

Appendix S1: Learning Outcomes

The 42 global health learning outcomes can be divided into 17 sub-themes, which fit into 5 global health thematic elements.

1. GLOBAL BURDEN OF DISEASE

1. The Health of Populations: teaching on communicable and non-communicable disease at the global level.

1.1 Access to surgeons with the necessary skills and equipment in different countries: teaching on the global burden of surgical disease

1.2 Mortality and morbidity statistics between countries: teaching on the key measures of mortality and morbidity to compare the disease burden between regions.

1.3 Differences between the leading causes of death and disability in different countries: teaching on the leading causes of death and disability at the global level, their anticipated trends over time, and reasons as to why these variations exist

1.4 Principles of disease prevention and control in a global setting: teaching on the major control and prevention initiatives for communicable and non-communicable diseases that exist at the global level.

1.5 Maternal, reproductive, and child health of various countries: teaching on the impact of maternal, reproductive and child health on the global burden of disease.

1.6 Nutrition on health: teaching on the impact of poor nutrition on health from a global perspective

1.7 Mental Health in different countries: teaching on the importance of mental ill health as a major contributor to the burden of disease worldwide.

2. Migration and Disease: teaching on the impact of international travel and migration on the diseases seen in the UK.

2.1 Taking a travelling history: teaching on how to take an appropriate travel history and recognise common causes of illness in a returning traveller

2.2 Immunisations for international travellers and migrant communities: teaching the basis for the use of immunisations for international travellers and migrant communities in the UK.

2.3 Diseases commonly seen in certain communities: teaching on the aetiology, clinical presentation and management of diseases linked to migration, basing judgement on clinical evidence rather than prejudicial assumption.

3. Pandemics: teaching on the causes and control of global epidemics.

3.1 Causes of pandemics: teaching on the causes of global epidemics

3.2 Global, national, and local efforts to control pandemics: teaching on how pandemics should be controlled at the global, national and local levels.

2. SOCIO-ECONOMIC, CULTURAL, AND ENVIRONMENTAL CONDITIONS

4. Effects of violence and war on health: teaching on how violence and injuries impacts health
5. Health inequity: teaching on health can be distributed unequally within and between populations in relation to socially defined measures.
6. Socioeconomic factors affecting health: teaching on the non-clinical social and environmental determinants of health
7. Political factors affecting health: teaching on the non-clinical political determinants of health
8. Environmental and occupational hazards and ways to mitigate their effects: teaching on how the environment can impact on health, such as through working with pesticides or heat waves.
9. Future impact of climate change on health and healthcare systems: teaching on the existing and potential future impact of climate change on health and discuss ways to mitigate the effects, both at the individual and collective levels.

3. ORGANISATION OF HEALTH SERVICES

10. Health systems: teaching the structure and functions of health systems across the globe
 - 10.1 Structure and function of the NHS: teaching on the structure and function of the NHS.
 - 10.2 Major different national health system models: teaching on the major different national health system models.
 - 10.3 Primary vs Secondary vs Tertiary health care: teaching on the relevance of primary health care to health system models
 - 10.4 WHO model of the health system: teaching on the essential components of a health system, using the WHO model
11. Workforce: teaching that the NHS has an international workforce and explain the impact of this within the UK and overseas.
 - 11.1 Diversity in the workforce: teaching on the relevance of an international workforce on national standards and interprofessional communication.
 - 11.2 Differences between community and hospital-based staff: teaching on the causes and scale of inequalities in health workforce distribution that exist between community-based and hospital-based care
 - 11.3 Inequity of distribution of health and social care professionals: teaching on the causes and scale of inequalities in health workforce distribution that exist between regions and countries
 - 11.4 Different roles within the multidisciplinary team: teaching on the different roles of health care professional in different countries

12. Global Governance: teaching on global health governance

12.1 Role of the WHO: teaching on the functions of the WHO concerning international health policy, disease surveillance, data collection, sharing best practice and setting international norms.

