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1. Introduction

The *IJHG* Review section consists of short reviews of each article included in the current issue. Each mini-review starts with the phrase "this review is based on . . ." followed by the author(s) and title of the article in question. This allows readers to prioritise subject matter that reflects their own interests or areas of expertise. The review editor includes additional commentary based on external sources as appropriate.

This month's selection opens with the three articles in our Digital Health section. The first article reports on an international project to develop sound principles for health data governance. In order for Digital Healthcare to develop ethically and sustainably, major international players need to work collaboratively and come to agreements concerning key governance concepts for this rapidly expanding field. These are required, first, to ensure the efficacy and efficiency of digital health applications, but also to promote the greatest benefit for people around the world, particularly those with reduced access to healthcare due to poverty, location or conflict. Good governance is also needed to ensure that the privacy and confidentiality of personal and population data are protected, whilst at the same time promoting the facility of data sharing where appropriate. This looms as a major task, especially as so much of our health data are currently stored by private companies rather than, possibly more security conscious, government agencies. So much of our private medical data are floating around in the cloud somewhere, and no-one is quite sure how access to that data is being regulated. Data regulation has implications not only for health, but for many aspects of our lives, such as education, employment, travel or immigration, all of which can be affected by our health status or data relating to this.

The next article reports on the development and use of the e-Pulse portal for storing, accessing and sharing digital health records in Turkey. This appears to be the ubiquitous first step in the digital health explosion. Other digital health applications include personalised therapeutics, environmental sensors and monitoring, robotic or remote surgery, A-I diagnostics and implantable medical devices, to name a few (Abernethy *et al.*, 2022).

Some of the issues surrounding digital healthcare focus on ownership of information and development of applications. In the third article in this issue's trio of Digital Health articles, the authors write about the rapid development of digital applications in the private sector in Iran, suggesting that tech-savvy industry and e-health users can drive change when government agencies may be slow to adopt innovation or promote the use of new technologies.

These first three papers provide differing perspectives and describe various aspects of digital health. The rapid emergence of new fields of digital health will force all health care practitioners, educators, managers, researchers and funders to engage with the topic sooner rather than later. The more we educate ourselves about advances in the field of digital health, the better prepared we will be to discuss, debate, evaluate and apply the many applications which are now being used or developed. Therefore, the review editor would like to thank the authors who have introduced the topic of digital health through the submission of their papers to *IJHG* and to invite further submissions on these and related subjects. How we apply digital health in all its aspects will undeniably change the way we understand health governance in the near future.

2. Developing principles for health data governance (HDG): maximising the potential for population health whilst safeguarding personal and population privacy

This review is based on the paper – Strengthening health data governance: new equity and rights based principles – by Holly L, Thom S, Elzemety M, Murage B, Mathieson K and Iñigo Petralanda MI. (2023).

Transform Health is an international coalition of over 130 organisations from different sectors including health, academia and economics with the overall aim of achieving universal health coverage (UHC) particularly for low and middle income countries (LMIC). Their key objectives are as follows:

(1) Building consensus and driving political will;

(2) Advocating for a global health data governance framework and

(3) Enabling increased and coordinated investment to digital health (https://transformhealthcoalition.org/).

Transform Health was established in 2020 to promote the achievement of UHC; this included more effective use of digital data for, and about, health. The organisation noted that concerns about digital health data had been highlighted during the coronavirus disease 2019 (COVID-19) pandemic; however, they recognised that not enough was being done to maximise the beneficial use of health data or to protect individuals and populations from harm. Encouraged by the World Health Organisation's (WHO) Data Health Governance Summit in 2021 and the WHO Strategy on Digital Health 2020–2025, which states that accessibility, privacy, security and confidentiality, should be key features of any digital health development (Mariano, 2020), Transform Health set out to create a set of principles which, if widely adopted, would enhance confidence in digital health by preventing both misuse and missed-use.

