

The Royal College of
Emergency Medicine

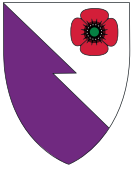
RCEM Global Guide for Global Emergency Medicine (GEM) Fellowships

A practical guide for supervision of a GEM Fellowship program
within a UK Emergency Department



Edited by Shweta Gidwani and Andy Lockyer

Contributions from RCEM GEM Fellowship Working Group and RCEM GEM Committee
February 2021



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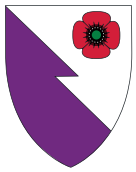
A practical guide for supervision of a Global Emergency Medicine (GEM) Fellowship program within a UK Emergency Department

First edition February 2021

Enquiries to:

Email: globalem@rcem.ac.uk

Twitter: [@RCEMGlobal](https://twitter.com/RCEMGlobal)



RCEM Resource Contributors

Jason Long, Chair, RCEM GEM Committee

Giles Cattermole, Immediate Past Chair, RCEM GEM Committee

Emily Beet, Deputy Chief Executive, RCEM

James Hayton, RCEM GEM Committee Member

Richard Lowsby, RCEM GEM Committee Member

Najeeb Rahman, RCEM GEM Committee Member

Olivia Corn, RCEM GEM Committee Member

Claire Crichton, RCEM GEM Committee Member

Hooi-Ling Harrison, RCEM GEM Committee Member

Derek Prentice, RCEM GEM Committee Member

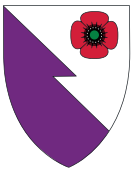
Stevan Bruijns, RCEM GEM Committee Member

Najeeb Rahman, RCEM GEM Committee Member

Victoria De Witt, International Training Coordinator, RCEM

Andrew Fryer, International Manager, RCEM

We would also like to thank Dr Lucy Obolensky, Programme Lead for Global Health MSc, Plymouth University for her contributions.



Abbreviations

ACCS	Acute Care Common Stem
CCT	Certificate of Completion of Training
ED	Emergency Department
EM	Emergency Medicine
GEM	Global Emergency Medicine
GH	Global Health
RECM	Royal College of Emergency Medicine
WHO	World Health Organization

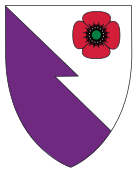
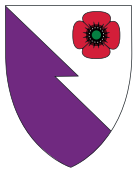


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Aim

Increasing numbers of UK ED are offering fellowships in Global EM (GEM). These positions are being taken by doctors across various grades including junior positions after foundation year 2 (FY2) training, intermediate specialist training (ACCS level), more senior ST4 and post CCT fellowships. So far, there has not been a standardised framework for these posts.

The aim of this GEM fellowship guide is to provide a suggested practical framework for organising a GEM Clinical Fellowship programme within a UK Emergency Department.

Scope

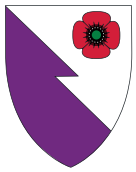
It is aimed predominantly at UK EM consultants looking to develop a GEM Clinical Fellowship program within their UK Emergency Department.

It should be recognised that establishing a GEM fellowship program and establishing your own GEM project as a department are likely to represent two separate elements. This guide is focused on the former.

It is likely that two such elements will blend together, but a successful GEM fellowship does not depend on having an established GEM project in your department, however it should incorporate the elements of the fellowship outlined in this guide.

It is important to consider the principles and practical guidelines set out in this document carefully before embarking on establishing such a post and they will be potentially complex and challenging.

This guide is best used in conjunction with **RCEM GEM Handbook: A Guide for Emergency Physicians Undertaking Global Emergency Medicine Work Abroad Jan 2021**.



What is included in Global Emergency Medicine (GEM)?

Global emergency medicine (GEM) is a broad and growing subspecialty within emergency medicine (EM) that includes, but is not limited to tropical medicine, trauma care in austere environments, disaster response, humanitarian assistance, capacity building, training, public and health systems strengthening.

