



REFLECTIONS OF THE EUROPEAN ACADEMY OF REHABILITATION MEDICINE ON THE FIRST GLOBAL ESTIMATES OF THE NEED FOR REHABILITATION AND THE IMPLICATIONS FOR PHYSICAL AND REHABILITATION MEDICINE

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THE LAUNCH

On 2 December 2020 the World Health Organization (WHO) announced key findings from the newly released “Global estimates of the need for rehabilitation based on the Global Burden of Disease study 2019” published in *The Lancet* (1), promoting the upcoming WHO Rehabilitation Need Estimator aligned with these global estimate data. Using data from the 2019 Global Burden of Disease, Injuries, and Risk Factors Study (2), the estimates were based on the prevalence and years of life lived with disability (YLDs) of 25 diseases and impairments selected as amenable to rehabilitation. *The Lancet* paper presents the headline number that, globally, 2.41 billion individuals live with conditions who could benefit from rehabilitation. Musculoskeletal disorders contributed the most to this total, with a prevalence of 1.71 billion people. *The Lancet* paper discusses implications for the field of rehabilitation and for country-level rehabilitation priority-setting and decisions on programmes to address rehabilitation needs.

The objective of this paper is to put this milestone study of global estimates of rehabilitation need into an historical perspective, and, in particular, to reflect on its implications for the WHO’s broader agenda, “Rehabilitation 2030: A Call for Action”, and for Physical and Rehabilitation Medicine more generally. This paper also briefly elaborates the opportunities for

the European Academy of Rehabilitation Medicine (EARM) to contribute to the WHO’s Call for Action.

Key words: rehabilitation; global burden of disease; World Health Organization.

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WHO’S “REHABILITATION 2030: A CALL FOR ACTION”: AN HISTORICAL “CAESURA”

WHO’s “Rehabilitation 2030: A Call for Action” was launched in 2017, and represented a clear break in the WHO’s institutional treatment of rehabilitation as a health strategy. Before that, the previous dedicated international programme for rehabilitation was in the early 1950s (3). WHO’s “Rehabilitation 2030: A Call for Action” changed that, and constitutes a true historical *caesura*; a break in tradition in the WHO’s agenda for rehabilitation. *The Lancet* article and the upcoming release of the Health Policy and Systems Research Agenda for Rehabilitation (4) are major milestones following in the path of the Call for Action.

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Before 2017 the WHO pursued rehabilitation primarily with the goal of inclusion of people with disability, as a specialized service exclusively for this population. In 2005, the World Health Assembly passed a resolution on disability, mentioning “prevention, management and rehabilitation” in the context of disability (5). This resolution paved the way for the *World Report on Disability* (6), launched in 2011, in which rehabilitation was relegated to one of several societal areas to which persons with disability should have access. The *Global Disability Action Plan 2014–2021* (7), taking its lead from the United Nations’ *Convention on the Rights of Persons with Disabilities* (8), viewed rehabilitation as an important, but nonetheless specialized, service for people with disability. Even the WHO’s prominent programme on “community-based rehabilitation” has, from its inception in the 1960s, always been viewed as “a community action to ensure that people with disabilities have the same rights and opportunities as all other community members” (9); a form of disability-inclusive community development rather than a community service that provides rehabilitation performed by health professionals (10). In short, as the WHO had a developed agenda on rehabilitation prior to 2017, it focused on rehabilitation as a means by which people with disability can achieve social inclusion and full participation. While this agenda is of the highest societal importance, and a cross-cutting objective for all UN agencies, it is not primarily a health agenda.

The launch of “*Rehabilitation 2030: A Call for Action*” in 2017 dramatically shifted the WHO’s approach to rehabilitation (11, 12), reflecting back to the *Declaration of Alma Ata*, in which rehabilitation had pride of place with the other 3 health strategies: health promotion, prevention of disease, and curative care (13). Launched at the first international WHO meeting to focus exclusively on rehabilitation in over several decades, the WHO’s new rehabilitation agenda was spearheaded by the “Sensory Functions, Disability and Rehabilitation Unit”. The event was followed by a second meeting in 2019, during which the Guide for Action (14) and the initiative to develop a package for rehabilitation interventions were presented (15) as part of the Universal Health Coverage programme.