Transform Health engaged PATH.org, an international non-profit established in 1977 (https://www.path.org/about/) to undertake a landscape analysis to review existing policies and principles governing health data management. Landscape analysis is a well-established participatory research method used in public health to identify and explain trends and is particularly helpful in researching disadvantaged communities (Garcia *et al.*, 2020). Using a mixed methods approach, regional, national and global approaches to HDG were reviewed. The results indicated that there are four main approaches to HDG.

(1) Stringent individually-focused;

(2) Stringent government/state-focused;

(3) Relaxed commercially-focused and

(4) Relaxed innovation-focused.

The analysis highlighted the fact that regulations have not kept pace with the rapid innovations in digital health and the associated increasing potential for harm. It revealed that recommendations or regulations regarding the use of health data were often confused, conflicting or shaped by differing beliefs and priorities. Moreover, most frameworks governing DHG had been developed using a top-down approach which excluded the views of communities most likely to be affected by increased collection and use of their health data.

Following the recommendations from PATH, transform initiated an ambitious project to develop sound principles for DHG, inviting participation from a wide range of stakeholders including previously under-represented groups such as women and young people.

This interesting and informative article describes the journey of the development of the principles, details what they contain and explores potential for adoption and use. The principles

are presented in a wheel format, indicating that they all are equally important and support each other. Grouped into three main headings, they aim to protect people, prioritise equity and promote health value (Holly *et al.*, 2023). Having UHC as a core value, the principles can be used to promote sustainability and resilience in public health systems. The principles are applicable to a wide range of situations and to use by a variety of stakeholders. Ultimately, Transform Health would like to see the principles adopted as WHO policy for global HDG.

3. Moving into the future with digital health: a report from Türkiye

This review is based on the paper – A study on next generation tool for health data management: the e-Pulse portal – by Bostanci SH, Yildirim S and Yildirim DC. (2023).

In Turkey, as in many other countries, the recent COVID-19 pandemic acted as a catalyst for the digitalisation of health information and healthcare encounters. The digital transformation in the health care industry/services encourages greater agency in the population by facilitating access to health and healthcare information and potential rapid response to healthcare enquiries. Electronic personal health records afford users the ability to access their own health data and to share information with appropriate healthcare providers. Whilst digitalisation of health data may have advanced more rapidly due to the demands of the COVID-19 pandemic, aspects such as e-health records were already well established by the early twenty-teens. In the UK, this followed the National Health Service's introduction of HealthSpace, a web-based electronic health record, in 2006 (McMillan *et al.*, 2018). However, as health has become increasingly digitalised, some observers have expressed concerns about interference in the physician/patient interaction. For doctors, particularly those still in training, this could mean a growing tendency to use the computer as a diagnostic tool to the extent of dismissing symptoms or problems which do not fit into a clear diagnostic algorithm (Sulmasy *et al.*, 2017). For patients the constraints of a computer based interaction might mean that a consultation is over-reliant on form completion rather than on observations by a skilled medical practitioner. However, in the current report, the authors focus on the use of a digital health tool to record, store, access and share information rather than as a replacement for the face to face examination or consultation.

In Turkey, the digitalisation agenda is represented by the e-Pulse portal. This is a government e-health application designed to be user friendly and to enable patients to access personal health records, results and reports through any electronic platform. The report by Bostanci *et al.* (2023) is a case study of the ePulse application, with the data collected from open-access government documents.

The main benefits of the e-Pulse portal include access to immunisation records, prescriptions, radiology images and reports, past diagnoses and allergy information. In addition, users can make medical appointments through the e-Pulse application. Health data profiles including heart rate, physical activity, diet, weight and body mass, and sleep patterns can be entered into the e-Pulse records or collected directly through using a smart phone as an alternative to wearable health technology. Parents or guardians of children under 16 have access to the children's health information, but older teenagers have the same rights to digital health data privacy as do adults.

Digital health represents the future. Whilst periods of transition in any service or industry pose both anticipated and unexpected difficulties or problems, getting digital health right in terms of accuracy, safety and privacy is too important to dismiss. This means that there is still much scope for continuing research into this important revolution in healthcare.