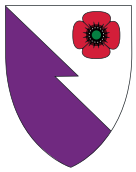
In essence, it expands on the definition of emergency medicine by incorporating the transnational aspects of disease and healthcare, the synthesis of public health and clinical care, and the pursuit of equity across populations.¹

Broadly, GEM activities can be categorised into three major areas:

1. Capacity building and development through training, health systems strengthening, partnerships and advocacy
2. Delivery of care in resource limited acute settings
3. Disaster and humanitarian response

There is also a strong academic component to GEM that threads through these three areas. GEM research involves practically conducting research, advocating for improved access to academic resources and improving academic visibility of research from limited resource settings.

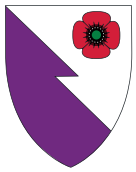
¹ Postgraduate training in global emergency care: international experience and potential models for Australasia - Rob Mitchell, Churchill Memorial Trust Report 2014



Basic principles of establishing a GEM Fellowship

In setting out this framework document we identified some key principles that were felt to be central to establishing any GEM fellowship post. We strongly recommend referring back to these principles when faced with challenges that may arise during set up or delivery of such a fellowship. While each GEM fellowship will evolve over the years, these principles should serve as a guide that both fellows and supervisors can refer.





GEM Fellowship Clinical Lead/Supervisors Role

As with any speciality interest training, GEM fellowships should have a supervisor at consultant level to establish, support and deliver the GEM fellowship. This should be part of the consultant's job plan and should have appropriate education supervision time allocated. Such a consultant position could be viewed as a favourable way to expand and diversify an ED while strengthening that department's commitment to Global Health (GH).²

Before setting up GEM fellowships, it is crucial that an appropriate GEM supervisor is identified. The GEM supervisor should ideally meet the following criteria:

1. Be at consultant level
2. Have credible GEM experience
3. Adhere to the spirit of the mission statement set out by the GEM RCEM committee³
4. Be guided by the basic principles set out in this document
5. have a GEM fellowship programme outline in place that is available for reference for the GEM fellows

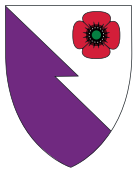
This guide will further discuss recommendations and suggest practical ways in which support to Global EM fellows can be provided, however, the GEM clinical lead must consider this is a commitment they will need to undertake solely, or form a network or engage in formal partnerships to provide collective support to fellows.

It is therefore recommended that the Global EM lead and fellows join the local RCEM Global EM network (to find out more email GEMNetworks@rcem.ac.uk), engage with the RCEM GEM committee (email globalem@rcem.ac.uk) or establish formal local or regional GEM partnerships.

For UK departments keen to establish new GEM fellowships, where a GEM experienced consultant is not available or where a supervisor may need to take a leave of absence, support from local networks and partnerships is encouraged. It is essential that GEM fellows have the support of an experienced GEM supervisor to maintain credibility of the post. The RCEM GEM committee can be contacted to seek such support and help foster local GEM fellowship supervision networks.

² Case study 1 in Appendix 1 : Consultant in EM with an interest in GH – NHS Shetland: part-time to include 7 weeks paid GH practice

³ https://www.rcem.ac.uk/RCEM/Professionals/International/Global_Emergency_Medicine_Committee/RCEM/ForProfessionals/International/Global_Emergency_Medicine.aspx



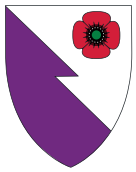
Pre-recruitment stage of GEM fellows

During the time of advertisement and recruitment it should be made clear to prospective applicants the percentage of time allocation between routine ED work and Global EM activities (it is recommended that at least 20% time is allocated for GEM activities).

Discussions around how the time is allocated through the year should be explicit, including time for overseas deployments. Annual leave and study leave allocations usually would also be split between the GEM and routine ED components pro-rata, although this is negotiable to allow for extended time during deployment, should the trainee want to use additional leave allowance to extend their time overseas.

