The following risks were assessed by UK-PHRST for this reporting year.

	Risk	Mitigation Actions	RAG rating	Current Status / Update?
1	UK-PHRST fails to fully meet the 3 core objectives of the UK-PHRST (deployments, capacity building, research)	<ul style="list-style-type: none"> - additional staff recruited to key positions to strengthen capacity building, research and deployment outputs - additional staff trained and ready to support deployments (reservists and FETP fellows) - exploring alternative models of delivering and managing research using co-principle investigators (co-PIs) 	Amber	<ul style="list-style-type: none"> - research coordinator and programme support officer now in post - 12 reservists and 13 FETP fellows trained and cleared for deployment - preparations for next round of reservist recruitment underway
2	Logistics and provision of travel in-country is not available on a bilateral deployment	<ul style="list-style-type: none"> - close working with DFID on joining the existing contract for external logistics provision through Palladium - discussions with One HMG Network team (FCO) to raise awareness of UK-PHRST and engage existing logistics from FCO if possible (including customs support) 	Amber / Red	this has been identified as an issue

		<ul style="list-style-type: none"> - close communication with international partners on provision of transport for team 		
3	UK-PHRST fails to complete the research projects by the agreed deliverable dates	<ul style="list-style-type: none"> - research coordinator appointed - regular meetings, templates and targets agreed with NIHR - co-PIs and ASG support in place for every research project - increase in research projects led by institutions outside of the core academic group - additional reservists deployable in place of core team members 	Amber	
4	UK-PHRST fails to meet core objectives because of the UK exiting the EU	<ul style="list-style-type: none"> - Essential microbiology supplies purchased ahead of EU exit date - Confirmation from partner organisations on status of EU staff who work for UK-PHRST - Working with FETP directors on future of FETP programme and input of fellows 	Amber	Mitigating actions continue ahead of new EU exit date of 31st October 2019

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5	IT systems and equipment unable to meet the needs of UK-PHRST staff working overseas	<ul style="list-style-type: none">- new laptops procured to provide fast, efficient and safe communications- a range of communications equipment procured and provided to staff to enable robust communications in the field- internal protocols around travelling with IT equipment in place- training on IT safety and security delivered to new team members on appointment	Green	<ul style="list-style-type: none">- mitigating actions in place and considered to be effective- further training planned by IT specialists to teach team members how to travel safely and effectively overseas
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Deployment

Lack of a global logistics provider. UK-PHRST is yet to identify a provider to support transport of staff and microbiology equipment on a bilateral deployment. This is of importance in relation to mobilising the flight case laboratory from the UK to an operational field site. Discussions with DFID on joining the Palladium contract that supports mobilisation of the UK-EMT field hospital continue. UK-PHRST is also engaging with the FCO One HMG Network team to raise awareness of UK-PHRST activity and access FCO logistics and One HMG processes as appropriate. Close working with partners in country will continue.

Capacity building

A key challenge has been identifying where the UK-PHRST can deliver further effective capacity building within our current capacity. Delays in recruiting a training team have had an impact on the capacity of UK-PHRST in this area and the number of the actors working in global health related capacity building creates a further challenge in identifying areas where the UK-PHRST can add value.

A coordinated capacity building strategy is currently in development with input from the full UK-PHRST team and the recruitment process for the training manager and training coordinator positions is now complete. The training manager will play an integral role in the delivery of the capacity building strategy.

Plans are in place to enhance work with key stakeholders in a selected range of ODA eligible countries (namely, Sudan, Sierra Leone and Nigeria) to understand their demand and current gaps in capacity.

Research

Historically, delays in research projects have arisen as a result of PI deployments. All research projects are encouraged to carefully consider and factor in suitable staffing capacity so the impact of a key member of their project being deployed is reduced, in many cases this includes co-PI research fellows and research assistants, who have been incorporated into the plans of several research projects. Reservists and FETPs have also been familiarised and included in some research plans to mitigate this risk.

The UK-PHRST research coordinator was appointed in February 2019 to improve planning of projects and timely address of roadblocks during projects through active communication with project PIs.