4. The digitalisation of health in Iran: barriers and boosts

This review is based on the paper – Popular diffusion as an instrument for overcoming barriers to digital health in Iran: the critical role of the pandemic – by Ashtarian K. and Etemadi M. (2023).

The ownership of digital health is a contested concept. Should digital health be driven by existing healthcare institutions, particularly those that are part of a nationalised health service, or is digital health an appropriate area for the private sector, with a profit-based motivation?

In the UK, the government has established contracts with some of the biggest technology companies such as Amazon and Babylon to increase the virtual delivery of healthcare. This has been criticised by the British Medical Association as a threat to GP employment and as a way to rapidly increase privatisation of the NHS (Webster, 2019). However, as Webster (2019) notes, the vice president of the Royal College of Physicians has admitted that the NHS does not have the resources to design, deliver and manage a large scale digital transformation of health care. Despite concerns being raised, the digitalisation of healthcare is proceeding rapidly throughout the world with countries as varied as India, Brazil and Macedonia, promoting this as a key element of their healthcare provision (Webster, 2019).

Ashtarian and Etemadi (2023) promote the positive benefits of healthcare digitalisation through the efforts of innovative and "tech-savvy" private enterprise. However, in recognition of problems associated with this revolution in healthcare delivery, they label it as a "disruption technology". Arguing against the perspective that government and other existing health providers should control change, the authors see the private healthcare market as a more effective change agent due to its ability to drive innovation, its focus on rapid delivery and on its sophisticated marketing strategies. They also suggest that consumers now have the ability to influence the direction of digital health and indeed are already doing so by their purchasing choices.

However, Abernethy *et al.* (2022) suggest that despite rapid gains in the digitalisation of health and the wide range of applications, the dream of digital systems that can interact effectively with each other and provide comprehensive health benefits for a global population remains elusive.

As long as private healthcare providers are profit motivated, they may have a greater incentive to provide short term solutions that can be quickly introduced to the healthcare market. The longer-terms goals of global health require a more altruistic and coordinated approach. Whether this is something we can look forward to in a world divided by so many conflicting ideologies, and indeed armed conflict being used to advance or protect those ideologies, is another question.

5. Introduction to the five articles which comprise our regular section

The subject matter of the remaining five articles in this issue of *IJHG* is no less relevant or interesting. Micaela Pinho (2023) examines the relationship of lifestyle choices to the achievement of the United Nations' Sustainable Development Goals. This is highly topical as health practitioners, educators and researchers continue to explore the ways in which behaviour, both on personal and societal levels, affects the health of both individuals and populations. Baraka Israel (2023) examines the integration of procurement and responsiveness in the delivery of health services. This is a ubiquitous problem, as shown during the recent COVID-19 pandemic, but has a greater deleterious effect on population health in LMIC. Gokham Agac and his co-authors report on a key element of health governance, blood collection, in Turkey. Efficient collection and storage of blood can mean the difference between life and death in many situations from routine surgery to crisis management. Aneste Eduard and Lozan Oleg report on their research into the perceptions of competitiveness in the hospital sector in Moldova. Finally, Tarcisio Saurin and co-authors explore the issue of resilience in health care and examine the cost effectiveness of resilient performance. All of these authors write about their specialist topics from their own national perspective; yet, all of these issues are globally relevant and the lessons learnt in one area of the world may well be applicable in other settings.

With such a wide range of health governance topics from an international authorship, there will certainly be something of interest for all our readers in this issue of *IJHG*.

6. Portuguese adults' awareness of non-communicable disease (NCD) and the relationship of lifestyle choices to mortality and morbidity

This review is based on the paper – The role of lifestyles in the commitment to the United Nations Sustainable Development Goal 3. An exploratory study – by Pinho M. (2023).