The nature of the Global EM element or scope of work should be clarified at the time of recruitment or interview, particularly if no prior fellowship project exists. If an established Global EM program already exists it should be clear if engagement with this is essential or if the post simply allows time for a clinical fellow's own Global EM activity. Governance of any overseas GH activity should be clarified during recruitment. There should be an indication at some stage of the recruitment process if any funding is available to support Global EM activity or deployment, or whether any such activity would be self-funded (See "*funding*" section). Consideration must be given to the seniority of clinician applying and the demands of any Global EM deployment, including their own experience working overseas if relevant.

Finally, on appointment, it is recommended that a 12 month calendar should be planned prior to or at the start of the post, so there is clarity over when a clinical fellow will deploy overseas, so as to ensure sufficient time and planning for any necessary pre-deployment training and organising other logistics.



Framework for Global EM Fellowship

The RCEM GEM committee recommends that all UK GEM fellowship should include three principle components

1. Local training
2. Professional development
3. Project/field Work

1. Local training

There should be a local structured education and training programme for GEM fellows. The Consortium of Universities for Global Health Domains (CUGH) was formed in 2008 to define the field and discipline of global health, standardize required curricula and competencies for global health, define criteria and conditions for student and faculty exchanges, and promote coordination of projects and initiatives among and between resource-rich universities and less developed nations and their institutions.⁴

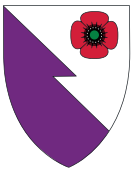
As an example, the local educational framework could attempt to cover some of the 11 key Global Health domains as outlined by the CUGH (Table 1).⁵

Table 1: 11 Domains of Global Health

Domain 1	Global burden of disease Encompasses basic understandings of major causes of morbidity and mortality and their variations between high-, middle- and low-income regions, and with major public health efforts to reduce health disparities globally
Domain 2	Globalization of health and health care Focuses on understanding how globalization affects health, health systems, and the delivery of health care
Domain 3	Social and environmental determinants of health Focuses on an understanding that social, economic, and environmental factors are important determinants of health, and that health is more than the absence of disease

⁴ Consortium of Universities for Global Health. Available at: www.cugh.org

⁵ Jogerst K, Callender B, Adams V, et al. Identifying interprofessional global health competencies for 21st-century health professionals. *Ann Glob Health*. 2015;81(2):239–247. doi: 10.1016/j.aogh.2015.03.006



Domain 4	Capacity strengthening Capacity strengthening is sharing knowledge, skills, and resources for enhancing global public health programs, infrastructure, and workforce to address current and future global public health needs
Domain 5	Collaboration, partnering, and communication Collaborating and partnering is the ability to select, recruit, and work with a diverse range of global health stakeholders to advance research, policy, and practice goals, and to foster open dialogue and effective communication” with partners and within a team.
Domain 6	Ethics Encompasses the application of basic principles of ethics to global health issues and settings
Domain 7	Professional practice Refers to activities related to the specific profession or discipline of the global health practitioner such as the GMC guide to Good Clinical Practice
Domain 8	Health equity and social justice Health Equity and Social Justice. “Health equity and social justice is the framework for analyzing strategies to address health disparities across socially, demographically, or geographically defined populations.
Domain 9	Program management Program management is ability to design, implement, and evaluate global health programs to maximize contributions to effective policy, enhanced practice, and improved and sustainable health outcomes
Domain 10	Sociocultural and political awareness Sociocultural and political awareness is the conceptual basis with which to work effectively within diverse cultural settings and across local, regional, national, and international political landscapes
Domain 11	Strategic analysis Strategic analysis is the ability to use systems thinking to analyze a diverse range of complex and interrelated factors shaping health trends to formulate programs at the local, national, and international levels

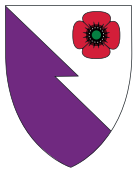


The domains are further broken down into competencies which can be categorised as knowledge, attitude or skill. Knowledge based competencies lend themselves well to formulating the basis for the local GEM training. As an example, here is a list of the competencies that can be gained for domain 2.