Delays in projects running during this reporting period are being closely managed to ensure project plans are reworked in a coordinated manor which will allow for the wider UK-PHRST portfolio of work to still be delivered. These delays have largely been due to difficulties recruiting appropriate staff, difficulties procuring required consumables due to manufacturing issues and planned changes thought to benefit UK-PHRST core objectives by aligning research activities with capacity building opportunities. Any delays outside of our control or which have been agreed to support capacity building activities are being reported and planned for appropriately following discussion at project management level and at Academic Steering Group meetings.

Discussions on new research projects from all UK-PHRST institutions and during Academic Steering Group meetings are centred on developing larger (multidisciplinary) and longer-term research projects with collaborations from in-country institutions and clear links to UK-PHRST capacity building plans.

Summary: project delivery issues and recommendations for improvement

- 3.1 Increase the capacity for response to outbreaks and take on specific areas of expertise through a 'team approach', rather than individual deployments, also including build capacity and/or research activities. This requires a large enough pool of deployable experts, which the new round of recruitment of reservists should help address in 2019/20.
- 3.2 Explore opportunities for increasing the number of bilateral deployments.
- 3.3 Undertake an audit of the UK-PHRST operational risk register by risk experts external to UK-PHRST. Ensure recommendations and changes are implemented in 2019-20.
- 3.4 Continue monthly project management meetings between staff at partner organisations to ensure clear communication on activities and updates to operational risk register.
- 3.5 Broaden and increase the UK-PHRST reserve cadre through a nationwide recruitment campaign.
- 3.6 Develop and put in place a strategy for UK-PHRST capacity building over 2019/20. The training coordinator and training manager will play a critical role in ensuring a coordinated strategy for 2019/20.
- 3.7 Explore how UK-PHRST can engage representatives from partner institutions and NPHIs in LMICs as part of the core deployable UK-PHRST team.

- 3.8 Establish a logistics provider that can support the safe and rapid transport of the microbiology flight case laboratory as part of an operational deployment.
- 3.9 Ensuring timeliness of research delivery through continuity during deployments and a close coordination of the projects by the Research coordinator is a priority in 2019/20.

4. Finance

Delivery confidence assessment for reporting year

	RAG rating	Changed since last year (Y/N)
Deployment	Amber	Yes
Capacity Building	Amber	Yes
Research	Amber	Yes

Overall RAG rating: Amber

How is the funding being used?

Annual summary

Total annual budget for this reporting year: £ 4,148,125

Total annual spend for reporting year: £ 3,519,818

Summary: forecast vs actual spend

Deployment

Overall, there was an underspend in the deployment budget. This was in part related to a marked underspend in the microbiology budget. This was due to a refund for laboratory consumables purchased in anticipation of a deployment and delays in procuring capital items. There were also funds allocated for an external evaluation (service development) in Q4. However, given delays in commencing the external evaluation, costs will be seen in financial year 2019/20. Finally, mandatory training courses for 2 sets of reservists (25 staff) had been anticipated. However, due to delays in recruiting the second set of reservists (13 staff), only 1 set have attended and completed the courses (12 staff), resulting in training underspend.

Where underspend has been anticipated, costs have been repurposed and spent on other activities relating to capacity building.

Capacity Building

There was an overall underspend from original budget and though the forecast was projected according to needs, the final expenditure was closer to the original budget. The Monkeypox project was originally forecasted at £14,000 but was later adjusted in Q4 to £50,000. However, only £37,000 was spent and the remaining £13,000 will be used in 2019/2020 towards the same project. The lease for the Sierra Leone house and office was reviewed and it was agreed that it would be kept for another year. There was significant capacity building spend and activity in the later part of year 3, including a Regional Conference in Uganda to develop capacity building opportunities (total event cost £19,219) and financial support for capacity building activities at the University of Sierra Leone (total cost £26,500). Logistics capacity training took place in Nigeria at the latter part of Q4 totalling £9,000

Research

This has been a successful year for the UK-PHRST Research portfolio with increased spend and accuracy of forecasting despite an increase in the portfolio and diversity of research activities taking place. In total 4 research projects were completed within budget during the year with 11 ongoing research projects, 8 of which should be successfully delivered in 2019/20 within budget.