Non-communicable diseases (NCD) have become the leading cause of mortality and morbidity worldwide, killing 41 million people each year; 17 million of these deaths are classified as premature as they occur in people under the age of 70 (World Health Organisation, 2022). The four main categories of NCD in the order of numbers of deaths are as follows: cardiovascular disease, cancer, chronic respiratory disease and diabetes. Mental health disorders are also a leading cause of death and are classified as an NCD (Pinho, 2023). Whilst many deaths from NCD can be attributed to personal lifestyle choices, such as smoking, alcohol consumption, poor diet or lack of physical activity, environmental causes are also increasingly responsible. Air pollution for instance can cause or exacerbate respiratory problems, chemical contamination of air, soil or water can be carcinogenic, and stress and anxiety caused by fear of, or actual exposure to, the results of climate change can induce or increase mental health disorders. Friel *et al.* (2011) reported on this link more than ten years ago. All of these factors are higher in LMIC.

Pinho (2023) examines knowledge, attitudes and commitment to healthy behaviours of Portuguese adults living in Portugal. The data were collected over a six month period using an online survey. Analysis was broken down by age group into (1) Baby Boomers (people born before 1965), (2) Generation X (people born between 1965 and 1979), (3) Generation Y (people born between 1980 and 1994) and (4) Generation Z (people born between 1995 and 2010). The survey collected demographic and socio-economic information, self-perceptions of health, awareness of healthy lifestyle behaviours, perceived risk of certain lifestyle choices and levels of agreement on the relationship between lifestyle choices and NCD.

Findings indicated that people who exercise more have a greater awareness of the relationship between lifestyle choices and health. Overall, respondents were not aware of the high rates of death caused by NCD and did not make moral judgements about the contribution of people to their own ill health. This was true across all four generations which overturned a preconception that older generations might be more judgemental of the lifestyle choices of others.

It would be interesting to repeat this study with different national populations, especially in light of the reduction in recreational drug-related deaths following Portugal's decriminalisation of drug use in 2001. This, contrary to predictions on the part of some criminal justice observers, has led to a decrease in the use of illicit drugs and the harm associated with them (Hughes and Stevens, 2010). This may also have a relationship to the reluctance of Portuguese adults of all ages to make moral judgements about the health-related behaviour of other citizens.

7. Keeping the balance between demand and delivery of healthcare commodities

This review is based on the paper – Mediating effect of integrated health commodities procurement system on the relationship between responsiveness and health service delivery – by Israel B. (2023).

Supply and demand in the health industry need to be finely balanced to maintain adequate procurement, distribution and consumer satisfaction. This may be more problematic in public health services where funding is dependent on political variables. This article explores

the relationship between responsiveness on the part of service providers, the procurement system for medicines and medical goods and the delivery of the public health service. A four-month-long survey was conducted via email and WhatsApp with pharmacists and procurement staff from government hospitals in Tanzania. Questions on staff responsiveness, procurement of medical commodities and delivery of a cost effective public health service formed the basis of the questionnaire.

Analysis of the data tested responses against pre-determined hypotheses relating to the key elements of the procurement and distribution supply chain. Results indicated that responsiveness is a key factor in keeping the entire process of procurement and delivery of services running smoothly. Polater and Demirdogen (2018) made similar predictions when they recommended that consumer responsiveness should be factored into strategic procurement and distribution planning. They pointed out that supply chain flexibility can improve transparency and increase patient satisfaction.

Recommendations from the current study include expanding the research to accommodate private hospitals and to examine other aspects of supply chain management, as the study being reported focused on responsiveness (Israel, 2023). Despite these limitations, the study achieved its aim of demonstrating the importance of responsiveness and highlighting the importance of maintaining and enhancing effective IT systems in the procurement supply chain. This can improve transparency and public trust (Millington and Bhardwaj, 2017).

8. Lifeblood of the health service

This review is based on the paper – An evaluation of blood collection efficiency at the regional level: the case of Turkey – by Agac G, Baki B and Atici KB. (2023).

