



Levelling up: prioritisation of global health

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Abstract

Trauma has been described as “The forgotten pandemic” (Rossiter in *Int Orthop* 46:3–11, 2022 <https://doi.org/10.1007/s00264-021055213-z>) or “The hidden pandemic” (Graham SM, Laubscher M, Lalloo DG, Harrison WJ, Maqungo S in *The Surg*, 20, 231–236. <https://doi.org/10.1016/j.surg.2021.04.005>, 2022). If you add all deaths and disability from all contagious disease including: HIV, TB, malaria and COVID-19 these do not come close to the numbers affected annually from trauma/injury (Rossiter in *Int Orthop* 46:3–11, 2022; Annual deaths from the WHO Global Health Observatory (25); in: *Preventing Injuries and Violence: A Guide for Ministries of Health*, WHO, Geneva, 26). Prior to the present pandemic contagious disease received approximately 35% of global healthcare spending, whilst trauma received just 1% (Wesson et al. in *Health Policy Plan* 29:795–808, 2014). The global healthcare spending on contagious disease in the last two years has doubled and that of trauma has proportionately decreased, highlighting the significant issue of prioritisation of healthcare globally. Trauma is the greatest cause of mortality and morbidity in the 5 to 30 age group (Wesson et al. in *Health Policy Plan* 29:795–808, 2014). Most of the world lives in a country where the majority of the population are under the age of 35, the working population, who are disproportionately affected by trauma. Investment into trauma/injury could dramatically improve the GDP of that country and the situation of the population (<https://www.thinkglobalhealth.org/article/golden-hour-critical-time-between-life-and-death>). It is also estimated that 5 billion people globally lack “Available Accessible Acceptable & Quality” (the AAAQ framework) Surgical Obstetric Trauma & Anaesthetic (SOTA) (Meara JG et al. in *Lancet*, 386(9993):569–624. [https://doi.org/10.1016/S0140-6736\(15\)60160-X](https://doi.org/10.1016/S0140-6736(15)60160-X), 2015). Access to this care is an agreed human right (Price R, Makasa E, Hollands M in *World J Surg*, 39(9):2115–25. <https://doi.org/10.1007/s00268-015-3153-y>. PMID: 26239773, 2015). It forms part of the 17 Millennium Sustainable Development Goals from the United Nations to be achieved within 20 years (<https://sdgs.un.org/goals#goals>). By 2014, it was recognised that AAAQ SOTA care was not going to be achieved within the next 5 years and so the G4 Alliance was born with the aim of achieving this by 2030 (<https://www.theg4alliance.org>).

Keywords Trauma · Healthcare spending · Prioritisation · Equity

Introduction: global causes of mortality (and morbidity)

Globally trauma does not come in the top 10 causes of death. These are, in order: ischaemic heart disease, stroke, chronic obstructive pulmonary disease, lower respiratory infections, neonatal conditions, cancers affecting the thorax,

dementias, diarrhoeal disease, diabetes, and, kidney diseases [1]. If leading causes of death are broken down by the income of the country: road injury comes seventh in low income countries and 10th in the lower and upper middle income countries [1]. If however all causes of injury are added together the numbers dramatically increase. The numbers dying from injury have changed relatively little in the last 20 years whereas deaths from communicable, maternal, neonatal and nutritional disease have reduced, those from non-communicable disease have proportionately increased [1]. It should be remembered that these are the deaths—it is estimated that between 150 and 200 million people a year are injured (the population of Russia), 40 million of whom are injured permanently [2].