In total £1,173,322 was spent on research delivery in 2018-19 verses a forecast of £1,235,568 (this includes salaries for staff at academic partners (Oxford University and

Kings College London) as this is their primary activity and salaries for the core academic team at LSHTM. The UK-PHRST has also funded research development work on a clinical research project in the DRC to test an Ebola vaccine in an outbreak trial (cost £22,141). The event in Uganda was captured under capability & programme development, as was significant progress on the capacity building work in Sierra Leone, leading to an overspend on this budget line.

Evidence of ability to administer ODA funding

Deployment

There is strong confidence in financial forecasting across the UK-PHRST Project. The project team has set up quarterly meetings with the aim of proactively aiding communication between finance and policy colleagues. This ensures that where forecasts change, all are made aware as early as possible and are therefore able to consider if any action is required across the project to mitigate changes.

Capacity Building

No major change in this area. All capacity building projects are closely budgeted at the development stage with the wider financial impact on the UK-PHRST considered as part of the decision process around which capacity building activities to support.

Research

At the level of individual research projects, the team has worked with PIs and academic partners at Kings College London and Oxford to develop a suitable financial reporting process. The recruitment of the research coordinator will also help with more consistent budget planning during the development of new research proposals.

Most of the research budget for year 4 (+/-90%) is already allocated, further increasing the confidence of forecasting for this year.

Regular finance meetings have helped the UK-PHRST to improve the understanding of the financial processes within NIHR and LSHTM and a strong collaborative process has led to the development of financial reporting templates and mechanisms that are fit for purpose and meet the needs of the UK-PHRST, NIHR and DHSC.

Evidence of transparency

Self-assessed score against the International Aid Transparency Initiative (IATI) transparency standards

Good: 60 – 79%

We have drawn up an action plan for publishing as much as possible on the IATI development tracker to meet our commitment to transparency. We have collated the first round of documents and received sign-off from UK-PHRST SMT and we are currently progressing through our internal approvals process with the aim of publishing additional documents by July 2019. We will publish a second round of documents by October 2019. We will put in place a process to review our publications on an annual basis.

We currently have a 'good' rating due to the documents we have already published, including:

- four-year strategic framework and [2018 Annual Review](#) published on Gov.uk website
- DHSC has published the framework agreement between DHSC and PHE and the PHE Remit Letter 2018/19 on the development tracker portal, alongside the strategic framework and 2017/18 Annual Review mentioned above
- documents published on LSHTM website, including a list of publications and descriptions of research projects

Deployment

A retrospective data cleanse of all financial information was carried out in Q4 to ascertain an accurate financial position for 2018/19. Evidence of spend was checked by comparing data held on the UK-PHRST finance tracker against the system capturing actual spend. This was then cross referenced with the evidence held on invoices and purchase orders to ensure transparency and a clear audit trail. Separate task codes have been created to clearly identify separate spend for a range of specific activities.

Capacity Building

An invoice for a Sierra Leone supplier was not accrued correctly. Because of this, all purchase orders relating to regular suppliers, have been raised for six months as opposed to three months. This has been clearly defined on a new tracking system to prevent any future losses. Verification of purchases is a simpler process ensuring all anomalies are

picked up monthly. A separate tab has been added to the tracker to record purchase order balances to ensure new ones are raised if the previous one has no remaining balance. Standard Operating Procedures have been designed for the UK-PHRST finance system and a guidance was rolled out at the end of Q3 for all staff to follow, ensuring accurate and consistent reporting.

Research

A line by line data check was completed for all 3 research tasks to ensure accuracy in reporting to LSHTM. A comparison was undertaken of the tracker held by UK-PHRST to internal finance transaction reports and all transactions were verified against evidence held. A financial change has been implemented from 2019/20, where all financial commitments are recorded on one spreadsheet as opposed to separate tabs on the same spreadsheet. This has allowed for tighter monitoring and allowed UK-PHRST to hold accurate information on one spreadsheet, which is monitored regularly.