Domain 2	Globalization of health and health care competencies
	2a. Describe different national models or health systems for provision of health care and their respective effects on health and health care expenditure.
	2b. Describe how global trends in health care practice, commerce and culture, multinational agreements, and multinational organizations contribute to the quality and availability of health and health care locally and internationally.
	2c. Describe how travel and trade contribute to the spread of communicable and chronic diseases.
	2d. Describe general trends and influences in the global availability and movement of health care workers

These knowledge based competencies can be delivered in a variety of ways, including but not limited to, journal club discussions, didactic lectures, simulation, self-directed reading and attending national and international conferences. Working together with other GEM fellowships nationally can help share learning opportunities. As a case study, model employed at Chelsea and Westminster GEM Fellowship ⁶ is a blended learning approach of self-directed learning, reflective essays and joint online academic meetings with their GH partner institute Ronald Reagan Institute of International Emergency Medicine (RREIM) at George Washington University, Washington DC, USA and institutes in several centres in India.

⁶ Case study 2 in Appendix 1



2. Professional development

Additionally, GEM fellows should be encouraged to undertake a formal GEM related academic course or certification to further their professional development or to maintain their continued professional development if a base degree has already been completed.

The model employed at Bristol Royal Infirmary GEM fellowship ⁷ is that all GEM fellows receive partial funding and are encouraged to complete the Global Health MSc module at Plymouth University while the model at Chelsea and Westminster Hospital is that all GEM fellows are offered a bursary of up to £3,000 to use towards an academic qualification of the candidates choosing such as the Diploma in Tropical Medicine, Global Health or Humanitarian and Conflict Medicine.

There are also free-access educational modules available through WHO and UN that fellows can be directed to complete, and regional Global EM network meetings can provide additional experience to clinical fellows (See Appendix 2).

3. Project/Field Work

GEM fellows are encouraged to participate in global health and emergency care projects - these are likely to include an overseas deployment in a variety of clinical settings but may also include domestic projects. If a department does not have an active project or partnership, they may collaborate with another UK ED to create opportunities for GEM fellows to engage in an overseas project. Additionally, GEM fellows may themselves reach out to voluntary organisations such as Medecins Sans Frontieres (MSF) ⁸, Doctors WorldWide ⁹ etc that have long established missions. Irrespective of the nature and arrangements of the overseas deployment, some key considerations and practicalities must be evaluated by the GEM supervisor and trainee collaboratively (see *section on "overseas deployment considerations"*). As mentioned previously, domestic projects that tackle certain aspects of global health like health inequities, marginalised population health, social and environmental determinants of health and those with a strong research focus involving grant writing etc carry equal weight when considering the focus of the GEM fellows field or project work.

The project or field work would help the fellow gain key competencies that fall into several of the 11 domain of global health. As an example Table 2 lists the competencies that can be gained through the project or field work component of the GEM fellowship.

⁷ Case study 3 in Appendix 1

⁸ <https://msf.org.uk/>

⁹ <https://www.doctorsworldwide.org/>

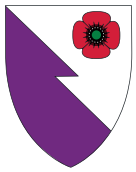
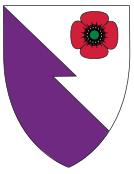


Table 2: Competencies that can be attained through project/field work

Domain 4	Capacity strengthening competencies 4a. Collaborate with a host or partner organization to assess the organization's operational capacity. ¹⁰ 4b. Cocreate strategies with the community to strengthen community capabilities, and contribute to reduction in health disparities and improvement of community health 4c. Integrate community assets and resources to improve the health of individuals and populations. ¹¹ 4d. Identify methods for assuring program sustainability.
Domain 5	Collaboration, partnering, and communication 5a. Include representatives of diverse constituencies in community partnerships and foster interactive learning with these partners. 5b. Demonstrate diplomacy and build trust with community partners. 5c. Communicate joint lessons learned to community partners and global constituencies. 5d. Exhibit interprofessional values and communication skills that demonstrate respect for, and awareness of, the unique cultures, values, roles/responsibilities and expertise represented by other professionals and groups that work in global health. 5e. Acknowledge one's limitations in skills, knowledge, and abilities 5f. Apply leadership practices that support collaborative practice and team effectiveness