Maintaining adequate blood banks is arguably one of the most important functions in any acute healthcare setting. Blood saves lives but blood is a perishable product and its supply chain cannot be guaranteed. Having adequate blood supplies depends largely on the altruism of the public who agree to donate their blood to save the lives or help to restore the health of people they will never meet. Donating blood also requires healthy donors and stable political/ civic situations. To maintain the supply chain, blood collection, storage and delivery must all be managed correctly. Adequate supplies of the necessary equipment to carry out these tasks safely and efficiently must also be ensured.

In Turkey (Türkiye), the Red Crescent Organisation is responsible for the management of safe blood collection, storage and distribution. Blood collection is coordinated by 18 regional centres with 67 blood collection centres and 1,131 transfusion centres (Agac et al., 2023). Whilst the authors agree that 90% of Turkey's requirements are met through blood donations within the country, their research examines the efficiency of the system in all 18 regions to determine what improvements (if any) might be made to increase the efficiency at donation and production stages, thus reducing the requirement for blood supplies from outside the country. Data envelopment analysis was selected as the research methodology for its ability to measure efficiency when the issues being studied are multidimensional.

Findings identified the four regions with the most efficient operations and demonstrated that these maintained efficiency as they were not subject to fluctuations in their blood collection or processing. Also although blood donations decreased during the COVID-19 pandemic, they observed that this did not have any real impact on the efficiency of the regional centres. Presumably this was due to less blood being required with cancellation of elective surgery or fewer transportation or other accidents as people remained at home during lock-down periods. In fact, it has been estimated that worldwide, 28,000,000 elective surgeries were postponed or cancelled during the peak 12 weeks of the COVID-19 pandemic (Werger et al., 2022).

In the current study, issues around confidentiality mean that the highly efficient regions cannot be identified; however, lessons learnt can be applied throughout the system to improve overall efficiency. The authors are confident that data envelopment analysis (DEA) was an effective methodology and could be used in further studies on the efficiency of other aspects of the blood transfusion service.

9. Competition: just what the healthcare sector needs, or not … ?

This review is based on the paper – The perception of competition in the hospital healthcare market of the Republic of Moldova – by Eduard A. and Oleg L. (2023).

How should hospitals introduce new services that are currently not available? Should they attempt to create services in-house, using existing staff, facilities and resources? Or should hospitals contract out services that they currently do not offer? This is the question posed by Eduard and Oleg (2023) when looking at hospital services in the Republic of Moldova.

The authors point out that contracted services may in time become competitors; if they are able to offer care that the hospitals cannot provide, what is to stop patients engaging with them directly, bypassing the hospital system altogether? However, many patients retain a loyalty to hospitals where they have been treated previously or where friends or family members have received care. In such cases, how can hospitals retain patient loyalty and build on this to ensure they will continue to choose treatment from the hospital rather than from healthcare competitors?

To answer these questions, the authors designed a mixed methodology descriptive study. Questionnaires were sent out to hospital administrators and managers asking for their views on competition and brand loyalty. Findings included a perception that private healthcare providers had the advantages of being able to choose their target client group, define what services they wished to provide and set their own prices.

According to Barros *et al*. (2015), proponents of private medical care typically cite the advantages of competition as stimulating innovation, providing patients with the services they want and reducing prices. Those who oppose privatisation of services cite concerns about reduction in quality of care, inequity in the provision of care which may become available only to those with the means to pay and lack of access to healthcare for all citizens. Whilst Eduard and Oleg (2023) largely agree with these points, they outline several recommendations from their study for strengthening hospital brand loyalty whilst at the same time developing new services.

10. Resilience: the answer to cost efficiency concerns in the healthcare sector?

This review is based on the paper – The cost-effectiveness of resilient healthcare – by Saurin TA, Wiig S, Patriarca R and Groton TO. (2023).