12.2 Private Sector involvement in the NHS: teaching on the involvement of multinational corporations and foreign health systems in delivering health care to UK patients.

12.3 Role of charities and NGOs: teaching on the roles of international organisations, the commercial sector and civil society.

12.4 Regulation of research globally: teaching on to rules and guidelines that have been set at the international level for research trials

4. HUMAN RIGHTS & ETHICS

13. Law and Ethics: teaching on global health topics related to law and ethics

13.1 Ethics of healthcare delivery: teaching on how research, development and patenting can impact health and access, in addition to the different moralities of different communities.

13.2 Impact of international law on UK medical practice: teaching on how international legal frameworks impact on health care delivery in the UK.

14. Human rights: teaching on the concept of a human right, and a right to health

14.1 Rights and the equal value of all people: teaching on the rights and equal value of all people without discrimination and how to provide compassionate care for all.

14.2 How perceptions may limit opportunities for some people: teaching on how to respect patient values and beliefs relating to their health, treatment and end of life care.

15. Vulnerable groups: teaching on the particular health needs of vulnerable groups and migrants.

15.1 Health needs of refugees and asylum seekers: teaching on the key health needs of refugees, asylum seekers and undocumented migrants in the UK from biomedical, psychological and social perspectives, and how these change over time

15.2 Issues of prioritisations: teaching that doctors as advocates for their patients, including the importance of prioritising health needs over other concerns and adhering to codes of professional conduct.

15.3 Legal frameworks vs Medical needs: teaching on the specific legal frameworks that protect vulnerable groups

5. CULTURAL DIVERSITY AND HEALTH

16. Communication: teaching on how to communicate effectively with those from different ethnic, religious and social backgrounds, where necessary using external help.

16.1 Tackling prejudice views about certain communities: teaching the dangers of assuming that those from a particular social group will behave in a certain way

16.2 Being informed of cultural differences from people from that culture: teaching on how to consult and examine patients, whilst being sensitive to their background

16.3 How to communicate with someone who does not speak English: teaching on how to access external help for translation, including translation services and leaflets in an appropriate language, and recognise how this can impact communication.

17. Health determinants

17.1 Sociology and psychology of the varied responses of groups and societies to disease: teaching on how culture is important and may influence behaviour

17.2 Health behaviours and outcomes of specific backgrounds: teaching on where to access information about the impact of a specific background on health risks

These learning objectives were initially outlined by the Global Health Learning Outcomes Working Group [14].

Appendix S2: Eligible UK Medical Schools for GHEMS

1. University of Aberdeen School of Medicine
2. Anglia Ruskin University School of Medicine
3. Aston University Medical School
4. Barts and The London School of Medicine and Dentistry
5. University of Birmingham College of Medical and Dental Sciences
6. Brighton and Sussex Medical School
7. University of Bristol Medical School
8. University of Buckingham Medical School
9. University of Cambridge School of Clinical Medicine
10. Cardiff University School of Medicine
11. University of Dundee School of Medicine
12. The University of Edinburgh Medical School
13. University of Exeter Medical School
14. University of Glasgow School of Medicine
15. Hull York Medical School
16. Imperial College London Faculty of Medicine
17. Keele University School of Medicine
18. King's College London GKT School of Medical Education
19. Lancaster University Medical School
20. University of Leeds School of Medicine
21. University of Leicester Medical School
22. University of Liverpool School of Medicine
23. University of Manchester Medical School
24. Newcastle University School of Medical Education
25. Norwich Medical School
26. University of Nottingham School of Medicine
27. University of Oxford Medical Sciences Division
28. Plymouth University Peninsula Schools of Medicine and Dentistry
29. Queen's University Belfast School of Medicine
30. University of Sheffield Medical School
31. University of Southampton School of Medicine
32. University of St Andrews School of Medicine
33. St George's, University of London
34. Swansea University Medical School
35. University of Central Lancashire School of Medicine
36. University College London Medical School
37. University of Warwick Medical School

Appendix S3: Template Email

Dear Dr.