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However, road accidents account for the greatest cause of death of those between 5 and 49 years old and if you are to add in all injury this greatly exceeds all other causes [3]. I have a very rough rule of 80—approximately: 80% of the world lives in low, or low middle, income countries; 80% of trauma/Injuries occurs in these countries; 80% of their population are under the age of 40—their working population who are therefore disproportionately affected by injury; 80% of those injuries happen on the road; 80% of those injuries happen on two wheels. In this way it is possible to see how trauma/injury disproportionately affects low income countries, their working population, and, therefore their GDP. Death rates from road accidents in all countries have reduced in the last 20 years, though it is interesting that high income death rates began to plateau in 2013 and have not changed dramatically since. Death rates in low income countries however remain 2.5 times greater than high income countries. Much of Africa and the Middle East are disproportionately affected [1]. This has recently been highlighted by Graham et al. [4] who re-define what I described as: “The forgotten pandemic” [2] as: “The hidden pandemic: injury”. They describe 3 pandemics – the current pandemic: COVID-19; the forgotten pandemic: HIV; the hidden pandemic: injury.

Global healthcare funding

As stated above Global healthcare funding for trauma/injury prior to the COVID pandemic was just 1% [2, 5] and now is probably less than one tenth of that. It is certainly right and proper that significant healthcare funding should go in tackling a global pandemic. However we can certainly learn from those groups who have been so successful in raising awareness, funds and improving outcomes for various other healthcare issues. These would include HIV/AIDS, some of the other contagious diseases, and, the recent highly successful campaign for folate fortification in foods to dramatically reduce the global incidence of neural tube defects [6]. All countries that make up the G-7 made an undertaking that they would allocate 0.7% of their GDP annually to International development (including healthcare projects). In the UK this used to go through the Department For International Development, DFID. When the present UK government came to power DFID was disbanded and absorbed into the Foreign and Commonwealth Office, FCO. When the furlough scheme was introduced shortly after the lockdown in the UK due to the COVID pandemic, the UK government took the unprecedented step to reduce their foreign aid budget from 0.7% to 0.5% of GDP, which no other G-7 country has done. Whilst this may be understandable and the UK is certainly facing its highest debt, inflation and financial crisis in 40 years, this has wiped off hundreds of millions of pounds from the overseas aid budget—which is unlikely

to be restored in the near future given the current financial situation. This situation faces many countries and yet other G-7 countries have actually pledged an increase in foreign aid—particularly the USA. USAID is the US equivalent of DFID and is now headed by Dr Atul Gawande—who is probably well known to most of the medical/surgical community in the USA, UK & other high income countries for his four superb books around medical, surgical and health-care practice [7]. A working group of the G4 alliance headed by Michael and Lismore Nebecker have been particularly successful in raising the awareness of SOTA care with the Senate Appropriations Committee and USAID [8]. We should learn from them and use that expertise to attempt to influence other G-7, and indeed G-20, countries. The present pandemic has caused a reduction in global GDP and it is estimated that prior to 2 years ago that trauma contributed to a 3% global loss of GDP. However, this is when viewed globally and does not recognise the difference between high and low income economies. In many countries of the world trauma may contribute up to a 30% loss of GDP [2, 3].

G4 alliance

In 1999 the UN and WHO set 17 Sustainable Development Goals for the millennium, to ideally be achieved within 20 years [9]. Goal number 3 is largely around healthcare. By 2014, it became obvious that global access to AAAQ SOTA care was not going to be achieved by 2020. Out of this was born the G4 Alliance – an organisation made up presently of 74 global member organisations whose purpose is to advocate for AAAQ SOTA care ideally by 2030 [10]. Within the G4 Alliance 74 members there are just 2 that advocate specifically for trauma. The Primary Trauma Care Foundation, a UK-based voluntary charity (that I presently chair) runs trauma training courses around the globe teaching the ABCDE principles of initial assessment, care and communication in the pre-hospital and emergency department settings – essentially ATLS for low resource settings making best use of whatever appropriate resources are available locally [11]. This organisation has been running since 1996, has just run training in its 84th country, and has trained somewhere between 100,000 and 1 million personnel [12]. The other trauma specific organisation in the G4 Alliance is the AO Alliance—a branch of the AO Foundation based in Davos, Switzerland [13]. As many of us are aware AOTrauma is the global organisation under which many of us have received education on the management of orthopaedic trauma. However, it is only high income countries that can enjoy the access to all the orthopaedic implants that we have become used to in managing orthopaedic trauma. The AO Alliance is teaching the principles of orthopaedic trauma management in low resource settings, in secondary