¹⁰ J.G. Calhoun, H.C. Spencer, P. Buekens Competencies for global health graduate education *Infect Dis Clin North Am*, 25 (2011), pp. 575-592

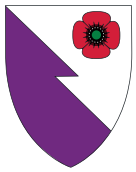
¹¹ Wilson L, Pena LM, Tami-Maury I, et al. Identifying global health competencies for undergraduate nursing students in the Americas and in Africa. X Conference of the Network of WHO Nursing and Midwifery Collaborating Centers; July, 2014; Coimbra, Portugal.



Assessment of competencies gained

It is recommended that GEM fellows should be regularly assessed and appraised on the competencies they gain during their fellowship. Work based assessments can be supplemented with other assessments such as reflections, 360 evaluations from field experience, teaching feedback, academic output such as posters, conference presentations and publications.

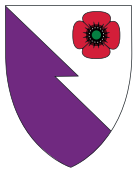
Several of the competencies gained will map to the RCEM EM curriculum 2021 specifically SLO 9 and SLO 10.



Overseas deployment key considerations

GEM Fellows will likely need to recognise that any deployment outside of their normal clinical environment may involve a degree of personal risk. The responsibility of the GEM clinical lead/GEM supervisor for any GEM fellowship would be to make all possible efforts to ensure their safety and security in the following ways:

- Risk Assessments
These should be made for each element of the deployment, including travel, accommodation and clinical work. If deploying overseas, the clinical lead should ideally have personal experience of the location, or the reliable reports of others, to inform accurate risk assessments on behalf of clinical fellows.
- Emergency Standard Operating Procedures
The clinical fellows should have access to SOPs for key scenarios to ensure they know immediate steps to take in an emergency (eg rapidly changing security situation on deployment, issues with host clinical teams, loss/theft of essential belongings, local public health emergency, rapid evacuation). Clear SOPs allow a clinical fellow to make contact appropriately and seek support. If commencing overseas deployments for the first time within an organisation, partnerships with existing organisations can provide access to governance and support.
- Top Cover supervision
Clinical fellows deploying overseas should have access to “top cover” support and advice in the UK.
- Registration
If only engaging in observation and quality improvement, a clinical fellow may avoid the, often complex, process of seeking registration as a health professional practicing overseas
- Visa category
It needs to be considered what type of visa will be sufficient for clinical fellows and the activity they will undertake
- Local supervision
It needs to be clarified in advance, who the clinical fellow ultimately reports to while on overseas deployment, and establish channels of communication from both sides to the fellowship lead

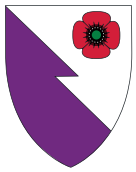


- Insurance
It should be clear if any organisational insurance cover is provided and adequate reminders given to clinical fellows on deployment to ensure they have adequate travel insurance cover.
- Immunisations/Travel Health
Clinical fellows should be provided with, or at least directed to, reliable advice around travel health for any deployment overseas.
- Code of conduct
An agreed code of conduct for fellows, recognising they are acting as ambassadors for the hospital, and can demonstrate an awareness of cultural norms and processes, maintaining professional behaviour throughout a deployment.

Funding

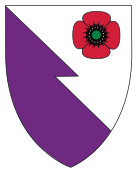
GEM fellows should get payment of their salary during GEM activity as part of a fellowship post. Many posts come with additional funding to supplement professional development in the form of courses or certifications. GEM fellows may also be able to avail of other sources of funding such as study budgets from the post-graduate departments for courses that can contribute to training and overseas deployment.

If an overseas deployment is considered part of a GEM fellowship, it needs to be clear from the point of recruitment how the costs of flights, visas, accommodation, insurance and travel are met, and whether it is the responsibility of the clinical fellow to cover such costs.