Summary: finance issues and recommendations for improvement

- 4.1 Quarterly finance meetings chaired by the programme manager and with key personnel to agree active management of LSHTM and PHE funding allocations to improve accuracy of financial information. DHSC and NIHR representatives to be invited as required.
- 4.2 Programme Managers report at the UK-PHRST SMT meetings. SMT to provide financial oversight and assurance, including agreeing necessary actions required to ensure neutral spend.
- 4.3 Quarterly review and repurpose funding accordingly to allow appropriate balance and spend between research, deployment and capacity building and to increase DHSC confidence in the in-year monitoring returns submitted to DFID/HMT
- 4.4 New task codes have been created to capture costs to reflect true category of spend, acting on lessons learned from this year's financial end.
- 4.5 Adopt new PHE finance tracking system to facilitate better tracking
- 4.6 Ensure movement of funds between programme partners is actioned by close of Q3 each year to avoid any unnecessary lack of clarity at year-end.

- 4.7 Publish additional documents through the IATI portal as part of our commitment for transparency. This will also include the UK-PHRST 2019/20 Implementation Plan and end-of-mission reports.

5. Theory of Change

The UK-PHRST's Theory of Change (ToC) is organised around its 3 main areas of work (outbreak response, research and capacity building), with a set of activities in each of those leading to

- early identification of potential threats
- rapid response
- improved evidence-base and tools for epidemic control
- improved capacity for outbreak detection, prevention and control

These activities will eventually stem outbreaks at or near to source, reducing mortality and morbidity from infectious diseases.

Through recent deployments, the UK-PHRST has been able to help the faster uptake or implementation of specific tools and techniques (e.g. alert management tools, software and analytical infrastructure). Research projects have led to the development or improvement of outbreak tools and implementation of these in ODA-eligible countries.

Notwithstanding the many assumptions behind the ToC's pathway to long term outcomes and impacts, and challenges in measuring the latter, UK-PHRST's activities continue to be driven by the same goal of improving capacity to prepare for, respond to and control outbreaks. Importantly, while the ToC and corresponding log frame present the 3 domains of activities separately, these domains are inherently interlinked. In particular, capacity building cuts across research and outbreak response, as illustrated in many of the UK-PHRST's recent work during deployments and research activities.

In the context of the external evaluation, an in-depth review of the Theory of Change will be conducted, through a team workshop to be held in June 2019. UK-PHRST activities and implementation plan will be reviewed in that context and adapted if required.

Summary of any changes recommended to the theory of change

- 5.1 Review the Theory of Change and associated logic framework in light of the first 3 years of the programme. This was undertaken in July 2019.

6. External Engagement

Delivery confidence assessment for reporting year

	RAG rating	Changed since last year (Y/N)
Deployment	Green	Yes
Capacity Building	Amber	No
Research	Green	Yes

Overall RAG rating: Green/Amber

Evidence of use and success of the communication strategy

The objectives of the 2018/19 communications strategy were as follows:

- increase national and international public awareness of UK-PHRST, its role and why it is unique
- highlight the team’s work and learnings during outbreak responses to internal (LSHTM/PHE/Oxford/KCL) and external stakeholders, including public audiences
- highlight the team’s work in conducting outbreak related research to improve epidemic preparedness and training a group of public health reservists to internal and external audiences
- showcase UK-PHRST to potential recruits as a world-leading team
- demonstrate the UK’s global role in actively responding to international public health incidents
- any specific communications objectives developed for a particular outbreak

The target audiences for these objectives were: the general public, the scientific community and internally across DHSC / government.

Over the 2018/19 period, in line with the strategy, we have delivered the following communications activities through a range of channels:

- UK-PHRST pages established on LSHTM and Gov.uk websites – LSHTM pages feature sections on research, capacity building, deployments, events and updates. Target audiences: all, Gov.uk is largely professional and Government
- Stories about the UK-PHRST team have been shared via LSHTM and PHE channels including social media channels (Combined >285,000 followers across LSHTM and PHE Facebook, Twitter, LinkedIn and Instagram channels). Internal and external newsletters which go to c.18,000 people, including policy makers, researchers, stakeholder and funder organisations, and interested members of the public
- the LSHTM alumni team shares news about the UK-PHRST with its network of c.20,000 alumni, many of whom are now working in senior positions in health agencies, governments, NGOs and research organisations. News has also been disseminated through the LSHTM Health in Humanitarian Crises Centre which regularly shares UK-PHRST events and updates with its network of internal and external stakeholders
- content distributed via PHE Chief Executive's Friday message which goes out to nearly 7,000 stakeholders
- PHE Comms delivered communications training to the deployable team to ensure awareness of protocols and how to gather content in the field. Evaluation by the participants rated the training from good to excellent
- UK-PHRST Comms steering group continues to meet regularly with representatives from PHE, LSHTM, Oxford, KCL and DHSC

Deployment

From 1 April 2018 to 31 March 2019, there have been more than 600 online news articles worldwide mentioning the UK-PHRST. These include stories relating directly to the team's work, comments on outbreaks from team members, or mention of the team in discussions about outbreak response. Media coverage is largely positive and factual when talking about the team's work. Positioning shows the team to be 'playing its part' under difficult circumstances and references the UK's contribution to outbreaks. UK Aid funding messages tends to be carried.