care. They are presently active in five sub-Saharan countries with initiatives planned for further countries globally. The Program for Global Surgery and Social Change at Harvard, Boston, USA, has researched and written extensively on global health issues—leading the 2015 Lancet Commission and specifically on the access to trauma care [14, 15]. They have illustrated beautifully that it is sub-Saharan Africa that probably has the lowest access to trauma care globally and the very great rural/urban divide [16]. Within this paper they highlight the “Bellagio” WHO recommendations for improvement, including:

1. Improvement to surgical care access at district Hospital level
2. Improve systems for trauma care delivery
3. Expand supply and quality of health workers with surgical capabilities
4. Build evidence to inform interventions to improve access to surgery in sub-Saharan Africa.

It would be lovely if other trauma organisations, like the: OTS, OTA, SICOT, EFFORT, BTS, WOC and others (not just orthopaedic trauma based, but also national societies/associations) were to become involved. Obviously there are other means to advocate globally but there are strong arguments for collaboration as this is the only way for effective change.

Universal periodic review

Access to universal healthcare is a human right under WHA resolution 68.15 [17]. The United Nations Human Rights Council (UNHRC) set up Universal Periodic Review, UPR, in 2006 [18]. It is a process by which all member states of the United Nations have their human rights records reviewed by the UNHRC approximately once every four years. Member states are invited to make submissions to show how they have improved their human rights records and hopefully have implemented any recommendations from their previous review. A timetable of review is published and member states must make submissions six months prior to their review date. NGOs (Non Governmental Organisations) and other interested bodies can also make a submission in a written form of no more than 2700 words, ideally eight months before the review date. This submission should go to the member state’s UN mission and the UNHRC. Only a member state’s UN mission can speak at the review process but NGOs who have made a submission are allowed to attend [19]. Any organisation can therefore make a submission to highlight healthcare access issues and as ever it is better to highlight an issue with a possible solution rather than just a problem. At the UPR once the review process has occurred

the Human Rights Council makes recommendations to that member state. In the last 2 to 3 years between 70 and 80% of those recommendations have been fully accepted by the state under review and more than 50% implemented within two years. This may well be then an affective mechanism to effect change. The UPR occurs three times a year with approximately eight countries being reviewed at each sitting. It is an enormous and detailed process. The G4 Alliance is just setting up a working group to help countries and organisations with UPR submissions. These will largely be around SOTA care issues, the T obviously including injury.

One would imagine that the WHO is the body that would prioritise healthcare globally. This is partly true. However, at the recent 75th World Health Assembly (WHA75) meeting in Geneva in June 2022 there was not a single item relating to SOTA care on the WHA agenda, whilst it dominated more than 50% of all the side events and social media around that meeting [20], [27]. There have been some recent changes in structure and personnel at the WHO with plans to re-look at all Trauma training and care from injury to rehabilitation. This will hopefully start a change in prioritisation of global healthcare.

How do you get involved and/or help?

As I often say to patients: this can go from the sublime to the ridiculous. At the very least recognition that there is a problem is a start. Within the NHS there are “Link” / “Global Health Partnership” projects where hospitals/trusts become associated with one, or a number of, organisations and/or set up a formal link with a hospital somewhere else in the world [21]. This was possibly how I started – which may be used as an illustrative case study: having spent 18 years in the British Army attempting when I could to get involved with what the military terms: “Hearts and Minds” work, on leaving and becoming a civilian Consultant in the NHS I led the linking of my hospital with the Hoima Regional Referral Hospital in north west Uganda [22]. We set up a program of visits identifying physical, educational, structural and process needs within that unit and liaising as to how we may be of assistance. Everyone from the Chief Executive to porters, kitchen assistants and any/all healthcare workers are encouraged to be involved. A charity was set up to raise funds for the projects and the visits. As ever raising funds is a challenge and we largely now attempt to fund everyone / everything except doctors – who fund their own travel. At least initially these two week visits were divided into an educational programme in the first week, a short Safari in the middle weekend, and finally a week of physical work helping to build, maintain and/or restore amenities. As we all know the NHS’s backbone are people aged between 30 and 50 who often become