Our names are, both medical students in, and we are writing to you on behalf of InciSioN UK. We are both collaborators for InciSioN UK's research audit entitled "**Global Health Education in Medical Schools**" (**GHEMS**). The audit is a national multi-centre project, and advocacy for global health initiatives underpins the agenda.

In our increasingly interdependent world, global health is emerging as a priority concerning all healthcare professionals (HCPs). Equally, it is key that HCPs are taught how to deliver effective care to multicultural communities with diverse needs. Therefore, medical schools have a duty to educate their students on global health. This can be achieved through compulsory timetabled teaching, optional student selected modules or pre-elective training.

Between 2009 and 2012, the Global Health Learning Outcomes Working Group developed a list of global health learning outcomes for compulsory teaching at all UK medical schools. These standards arose through iterative discussions with key stakeholders, namely: universities, the public, Royal Colleges, and other professional, educational and civil society bodies. However, there is a paucity of evidence demonstrating that medical schools have integrated these learning outcomes within their curricula. This is compounded by limited transparency on methods of teaching delivery, content and quantitative representation of global health education.

The GHEMS study aims to delineate the breadth of global health teaching during undergraduate and graduate medical training across UK med schools. Student representatives from medical schools across the UK will collect data on key features of their global health curriculum. Two students from each medical school will complete the data collection form, thereby allowing for cross-reference by an external party and data validation. An Expert Advisory Committee made up of global health leaders in the UK, will review our methodology and oversee our work. The findings will inform related ventures and strategies to improve global health teaching in UK medical curricula.

We are writing to ask if you would be willing to give your approval for collection of data from our medical school for such national collaborative service evaluation. All responses will be anonymised in publication and no centre-specific comparisons will be performed.

If yes, would you please be able to advise us who we should contact about containing timetables detailing all undergraduate teaching provided within our medical curriculum for the academic year 2018/2019.

Thank you very much for taking the time to consider this email.

Best wishes,

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Appendix S4: Data Collection Form

Generic questions	Answers
Name of teaching session	Name of the teaching event as it appears on the timetable
Course Year	Year of medical training at which the teaching event occurs. If a medical school has a mandatory intercalated year, the years on either side should be consecutively numbered for the purposes of this data collection e.g. year 2, intercalated year, year 3, etc.
Undergraduate/ Graduate Entry Course	Undergraduate: in the undergraduate timetable Graduate Entry: In the graduate entry timetable
Duration of teaching session	In minutes if less than 2 hours If hours if less than a day In days if less than a week In weeks for all other cases
Teaching format	Compulsory teaching: scheduled for all students Student selected component: optional/ depends on student choices Pre-elective training: training for the elective
Style of teaching	PBL, lecture, small group, or self-directed
Description of teaching content	Learning objectives of the teaching content, and the specific material within the teaching content that relates to global health
List of global health learning outcomes outlined in Appendix A	Yes if the teaching event has met the criteria of that outcome. Otherwise leave it blank

Appendix S5: King's College London Research Ethics Office Guidelines

	RESEARCH (Primary data)	RESEARCH (Secondary data)	SERVICE EVALUATION	AUDIT
What will the project determine?	Practice that could or should be done, generally determined by project specific objectives or testing of a hypothesis.	Practice that could or should be done, generally determined by project specific objectives or testing of a hypothesis.	How effective the current practice is.	If the practice is of the standard expected.
What is the purpose?	To derive generalizable new knowledge.	To derive generalizable new knowledge.	The generation of non-generalisable knowledge, concerning a specific service, <i>without</i> reference to a standard.	The generation of non-generalisable knowledge, concerning a specific service/setting, <i>with</i> reference to a standard.
What data will be used?	Primary data collection solely for purposes of research i.e. not routinely collected data.	Secondary data collection from a previously conducted project. No primary data collection.	Usually involves the analysis of information which has been routinely collected as part of the service (teaching activity, clinical service etc) or information on a specific aspect of a service, but may include the administration of interview or questionnaire.	Usually involves the analysis of information which has been routinely collected as part of the practice, but can include the administration of interview or questionnaire.
What methodology will be used?	May involve a broad range of methods including interventions, randomisation, and treatments, samples or investigations outside of routine practice. Will often test a hypothesis.	Retrospective analysis only. No collection of new data.	Descriptive methodologies only. Will not involve intervention or randomisation. Evaluates an already current* service**.	Descriptive methodologies only. Will not involve intervention or randomisation. Audits an already current practice.
Is Ethical Approval Required?	Yes.	Yes if the data is identifiable. No if the data is anonymous.	No (but follow basic ethical principles).	No (but follow basic ethical principles).