WHO leadership has been supporting the efforts of the Sensory Functions, Disability and Rehabilitation Unit and was present at the recent launch of the global estimates of the need for rehabilitation.

Guiding the WHO’s current rehabilitation agenda is a more robust conceptualization of rehabilitation as “a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment”, and provided by “different health professionals, including physiotherapists, occupational therapists, speech and language therapists, orthotists and prosthetists and physical medicine and rehabilitation doctors” (16). See Table I. Other professionals, such as nurses, psychologists, social workers and bio-engineers, can also be included in the rehabilitation team.

MAKING “REHABILITATION 2030: A CALL FOR ACTION” A SUCCESS: KEY ISSUES

Although the WHO is fully committed to the “*Rehabilitation 2030: A Call for Action*” at the highest level, and although major steps have been taken and clear progress made, we want to discuss 3 health systems issues that need to be addressed for the call to action to succeed:

- Functioning information, systematically collected, must be integrated into health information systems.
- The investment case for rehabilitation must be made by demonstrating the societal return on investing in rehabilitation.
- Rehabilitation must be mainstreamed as a public health strategy under Universal Health Coverage.

Integrating functioning information in health information systems

During the launch of *Rehabilitation 2030* in 2017, it was emphasized that reliable and comprehensive functioning information must be routinely collected and integrated into health information systems, the foundation of decision-making in health policy, management and clinical care (11, 17). Functioning is the third health indicator after morbidity and mortality (18), and as the aim of rehabilitation is to optimize functioning, it is the very language of rehabilitation itself. It is the concept that bridges health and well-being (19). Functioning

Table I. Key facts on rehabilitation from the World Health Organization (WHO) (16)

The key facts on rehabilitation are:

- Rehabilitation is an integral part of universal health coverage in addition to the promotion of good health, prevention of disease, treatment and palliative care.
- Rehabilitation helps all persons, irrespective of age or life stage, to be as independent as possible in everyday activities and enables participation in education, work, recreation and other major life activities.
- An estimated 2.4 billion people are currently living with a health condition who could benefit from rehabilitation.
- Due to an increasingly ageing population with more chronic disease and disability, the need for rehabilitation worldwide is predicted to increase.
- However, the need for rehabilitation is currently unmet, especially in low- and middle-income countries. And where rehabilitation services do exist, the COVID-19 pandemic has disrupted service delivery in 60–70% of countries.

information, moreover, is not only relevant clinically, it is fundamentally important to facilitate and monitor the management of rehabilitation programmes and, at the macro-level to provide evidence for policy to strengthen rehabilitation within the health system (20).

Societal return on investing in rehabilitation

The challenge for the WHO in realizing the goals of *Rehabilitation 2030* is to displace some of the misconceptions that have limited the role rehabilitation has so far played in health systems. One of those misconceptions, we have already noted, is that rehabilitation is only for a small number of people, or only for people with disabilities. Another, and from the point of view of governments, often the more damaging misconception, is that rehabilitation is expensive and something that only high-resource countries can afford. To firmly discredit this last misconception, it is essential to make the investment case for rehabilitation; the evidence-based argument that, for all countries, the cost-savings and other economic benefits of rehabilitation far outstripped the costs of these services. A first step for developing a framework of the relevant economic parameters for making the economic argument for rehabilitation took place at a WHO international conference at the University of Lucerne in 2019 (21).