In May 2018, PHE and LSHTM issued a press release to media about the UK-PHRST deployment to DRC to respond to the Ebola outbreak. The press release, along with general expert comment from UK-PHRST director and team members on the situation in DRC, generated more than 200 pieces of global media coverage reaching national and international audiences. This included BBC Radio 4 Today programme, BBC World Service Newshour, Channel 4 News, Sky News, among others.

LSHTM interviewed Hilary Bower (field epidemiologist) for Devex, (a leading media platform for the development community) as she was about to deploy to DRC, which focused on how to prepare for a deployment.

PHE on the ground blog series – challenging in current context but have delivered: [Director's interview](#), [Bangladesh deployment](#), [Field logistician role](#), [Ebola response in DRC](#), [Global Health overview](#) (14,000 combined views to date)

PHE background media briefing on DRC in joint with DFID led to media coverage in the Daily Telegraph.

A Q&A with UK-PHRST director on PHE site was republished on LSHTM (April 2018).

UK-PHRST worked with Gates Notes (the blog of Bill Gates) throughout the first few months of 2019 to set-up interviews and filming with UK-PHRST director and team members for a feature on the UK-PHRST. [The feature from Bill Gates](#) was published in April 2019 with huge social media impact

UK-PHRST developed a relationship with the WHO Comms team to ensure messaging aligned on deployments.

Capacity Building

Comms supported launch of [Epidemic Response Anthropology Platform](#) (June 2018) with a story on LSHTM website, social media and newsletter outreach.

In 2019, LSHTM is launching a free online course (MOOC) on Disease Outbreaks in low- and middle-income countries with contributions from the UK-PHRST. This course is for those interested in, studying or working in global and public health around the world, including government stakeholders, health practitioners and NGO employees, particularly those working in countries regularly affected by infectious disease responding to outbreaks. As part of this we have commissioned some photography in Bangladesh and Nigeria to illustrate situations in which the team work. These photos will be used in Comms at a later date.

UK-PHRST hosted a session at PHE's Annual Conference 'Controlling global outbreaks: the slow road to rapid control'.

Research

Launch of the Ebola Response Anthropology Platform (see above).

Social media to support promotion of key research viewpoint publications: [PLOS Research Analysis and Science Policy piece](https://blogs.plos.org/collections/action-not-justification-how-to-use-social-science-to-improve-outbreak-response/) <https://blogs.plos.org/collections/action-not-justification-how-to-use-social-science-to-improve-outbreak-response/> on how to use social science to improve outbreak response, and [New England Journal of Medicine perspective piece](#) on applying universal standards of care to Ebola.

Reflections

Not all the completed communications activity has had the full desired impact. Heavy restrictions on speaking about the DRC and Sudan deployments meant less content is available and security concerns rightly prevailed over communications activities. Some anticipated activities did not come into fruition during this timeframe. The evolution of the communications strategy as we move into 2019/20 will use learnings this from year:

- 6.1 Updates on deployments tend to be the most readily available for news. In the absence of regular hard news when the team is not deployed, continue to focus on more feature-led content.
- 6.2 Develop means of content collection on deployment where communications colleagues are unable to access, and deployed staff are too stretched for anything beyond their core role. Develop more types of content – photos and videos have proven very successful where they've been available.
- 6.3 We will aim to collaborate with relevant external organisations to enhance the reach and impact of communications activities.
- 6.4 Where possible, identify wider opportunities from across the portfolio to communicate successes in capacity building and research. More work needs to be done to highlight capacity building and research, where information is sparser.
- 6.5 Use retrospectives to raise awareness of deployments we've been unable to speak about contemporaneously. More advanced notice from team of planned events and activities and clearer delineation of target audience groups will help refine communications approaches.