Appendix S6: Letter from King's College London Research Ethics Committee



Research Ethics Office
King's College London
Rm 4.16A FWB (Waterloo Bridge Wing)
London SE1 9NH

Ms. Melika Akhbari and Mr. Soham Bandyopadhyay

InciSioN UK Steering Committee

28th March 2019

Dear Melika and Soham,

Study Title: *'Global Health Education in Medical Schools (GHEMS) Study'*

As you have determined that this study is an audit rather than a research project, ethical clearance from King's College London is not required.

It is the responsibility of the Researcher to ensure all other non-ethical approvals are in place prior to commencing this work.

Please do not hesitate to contact the Research Ethics Team at rec@kcl.ac.uk should you have any queries.

Kind regards,

Ms Laura Stackpoole

Senior Research Ethics Officer

Appendix S7: Letter from Oxford Medical Sciences Inter-Divisional Research Ethics Committees

MEDICAL SCIENCES INTERDIVISIONAL RESEARCH ETHICS COMMITTEE

Research Services, University of Oxford, Wellington Square, Oxford, OX1 2JD
Tel: +44(0)1865 616577 Fax: +44(0)1865 280467
ethics@medsci.ox.ac.uk



Mr Soham Bandyopadhyay
St. Hilda's College
University of Oxford
Cowley Place
Oxford
OX4 1DY

12 March 2019

Dear Mr Bandyopadhyay,

Global Health Education in Medical Schools (GHEMS) Study

I am writing to confirm that this application has been reviewed by the Officer of the University of Oxford Medical Sciences Interdivisional Research Ethics Committee (MS IDREC), with reference to formally approved process. It has been determined that the study is not classified as research, therefore does not require ethical review.

Yours Sincerely

A handwritten signature in black ink that reads 'H. Barnby-Porritt'.

Dr. Helen Barnby-Porritt
Research Ethics Manager, Medical Sciences

Appendix S8: Letter of Support from InciSioN External Expert Advisory Group:



March, 2nd 2019

To Whom It May Concern,

It is our honor to write this letter of support for the Global Health Education in Medical Schools (GHEMS) study, a national multi-centre study run by InciSioN UK. InciSioN UK is one of InciSioN's oldest, largest, and most impactful National Working Groups (NWGs), creating an example which other NWGs around the world eagerly follow.

Although recommendations have been made to integrate global health in medical curricula, implementation and impact assessment thereof is scarce. Moreover, the inclusion of a partial global surgical focus is limited, despite the clear global unmet need of surgical care, leaving five billion people without access and over 18 million people to die each year from preventable and treatable surgical conditions.

With this letter, we, InciSioN, formally endorse InciSioN UK's study to assess the depth of global health education in UK medical schools in order to highlight existing gaps and action points to strengthen UK's leading role in the global health sphere.

Sincerely,

Dominique Vervoort, MD
Chair, InciSioN
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InciSioN – International Student Surgical Network is the largest student-run Global Surgery network in the world, with over 5,000 medical and public health students, residents, and young doctors in over 75 countries, and 39 fully established National Working Groups. Accordingly, InciSioN provides a platform to contribute to the development of future generations of global surgeons, anaesthesiologists, and obstetricians around the world.