Further reading

1. Postgraduate training in global emergency care: international experience and potential models for Australasia - Rob Mitchell, Churchill Memorial Trust Report 2014
2. RCEM GEM committee mission statement https://www.rcem.ac.uk/RCEM/Professionals/International/Global_Emergency_Medicine_Committee/RCEM/ForProfessionals/International/Global_Emergency_Medicine.aspx?hkey=f80a5ebd-1f70-4cbd-93a7-a6f6aa135a0e
3. Consortium of Universities for Global Health. Available at: www.cugh.org
4. Jogerst K, Callender B, Adams V, et al. Identifying interprofessional global health competencies for 21st-century health professionals. *Ann Glob Health*. 2015;81(2):239–247. doi: 10.1016/j.aogh.2015.03.006
5. Mediciens Sans Frontieres <https://msf.org.uk/>
6. Doctors World Wide <https://www.doctorsworldwide.org/>
7. J.G. Calhoun, H.C. Spencer, P. Buekens Competencies for global health graduate education *Infect Dis Clin North Am*, 25 (2011), pp. 575-592
8. Wilson L, Pena LM, Tami-Maury I, et al. Identifying global health competencies for undergraduate nursing students in the Americas and in Africa. X Conference of the Network of WHO Nursing and Midwifery Collaborating Centers; July, 2014; Coimbra, Portugal
9. Towards developing a consensus assessment framework for global emergency medicine fellowships. Jahn HK, Kwan J, O'Reilly G, Geduld H, Douglass K, Tenner A, Wallis L, Tupesis J, Mowafi HO. *BMC Emerg Med*. 2019 Nov 11;19(1):68. doi: 10.1186/s12873-019-0286-6.PMID: 31711428
10. Development of a Global Health Milestones Tool for Learners in Emergency Medicine: A Pilot Project Katherine A. Douglass MD, MPH Gabrielle A. Jacquet MD, MPH Alison S. Hayward MD, MPH Bradley A. Dreifuss MD Janis P. Tupesis MD First published: 26 May 2017 <https://doi.org/10.1002/aet2.10046>



Appendix 1: Case studies

Case Study 1: Consultant in Emergency Medicine with an interest in GH – NHS Shetland

At Shetland NHS Trust a unique rotational part time Consultant post has been created to support and promote the development of GEM/GH. The post is a 30 weeks per annum contract which includes 6 weeks of annual leave/study leave/professional leave and 7 weeks paid GEM/GH practice. The remainder of the 17 weeks is practicing EM on Shetland. The post has a fixed rotational working pattern allowing for up to 8 weeks of paid GEM/GH practice. Of the two current post holders, one supports a remote mission hospital in Sierra Leone and the other has an interest in Aboriginal health. At least one further post is currently available.

This post was created to attract and retain substantive senior level doctors recognising recruitment challenges in this remote group of islands.

Contact details: Lead Dr James Hayton, EM Consultant and GEM Lead

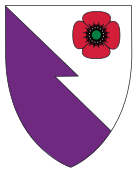
Case Study 2: Bristol Royal Infirmary GEM Fellowship Nanyuki Hospital Kenya

In looking to establish a Global EM fellowship program, a health partnership was established with Nanyuki Hospital in Kenya, where there had been previous projects carried out by other SW England trusts, and links with the University of Plymouth. After a visit to Kenya, a memorandum of understanding was signed between the two parties, allowing the structure of a Global EM fellowship to be designed around ongoing deployments to support the development of EM in Nanyuki.

Funding was secured to recruit to 80/20 split ED/GEM posts within the UK trust. An additional application was made to support funding the Global EM module at Plymouth University for clinical fellows. SOPs were developed, and on a visit by the clinical lead of the fellowship program to Nanyuki, risk assessments were undertaken.