Evidence of external engagement (other)

Deployment

The UK-PHRST plans to formally invite feedback on all deployments to date from a wide range of stakeholders throughout HMG and internationally. This will include representatives from key organisations UK-PHRST teams have worked with on deployment). This 'After Action Review' will be conducted in June 2019 and aim to summarise a list of recommendations for future deployments.

To date, the UK-PHRST has gathered a range of feedback from key stakeholders. For example, following the deployment of UK-PHRST staff to Nigeria to support the Lassa Fever outbreak in Feb 2019 the Director General of the Nigerian Centre for Disease Control sent out the following tweet:

Grateful for the support from Hikaru and Natassya from the UK Public Health Rapid Support Team in our #Lassafever EOC for the last one month. Always a great opportunity to exchange knowledge and experience. Thank you @LSHTM + @PHE_uk. Cc @DanielBausch2

Capacity Building

An operational data acquisition and analytics meeting organised by the R Epidemics Consortium (RECON) the UK Public Health Rapid Support Team (UK-PHRST), and the London School of Hygiene and Tropical Medicine Emergency and Epidemic Data Kit (LSHTM-EDK) took place from 20 - to 22 March 2019. The meeting was attended more than 70 delegates from 34 worldwide organisations (this number varied over the 3 days). The first day and a half consisted of presentations and discussions grouped into 5 areas:

- the perspective of regions and countries at higher risk: current initiatives, prospective challenges
- data acquisition; methods and harmonisation
- mapping and crowdsourcing data
- from small data to big data to useful data
- data analytics, initiatives and implementation and building sustainable capacity

Reports on the Capacity Building Conferences in both Sierra Leone and Uganda have been finalised and are available on request.

Summary: engagement issues and recommendations

- 6.6 Action reflections on communications as previously noted.
- 6.7 Actively engage with activities linking to the external evaluation being conducted by Itad/Oxford Policy Management and respond to recommendations produced in the mid-evaluation report (Dec 2019) and final report (2020).
- 6.8 Implement feedback provided during the After-Action Review from the UK-PHRST core members as well as national and international external stakeholders on UK-PHRST deployments to date and develop a set of recommendations for future deployments.

7. Lessons Identified

Key Points

Deployment

- 7.1 For deployments through GOARN, the model of deployment should increasingly shift from individual roles to 'team approaches' to take on specific elements of the response in a more autonomous way, as was the case more recently in DRC with the UK-PHRST's work on the analytical cell. However, this requires sufficient staff capacity, to ensure both sufficient staff at once and appropriate handover capacity for the sustainability of the UK-PHRST's input in an outbreak. The latter is particularly essential to ensure that capacity building can be delivered or that operational research can be initiated during outbreaks, which requires to forge good and sustainable collaborative links with key stakeholders in country.
- 7.2 It is also clear from all recent outbreaks that the technical expertise from the UK-PHRST should not be confined to the initial phases of an outbreak but could be used whenever an outbreak of potential international importance overwhelms national response capacity. This is clearly illustrated in the ongoing Ebola outbreak in North Kivu, DRC.
- 7.3 As such, the UK-PHRST will seek to increase its response capacity both through its pool of reservists in the UK, but also by developing a cadre of UK-PHRST affiliated personnel based in ODA-eligible countries.
- 7.4 Although the UK-PHRST has been able to respond in some ways to most large international outbreaks, specific domains of expertise are lacking. For example, community engagement, vector control or WASH specialists are not currently part of the team. Those domains will be envisaged in the considerations about team expansion and domains of expertise required.

Capacity Building

- 7.5 The lack of a dedicated role within UK-PHRST for capacity building has hindered our ability to establish a clear strategy in this area. Although each core deployable team member has engaged in capacity building activities aligned with their specialisation, these have been largely independent projects with little links between the different specialties.

- 7.6 Discussion at the 2 regional meetings (Sierra Leone, September 2018 'Partnering for Outbreak Preparedness and Response' and Uganda, February 2019 'Exploring research and capacity building opportunities in the East African region' and East Africa), have shaped the role UK-PHRST can play in capacity building within these regions.
- 7.7 Adopting a more regional approach where capacity building needs are identified in communication with regional institutions and delivered jointly with parties within the region, is seen as a way forward.