disillusioned and burnt out. Part of the reason to institute this link was to encourage staff to impart and use their vast experience and knowledge to help others, and, expose them to a healthcare environment where on their return they recognise that things within their own environment perhaps are not quite as bad as initially seen, and, hopefully encourage them to stay working within the NHS. I had an amusing experience three years after starting the program where we invited the senior medical officer, matron, and sole hospital administrator to visit the UK. We held a presentation evening, which was well attended with a considerable number of administrative staff. One of the highlights was the presentation of the administration of this healthcare system for a regional referral hospital of ~300 beds, a catchment population of almost 5 million people and just one administrator! Through this link we introduced to Primary Trauma Care (PTC) training from which I subsequently found myself coordinating PTC training for the whole of Uganda and then helping to administer this training to 10 COSECESA (College Of Surgeons of Eastern Central & Southern Africa) countries during the “COOL” (COSECESA Oxford Orthopaedic Link) project [23]. From this I went on to chair the PTC and so become involved with the G4 alliance (UN & WHO). That has been my journey as an illustration but there are obviously multiple different paths and organisations you may take to become involved. The challenge is to find and decide how, where and when you become involved: the simplest thing is to ask, but do ask as we all have something that we can offer and it is only by doing this and collaborating that this global disparity will change for the better, sooner rather than later. One day global healthcare will be part of the undergraduate curriculum for all health care providers so that the issues are highlighted early and more is done particularly by those who are young, fresh, keen, with new ideas and not saddled with the red tape of process. There is a real desire among the undergraduate and younger medical community globally for this levelling up process to occur expediently and equitably involving all in the process and not just being driven by the “global North”. The whole issue of global access to Trauma care has been very nicely summarised in a globally available documentary made by the PGSSC team – “Trauma Healers” [24].

Finally I will add a personal note on the large global vogue and movement to change the past using language that can be misconstrued. Whilst the past certainly had many cons, there were also pros. We need to be mindful to talk about and focus on equity, integrity, inclusivity, mutual respect and involvement. The past should not be forgotten – doing so risks repeating some of the mistakes. However what is past is past and we should focus on moving on and improving the future. Some of the present language however

is not easily understood, can be misconstrued and runs the risk of perpetrating the past and alienating the very people that you may wish to ask to help. We live in an age where language/words used need to be clear, unable to be misconstrued, show inclusivity and fairness.

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Declarations

Conflict of interest The author has affiliations with the Primary Trauma Care Foundation – as chair, AOTrauma—as international faculty, and the G4 Alliance – as a board member. The views expressed here are those solely of the author and do not necessarily reflect those of the named organisations. The author has no competing interests to declare that are relevant to the content of this article.