Clinical fellows meet before and after deployment to handover ongoing project work, and are encouraged to present their experiences and findings to the academic community. A charitable fund was established to fund small groups of UK nursing staff to provide training visits to Nanyuki alongside the clinical fellows, and to offer clinical fellows a small fellowship grant towards their travel and accommodation costs on deployment. A comprehensive clinical fellowship guide and half day induction ensure clinical fellows are aware of all of the practical requirements for their preparation for deployment, and to ensure they deploy successfully to Nanyuki.

Contact details: Lead Dr Andy Lockyer, EM Consultant and GEM Lead



Case Study 3: Chelsea & Westminster GEM Fellowship - GWU/India capacity building project

With a population of 1.3 billion and given the significant burden of death and disability from injuries, road traffic accidents and cardiovascular disease in India, the need to accelerate emergency care training, delivery and provision has never been greater. The George Washington University (GWU) has a long established longitudinal capacity building project across 16 centres in India. Through the co-appointment of one of the consultants as faculty with GWU, a GEM fellowship was established at the Chelsea & Westminster Hospital.

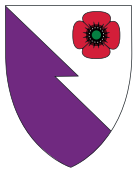
Fellows are appointed only at ST3+ level and the post attracts a 70:30 split ED/GEM. GEM fellows actively participate in education, training, system strengthening projects and research across a variety of different urban, semi-urban and semi-rural clinical settings in India through in-country visits and continued remote mentoring while also participating in joint journal clubs and other academic activities. Fellows are fully funded for travel, accommodation and insurance to travel to India on 2 separate occasions for 2 weeks during the year. Prior to deployment fellows are given an orientation and provided with support and education to gain cultural competencies and are given resources for self-directed GH learning. Fellows are also given a £3,000 bursary to complete an academic certification in global health. Fellows are expected to produce a report of their work during deployments in the form of a reflective essay or a conference poster.

Contact details: Lead Dr Shweta Gidwani EM Consultant and GEM Lead

Case Study 4: North Manchester General GEM Fellowship with focus in Infectious Diseases

At North Manchester Hospital, the ED have created a bespoke opportunity for GEM fellows keen to develop their academic, clinical and practical training in GEM with a focus on infectious diseases. They have put together a 12 month rotation comprising of 3 components - i) 6 months in Emergency Medicine ii) 3 months supernumerary, in the onsite tertiary Infectious Disease (ID) department, iii) 3 months of funded research/project/education non-clinical time focused on GEM. During the ED element of the post offers half a day per week for portfolio, project and QI work. During the ID placement, the post is supernumerary, thus allowing flexibility within the regional tertiary service, attending clinics, MDTs, ward rounds, and collaborating on project work around global health. The post also includes a £3,500 education budget, provided to contribute to which can be used toward post-graduate education such as a Diploma in Tropical Medicine or other associated educational costs at the discretion of supervisor.

Contact details: Lead Dr Katherine Potier, ED Clinical Lead



Appendix 2: Sample suggested GEM Fellowship reading resources ¹²

Domain 1: Global Burden of Disease

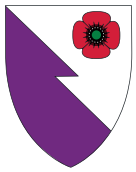
Level 1

- World Health Organization. Global Burden of Disease Data. Available at: http://www.who.int/topics/global_burden_of_disease/en/
- The Lancet. Global Burden of Disease Series. Available at: <http://www.thelancet.com/global-burden-of-disease>
- NEJM: Measuring the Global Burden of Disease. Available at: http://www.ph.ucla.edu/epi/faculty/detels/PH150/GlobBurdDis_NEJM_2013.pdf
- Gapminder—creates visual displays of facts about global health and development. Available at: <https://www.gapminder.org/>

Level 2

- United Nations. Sustainable Development Goals Site. Available at: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- The Global Fund. Available at: <http://www.theglobalfund.org/en/>
- Bill and Melinda Gates Foundation. Available at: <http://www.gatesfoundation.org/>
- United States Agency for International Development. Available at: <https://www.usaid.gov/>
- World Health Organization: Available at: <http://www.who.int/en/>
- United Nations Millennium Development Goals Report 2015. Available at: [http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf)