Research

- 7.8 There is greater need for projects to identify and detail project management support needs in their project proposal. UK-PHRST research coordinator will continue to work with PIs during development of the proposal to ensure project management aspects are explored and planned for.
- 7.9 All research projects should commence with a meeting between PI(s) and the project management team to outline a clear plan for delivery of project activities and mitigation of identified risks.
- 7.10 Wherever possible formal/informal MOUs/letters of understanding to develop partnerships with in-country research institution(s) should be prioritised to support delivery of projects activities such management of funds in-country and recruitment of local researchers.
- 7.11 Overall move towards developing a network of research collaborators and partners that have a regional presence is needed to foster research (and capacity building) based on jointly identified needs.

8. Overall Project Delivery and Recommendations

Overall assessment RAG rating

Project Management

Activity areas	RAG rating	Has RAG rating change since last annual review?
Deployment	Green	Yes
Capacity Building	Amber	No
Research	Green	Yes

Finance

Activity areas	RAG rating	Has RAG rating change since last annual review?
Deployment	Amber	Yes
Capacity Building	Amber	Yes
Research	Amber	Yes

External Engagement

Activity areas	RAG rating	Has RAG rating change since last annual review?
<ul style="list-style-type: none"> Deployment 	Green	Yes
<ul style="list-style-type: none"> Capacity Building 	Amber	No
<ul style="list-style-type: none"> Research 	Green	Yes

List of Recommendations

Project Management

- 8.1 Increase the capacity for response to outbreaks and take on specific areas of expertise through a 'team approach', rather than individual deployments, also including build capacity and/or research activities. This requires a large enough pool of deployable experts, which the new round of recruitment of reservists should help address in 2019/20.
- 8.2 Explore opportunities for increasing the number of bilateral deployments.
- 8.3 Undertake an audit of the UK-PHRST operational risk register by risk experts external to UK-PHRST. Ensure recommendations and changes are implemented in 2019/20
- 8.4 Continue monthly project management meetings between staff at partner organisations to ensure clear communication on activities and updates to operational risk register.
- 8.5 Broaden and increase the UK-PHRST reserve cadre through a nationwide recruitment campaign
- 8.6 Develop and put in place a strategy for UK-PHRST capacity building over 2019/20. The training coordinator and training manager will play a critical role in ensuring a coordinated strategy for 2019/20.

- 8.7 Explore how UK-PHRST can engage representatives from partner institutions and NPHIs in LMICs as part of the core deployable RST team.
- 8.8 Establish a logistics provider that can support the safe and rapid transport of the microbiology flight case laboratory as part of an operational deployment.
- 8.9 Ensure timeliness of research delivery through continuity during deployments and a close coordination of the projects by the research coordinator is a priority in 2019/20.

Finance

- 8.10 Continue to review UK-PHRST budget quarterly and repurpose accordingly to allow appropriate balance and spend between research, deployment and capacity building and to increase DHSC confidence in the in-year monitoring returns submitted to DFID/HMT.
- 8.11 Ensure all expenditure is ODA-eligible, ensure Value for Money and conduct regular internal audits on spend.
- 8.12 Publish additional documents through the IATI portal as part of our commitment for transparency. This will also include the UK-PHRST 2019/20 Implementation Plan and end-of-mission reports.
- 8.13 Maintain operational finance processes in line with new tracking systems, which were put into place at the beginning of 2019/20.

Theory of Change

- 8.14 Test the UK-PHRST Theory of Change and assumptions to develop and underpin the evaluation strategy and review the associated logical framework.

External Engagement

- 8.15 Actively engage the UK-PHRST Project Board members through regular communication and quarterly meetings to ensure a wide range of external feedback is provided and ensure that feedback is taken on board in the UK-PHRST's continued development.
- 8.16 Actively engage with activities linking to the external evaluation being conducted by ITAD/OPM and respond to recommendations produced in the mid-evaluation report (Dec 2019) and final report (2020).

- 8.17 Implement feedback provided during the After-Action Review from the UK-PHRST core members as well as national and international external stakeholders on UK-PHRST deployments to date, and develop a set of recommendations for future deployments

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