Mainstreaming rehabilitation as a public health strategy under Universal Health Coverage

This third health systems issue demands a clear and persuasive case to be made to decision-makers at the international and national levels about the need to position rehabilitation as a public health strategy. This is where the global estimates of rehabilitation found in *The Lancet* article come in. These evidence-based estimates challenge the misconception that rehabilitation is a specialized health strategy for the few, showing instead that rehabilitation is relevant for a large portion of the population, and ultimately for everyone (22). These estimates also point to an enormous global unmet need, growing, according to the evidence, by 63% from 1990 to 2019, and associated with the increasing prevalence of non-communicable diseases and population ageing (1). This unmet need can be addressed only by a coherent and concerted public health strategy, guided by international initiatives, but ultimately implemented at the national level.

The significance of positioning rehabilitation as a public health strategy cannot be overstated. First, it is essential for its inclusion in the WHO's flagship programme of Universal Health Coverage (23). Secondly, as a public health strategy rehabilitation must be provided across the full continuum of care (from

the acute, post-acute, to the long-term care phase), for all levels of care, for people of all ages and functioning limitations arising from a wide spectrum of health conditions. We know from the work of the European Union of Medical Specialists Physical and Rehabilitation Medicine (UEMS PRM) Section and Board that, in Europe, there is a range of innovative types of rehabilitation services that meet these criteria (24). Finally, rehabilitation must be firmly rooted within health systems, which provides the governance, the information, the workforce and the services and products that are integral to the provision of rehabilitation. It is only within health systems that the crucial need to build up the rehabilitation workforce, evident across Europe and around the world, can be addressed.

Coincidentally, the important role that rehabilitation plays as a public health strategy has become obvious to decision-makers and the public during the COVID-19 pandemic. Rehabilitation is among the first health services to be disrupted by the pandemic (25, 26). However, for the future, the need for rehabilitation will increase due to COVID-19 sequelae and the lingering consequences of “long-COVID”, which limit the range and level of functioning in patients and call for rehabilitation (27–29). The Cochrane Rehabilitation REH-COVER (REHAbilitation – COVID-19 Evidence-based Response) action is working hard to provide all the current and relevant evidence (30, 31).

While the launch of “*Rehabilitation 2030: A Call for Action*” dramatically shifted the WHO's approach to rehabilitation and can be seen as a historical *caesura*, the launch of global estimates on the need for rehabilitation may come to be seen as a turning point for the scaling up of rehabilitation in health systems worldwide.

IMPLICATIONS FOR PHYSICAL AND REHABILITATION MEDICINE

Making the case for rehabilitation as a public health strategy has important implications for the scientific community engaged in rehabilitation and, more specifically, physical and rehabilitation medicine (PRM). At its core, PRM can be defined as the “medicine of human functioning” (32). EARM, the European Society of PRM, and the UEMS PRM Section and Board have elaborated the fundamentals of PRM in *The White Book on Physical and Rehabilitation Medicine in Europe*, which serves as a reference guide for developing rehabilitation across Europe (33).

The mainstreaming of rehabilitation as a public health strategy has wide-ranging implications for PRM. First, and most importantly, the EARM academicians and the PRM community at large are challenged to “think out of the box” of their medical specialty and

to engage in health systems thinking (34). WHO's planned health systems framework for rehabilitation, the policy framework for rehabilitation developed in the context of an EARM fellowship (35), and the upcoming WHO Health Systems Rehabilitation Research Agenda all provide guidance for the future. One example of health systems thinking in rehabilitation is the *Learning Health Systems for Spinal Cord Injury*, an international effort coordinated by International Society of Physical and Rehabilitation Medicine (ISPRM) and the International Spinal Cord Society in response to the recommendations made in *International Perspectives on Spinal Cord Injury* (36, 37). Important avenues for contributing to the efforts to strengthen rehabilitation in health systems are the ISPRM, which is in official relationship with the WHO, together with other members of multiprofessional organizations, such as the Global Rehabilitation Alliance and Cochrane Rehabilitation.