¹² Ref: Development of a Global Health Milestones Tool for Learners in Emergency Medicine: A Pilot Project
Katherine A. Douglass MD, MPH Gabrielle A. Jacquet MD, MPH Alison S. Hayward MD, MPH Bradley A.
Dreifuss MD Janis P. Tupesis MD First published: 26 May 2017 <https://doi.org/10.1002/aet2.10046>



- Jamison DT, Summers LH, Alleyne G, et al. Global Health 2035: a world converging within a generation. *Lancet* 2013; 382:1898–955. Available at: [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(13\)62105-4.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(13)62105-4.pdf)
- Fauci AS. Ebola--underscoring the global disparities in health care resources. *N Engl J Med* 2014;371:1084–6. Available at: <http://www.nejm.org/doi/full/10.1056/NEJMp1409494#t=article>

Level 3

- WHO, Global Health Observatory Data. Available at: <http://www.who.int/gho/database/en/>
- Institute for Health Metrics & Evaluation. Available at: <http://www.healthdata.org/>

Level 4

- Green L, Ottoson J. *Community and Population Health*, 8th ed. WCB/McGraw Hill, 1999
- Smith L. *Decolonizing Methodologies: Research and Indigenous Peoples*. Zed Books, 1999.

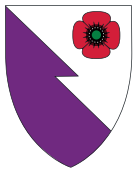
Level 5

- Green L, Ottoson J. *Community and Population Health*, 8th ed. WCB/McGraw Hill, 1999.
- Smith L. *Decolonizing Methodologies: Research and Indigenous Peoples*. Zed Books, 1999.

Domain 2: Globalization of Health and Health Care

Level 1

- World Health Report 2000 - *Health Systems: Improving Performance*. Available at: <http://www.who.int/whr/2000/en/>
- Skolnik R. *Essentials of Global Health*. Jones & Bartlett Learning, 2008
- Backman G, Hunt P, Khosla R, et al. Health systems and the right to health: an assessment of 194 countries. *Lancet* 2008; 372:2047–85



- Fuchs V. Comparative health systems. Stanford University Henry J. Kaiser Jr. Professor of Health and Research Policy Emeritus. 2009. Available at: <https://www.youtube.com/watch?v=uLPSk6f7pQw>

Level 2

- World Health Report 2010 - Health Systems Financing: The Path to Universal Coverage. Available at: <http://www.who.int/whr/2000/en/>
- Squires DA. The U.S. Health System in Perspective: A Comparison of Twelve Industrialized Nations. 2011. Available at: <http://www.commonwealthfund.org/publications/issue-briefs/2011/jul/us-health-system-in-perspective>
- Harvey, K, Esposito, DH, Han, P, et al. Surveillance for travel-related disease-GeoSentinel surveillance system, United States, 1997–2011. *MMWR Surveill Summ* 2013;62:1–23.
- McCloskey B, Dar O, Zumla A, Heymann DL. Emerging infectious diseases and pandemic potential: status quo and reducing risk of global spread. *Lancet* 2014;14:1001–10.

Level 3

- Field experience
- Health Workforce Brain Drain: From Denouncing the Problem to Solving the Challenge. Available at: <http://journals.plos.org/plosmedicine/article/asset?id=10.1371/journal.pmed.1001514.PDF>
- Global Health Workforce Network. Available at: <http://www.who.int/hrh/network/en/>

Level 4

- WHO. Global Strategy on Human Resources for Health: Workforce 2030. [Draft 1.0 submitted to the Executive Board (138 Session).] 2015. Available at: http://who.int/hrh/resources/global_strategyHRH.pdf?ua=1
- Ogedegbe G, Gyamfi J, Plange-Rhule J, et al. Task-shifting interventions for cardiovascular risk reduction in low and middle-income countries: a systematic review of randomized controlled trials. *BMJ Open* 2014;4:e005983

Level 5

- Professional and field leadership experience