References

1. <https://data.worldbank.org/indicator/SP.DYN.CDRT.IN?contextual=aggregate&end=2020&locations=ZF&start=1960&view=chart>
2. Rossiter ND (2022) Trauma – the forgotten pandemic? *Int Orthop* 46(1):3–11. <https://doi.org/10.1007/s00264-021-05213-z>
3. <https://www.thinkglobalhealth.org/article/golden-hour-critical-time-between-life-and-death>
4. Graham SM, Laubscher M, Lalloo DG, Harrison WJ, Maungo S (2022): A tale of three pandemics: Shining a light on a hidden problem – *The Surgeon*, 20, 231–236. doi: <https://doi.org/10.1016/j.surg.2021.04.005>
5. Wesson HK, Boikhutso N, Bachani AM, Hofman KJ, Hyder AA (2014) The cost of injury and trauma care in low- and middle income countries: a review of economic evidence - *Health Policy Plan* 29(6):795–808. <https://doi.org/10.1093/heapol/czt064>
6. <https://www.theg4alliance.org/gapsbif>
7. <http://atulgawande.com/books/>
8. Bouchard ME, Sheneman N, Nebeker L, Nebeker M, Hey MT, Hoemeke L, Kolker J, Abdullah F (2021) Resource mobilisation for global surgery: lessons learned from US government Appropriations advocacy. *Am Surg*. <https://doi.org/10.1177/00031348211047493>
9. <https://sdgs.un.org/goals#goals>
10. <https://www.theg4alliance.org>
11. <https://www.primarytraumacare.org>
12. <https://www.primarytraumacare.org/where-we-work/>
13. <https://ao-alliance.org>
14. Meara JG, Leather AJ, Hagander L, Alkire BC, Alonso N, Ameh EA, Bickler SW, Conteh L, Dare AJ, Davies J, Mérésier ED, El-Halabi S, Farmer PE, Gawande A, Gillies R, Greenberg SL, Grimes CE, Gruen RL, Ismail EA, Kamara TB, Lavy C, Lundeg G, Mkandawire NC, Raykar NP, Riesel JN, Rodas E, Rose J, Roy N, Shrimme MG, Sullivan R, Verguet S, Watters D, Weiser TG, Wilson IH, Yamey G, Yip W (2015) Global Surgery 2030: Evidence and solutions for achieving health welfare and economic development. *Lancet*, 386(93):569–624. doi:[https://doi.org/10.1016/S0140-6736\(15\)60160-X](https://doi.org/10.1016/S0140-6736(15)60160-X)
15. <https://www.pgssc.org>
16. Alayande B, Chu KM, Jumbani DT, Kimto OE, Danladi GM, Niyukuri A, Anderson GA, El-Gabri D, Miranda E, Taye M,

- Tertong N, Yempabe T, Ntirenganya F, Byiringiro JC, Sule AZ, Kobusingye OC, Bekele A, Riviello R (2022) Disparities in access to Trauma care in sub-Saharan Africa: a narrative review. *Current Trauma*. <https://doi.org/10.1007/s40719-022-00229-1>
17. Price R, Makasa E, Hollands M (2015): World Health Assembly Resolution WHA6815: "Strengthening Emergency and Essential Surgical Care and Anesthesia as a Component of Universal Health Coverage"—Addressing the Public Health Gaps Arising from Lack of Safe, Affordable and Accessible Surgical and Anesthetic Services. *World J Surg*, 39(9):2115–2125. doi: <https://doi.org/10.1007/s00268-015-3153-y>. PMID: 26239773
 18. <https://www.ohchr.org/en/hr-bodies/upr/basic-facts>
 19. <https://www.cwgl.rutgers.edu/docman/universal-periodic-review-upr/344-upr-toolkit-1/file>
 20. Ehsan AN, Hey MT, Hill SK, Jhunjhunwala R, Park K (2022) A lot of talk but no seat at the table - Think global health on line: https://www.thinkglobalhealth.org/article/lot-talk-no-seat-table?utm_source=thinkglobalhealth&utm_medium=email&utm_campaign=TGH%20Newsletter%202022Jun17&utm_term=TGH
 21. <https://global.hee.nhs.uk>
 22. <https://www.hhhcharity.uk/TheCharity.html>
 23. <https://www.ndorms.ox.ac.uk/research/research-groups/global-surgery/projects/cool-training-in-trauma>
 24. <https://www.traumahealers.org>
 25. Annual deaths from the WHO Global Health Observatory (2018)
 26. WHO (2007) Preventing injuries and violence: a guide for ministries of health. WHO, Geneva
 27. Korn J, Sheneman N, Hoemeke L (2022): 5 billion reasons for ramping up global surgery – Think global health on line: https://www.thinkglobalhealth.org/article/five-billion-reasons-ramping-global-surgery?utm_source=thinkglobalhealth&utm_medium=email&utm_campaign=TGH%20Newsletter%202022Jun17&utm_term=TGH

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