Among a wide range of potentially relevant topics, few stand out in light of the EARM's mandate. The first topic centres on the question of how best to address the specific needs both of persons with disability and persons experiencing disability (38). The topic has been outlined in the *The White Book* (33) and has been discussed in an EARM debate (39). In line with health systems thinking, the topic is best addressed across all levels, ranging from the micro-level of clinical care, to the meso-level of services provision and financing, to the macro-level of policy, programming and law. Systems thinking also requires that societal considerations are taken into account, such as the influence of poverty on disability and vulnerability.

Secondly, capacity-building is a key topic from the EARM's perspective. Mainstreaming rehabilitation as a public health strategy relies on a workforce knowledgeable about rehabilitation and its core concept of functioning (40, 41). This must be addressed comprehensively, with basic information about rehabilitation introduced at the undergraduate and graduate levels, reinforced and expanded in postgraduate education and training, and tailored to a workforce engaged across the care continuum. It is especially important to reinforce rehabilitation capacity at the primary care level, as it is the portal through which patients most likely to experience disability (e.g. from low back pain) will pass.

OPPORTUNITIES FOR EARM TO CONTRIBUTE TO "REHABILITATION 2030: A CALL FOR ACTION"

The EARM is an independent non-profit organization and, as such, can be considered a "think tank" for developing and disseminating new ideas and strategies. The EARM performs research and advocacy concerning rehabilitation-related topics, including healthcare stra-

tegy, education, culture and human rights. To achieve its goals, the EARM organizes meetings and other formats, such as the Academy debates, exemplified by a recent debate on the experience of disability (39). The EARM is therefore uniquely positioned to take up some of the challenges outlined above. To address these challenges it can rely on its membership, consisting of some of Europe's most experienced academicians involved in research and education. As an academic society, the EARM is also well positioned to contribute to collaborative efforts across scientific and professional organizations as well as patient organizations. Collaboration may benefit from applying the lessons learned at the level of multi-professional clinical teams to health system initiatives, for example, when collaborating in the development of a national rehabilitation strategy.

CONCLUSION

The recent launch of the global estimates of the need for rehabilitation represents a turning point that clearly positions rehabilitation as a public health strategy under the WHO's programme of Universal Health Coverage. As a think tank, the EARM aims to contribute to the strengthening of rehabilitation in health systems. The EARM also promotes medicine based primarily on the expectations of people who experience or are likely to experience disability both for research, training and care in Europe in response to the WHO's "*Rehabilitation 2030: A Call for Action*".

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REFERENCES

1. Cieza A, Causey K, Kamenov K, Hanson SW, Chatterji S, Vos T. Global estimates of the need for rehabilitation based on the Global Burden of Disease study 2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet* 2020; S0140-6736(20)32340-0.
2. GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet* 2020; 396: 1204–1222.
3. World Health Organization (WHO). Rehabilitation of the physically handicapped: co-ordinated international programme. 1951. [Accessed 2020 Dec 21]. Available from: <https://apps.who.int/iris/handle/10665/86394>.
4. World Health Organization (WHO). Health Policy and Systems Research Agenda for Rehabilitation, Concept Note. 2020. [Accessed 2020 Dec 21]. Available from:

- <https://www.who.int/rehabilitation/rehab-2030-research-meeting/en/>.
5. World Health Organization (WHO). Fifty-eighth World Health Assembly Resolution on disability, including prevention, management and rehabilitation. 25 May 2005. [Accessed 2020 Dec 21]. Available from: <https://www.who.int/disabilities/publications/other/wha5823/en/>.
 6. World Health Organization (WHO). World report on disability. 2011. [Accessed 2020 Dec 21]. Available from: <https://www.who.int/publications/i/item/9789241564182>.
 7. World Health Organization (WHO). WHO Global Disability Action Plan 2014–2021: Better health for all people with disability. 2015. [Accessed 2020 Dec 21]. Available from: <https://www.who.int/disabilities/actionplan/en/>.
 8. United Nations (UN). Convention on the rights of persons with disabilities. 2006. [Accessed 2020 Dec 21]. Available from: <http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf>.
 9. World Health Organization Meeting Report on the development of guidelines for Community Based Rehabilitation (CBR) programmes (1–2 November 2004, Geneva, Switzerland). 2004. [Accessed 2020 Dec 21]. Available from: https://www.who.int/disabilities/publications/cbr/050405_CBR_guidelines_1st_meeting_report.pdf?ua=1.
 10. World Health Organization, UNESCO, International Labour Organization & International Disability Development Consortium. Community-based rehabilitation: CBR guidelines. 2010. [Accessed 2020 Dec 21]. Available from: <https://apps.who.int/iris/handle/10665/44405>.
 11. World Health Organization (WHO). Rehabilitation 2030: a call for action. 2017. [Accessed 2020 Dec 21]. Available from: <https://www.who.int/rehabilitation/rehab-2030-call-for-action/en/>.
 12. Stucki G, Bickenbach J, Gutenbrunner C, Melvin J. Rehabilitation: the health strategy of the 21st century. *J Rehabil Med* 2018; 50: 309–316.
 13. World Health Organization. Declaration of Alma-Ata, 1978. [Accessed 2020 Dec 21]. Available from: https://www.who.int/publications/almaata_declaration_en.pdf.
 14. World Health Organization. Rehabilitation in health systems: Guide for action. 2019. [Accessed 2020 Dec 21]. Available from: <https://www.who.int/rehabilitation/rehabilitation-guide-for-action/en/>.
 15. Rauch A, Negrini S, Cieza A. Toward strengthening rehabilitation in health systems: methods used to develop a WHO package of rehabilitation interventions. *Arch Phys Med Rehabil* 2019; 100: 2205–2211.
 16. World Health Organization (WHO). 2020, Rehabilitation fact sheet. [Accessed 2020 Dec 21]. Available from: <https://www.who.int/news-room/fact-sheets/detail/rehabilitation>.
 17. Stucki G, Bickenbach J, Melvin J. Strengthening rehabilitation in health systems worldwide by integrating information on functioning in national health information systems. *Am J Phys Med Rehabil* 2017; 96: 677–681.
 18. Stucki G, Bickenbach J. Functioning – the third health indicator in the health system and the key indicator for rehabilitation. *Eur J Phys Rehabil Med* 2017; 53: 134–138.
 19. Stucki G, Bickenbach J. Health, functioning, and well-being: Individual and societal. *Arch Phys Med Rehabil* 2019; 100: 1788–1792.
 20. Stucki G, Bickenbach J. Functioning information in the learning health system. *Eur J Phys Rehabil Med* 2017; 53: 139–143.
 21. Lucerne WHO investment case meeting the World Health Organization (WHO) Collaborating Center for Rehabilitation in Global Health Systems. Technical meeting report: developing a roadmap for making the investment case for rehabilitation in support of the “Rehabilitation 2030 Call for Action”. University of Lucerne, Lucerne, Switzerland. 2019.
 22. Bickenbach J, Sabariego C, Stucki G. The beneficiaries of rehabilitation. *Arch Phys Med Rehabil* 2020. doi: 10.1016/j.apmr.2020.09.392. [Epub ahead of print].
 23. World Health Organization. Universal Health Coverage. 2016. [Accessed 2020 Dec 21]. Available from: <http://www.who.int/mediacentre/factsheets/fs395/en/>.
 24. Stucki G, Zampolini M, Selb M, Ceravolo MG, Delargy M, Varela Donoso E, et al. European Framework of Rehabilitation Services Types: the perspective of the Physical and Rehabilitation Medicine Section and Board of the European Union of Medical Specialists. *Eur J Phys Rehabil Med* 2019; 55: 411–417.
 25. Negrini S, Grabljevec K, Boldrini P, Kiekens C, Moslavac S, Zampolini M, et al. Up to 2.2 million people experiencing disability suffer collateral damage each day of COVID-19 lockdown in Europe. *Eur J Phys Rehabil Med* 2020; 56: 361–365.
 26. Gutenbrunner C, Stokes EK, Dreinhöfer K, Monsbakken J, Clarke S, Côté P, et al. Why Rehabilitation must have priority during and after the COVID-19-pandemic: a position statement of the Global Rehabilitation Alliance. *J Rehabil Med* 2020; 52: jrm00081.
 27. World Health Organization (WHO). “Maintaining essential health services: operational guidance for the COVID-19 context. 1 June 2020. [Accessed 2020 Dec 21]. Available from: <https://apps.who.int/iris/handle/10665/332240>.
 28. Stam H, Stucki G, Bickenbach J. COVID-19 and post intensive care syndrome: a call for action. *J Rehabil Med* 2020; 52: jrm00044.
 29. Dennis A, Wamil M, Kapur S, Alberts J, Badley AD. Multi-organ impairment in low-risk individuals with long COVID. [Accessed 2020 Dec 21]. Available from: <https://www.medrxiv.org/content/10.1101/2020.10.14.20212555v1.full.pdf>.
 30. Ceravolo MG, Arienti C, de Sire A, Andrenelli E, Negrini F, Lazzarini SG, et al. International Multiprofessional Steering Committee of Cochrane Rehabilitation REH-COVER action. Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020. rapid living systematic review. *Eur J Phys Rehabil Med* 2020; 56: 642–651.
 31. Negrini S, Arienti C, Lazzarini SG, Kiekens C. Importance for our field of the newly published Cochrane Special Collection on “Coronavirus (COVID-19): evidence relevant to clinical rehabilitation”. *Am J Phys Med Rehabil* 2020 Nov 14. doi: 10.1097/PHM.0000000000001638. [Epub ahead of print].
 32. Gutenbrunner C, Meyer T, Melvin J, Stucki G. Towards a conceptual description of Physical and Rehabilitation Medicine. *J Rehabil Med* 2011; 43: 760–764.
 33. European Physical and Rehabilitation Medicine Bodies Alliance. White book on physical and rehabilitation medicine in Europe. Introductions, executive summary, and methodology. *Eur J Phys Rehabil Med* 2018; 54: 125–155.
 34. de Savigny D, Taghreed A, Alliance for Health Policy and Systems Research, World Health Organization. Systems thinking for health systems strengthening. World Health Organization: Geneva; 2009.
 35. Skempes D, Kiekens C, Malmivaara A, Michail X, Bickenbach J, Stucki G. Supporting government policies to embed and expand rehabilitation in health systems in Europe: a framework for action. *Health Policy*. Under review.
 36. World Health Organization (WHO). International perspectives on spinal cord injury. Geneva: WHO Press; 2013.
 37. Bickenbach J, Battistella L, Gutenbrunner C, Middleton J, Post MW, Stucki G. The International Spinal Cord Injury Survey: the way forward. *Arch Phys Med Rehabil* 2020; 101: 2227–2232.
 38. Bickenbach J, Rubinelli S, Stucki G. Being a person with disabilities or experiencing disability: two perspectives on the social response to disability. *J Rehabil Med* 2017; 49: 543–549.
 39. McNamara A, Perrouin-Verbe B, Bickenbach J; Collaborators. European Academy of Rehabilitation Medicine: Commentary on “Two perspectives on the social response to disability”. *J Rehabil Med* 2019; 51: 147–148.
 40. Tederko P, Krasuski M, Denes Z, Moslavac S, Likarevic I. What medical doctors and medical students know about physical medicine and rehabilitation: a survey from Central Europe. *Eur J Phys Rehabil Med* 2016; 52: 597–605.
 41. Tederko P, Krasuski M, Łyp M, Cabak A, Białoszewski D, Stanisławska I, et al. What health allied professions students know about physical medicine and rehabilitation: a perspective of physiotherapy students. *Eur J Phys Rehabil Med* 2017; 53: 998–999.