Resilience is defined as the ability to recover quickly from periods of psychological stress, which can result from experiences of trauma, challenging life events or physical illness (Kunzler *et al*., 2020). Health professionals are at increased risk of suffering from mental ill health due to workplace related stressors. Therefore, providing assistance to develop greater resilience can help to protect doctors, nurses and other health professionals from job-related stress. Saurin *et al*. (2023) apply this to healthcare systems, defining a resilient system as one that has the ability to adapt to changes in different systems whilst at the same time continuing to maintain or improve standards of care. In their conceptual paper, the authors aim to develop a model which explains the relationship between investment in and outcomes of resilient healthcare (RHC).

Investment might mean training individuals in new medical or surgical interventions, investing in equipment and technology or making policy changes that affect multiple systems. The authors suggest that cost-effectiveness has largely been left out of evaluations

of RHC, leaving healthcare managers confused about the justification for introducing changes. Saurin *et al.* (2023) aim to challenge this by contributing to the development of a new framework for testing investment against outcomes in terms of creating resilience.

11. Conclusion

The *IJHG* is unique in its clear focus on healthcare governance and all that this entails. Starting life as the *British Journal of Clinical Governance*, the journal has evolved to encompass an international perspective, inviting authors from around the world for contributions and thus attracting an international readership. Whilst readers may first choose to read articles perceived as most relevant to their own professional setting or interests, the review editor believes that expanding one's focus to include articles that may not seem immediately relevant can reveal hidden treasures. In the world of clinical healthcare, healthcare management and health professional education, we all have much to learn from each other about health governance in all its various aspects.

References

Abernethy, A., Adams, L., Barrett, M., Bechtel, C., Brennan, P., Butte A Faulkner, J., Fontaine, E., Friedhoff, S., Halamka, J., Howell, M., Johnson, K., Long, P., McGraw, D., Miller, R., Lee, P., Perlin, J., Rucker, D., Sandy, L., Savage, L., Stump, L., Tang, P., Topol, E., Tuckson, R. and Valdes, K. (2022), "The promise of digital health: then, now, and the future", *NAM Perspectives*, June 27, 2022, doi: 10.31478/202206e.

Agac, G., Baki, B. and Atici, K.B. (2023), "An evaluation of blood collection efficiency at the regional level: the case of Turkey", *International Journal of Health Governance*, Vol. 28 No. 3, pp. 299-310, doi: 10.1108/IJHG-11-2022-0095.

Ashtarian, K. and Etemadi, M. (2023), "Popular diffusion as an instrument for overcoming barriers to digital health in Iran: the critical role of the pandemic", *International Journal of Health Governance*, Vol. 28 No. 3, pp. 249-266, doi: 10.1108/IJHG-10-2022-0094.

Barros, P.P., Brouwer, W.B.F., Thomson, S. and Varkevisser, M. (2015), "Competition among health care providers: helpful or harmful?", *European Journal of Health Economics*, Vol. 17, pp. 229-233, doi: 10.1007/s10198-015-0736-3.

Bostanci, S.H., Yildirim, S. and Yildirim, D.C. (2023), "A study on next-generation digital tool for health data management: the e-Pulse portal", *International Journal of Health Governance*, Vol. 28 No. 3, pp. 238-248, doi: 10.1108/IJHG-09-2022-0082.

Eduard, A. and Oleg, L. (2023), "The perception of competition in the hospital healthcare market of the Republic of Moldova", *International Journal of Health Governance*, Vol. 28 No. 3, pp. 311-318, doi: 10.1108/IJHG-11-2022-0101.

Friel, S., Bowen, K., Campbell-Lendrum, D., Frumkin, H., McMichael, A.J. and Rasanathan, K. (2011), "Climate change, noncommunicable diseases and development: the relationships and common policy opportunities", *Annual Review of Public Health*, Vol. 32, pp. 133-147, doi: 10.1146/annurev-publhealth-071910-140612.

Garcia, J.J., Grills, C., Villaneuva, S., Lane, K., Takada-Rooks, C. and Hill, C.D. (2020), "Analyzing the landscape: community organizing and health equity", *Journal of Participatory Research Methods*, Vol. 1 No. 1, doi: 10.35844/001c.13196.

Holly, L., Thom, S., Elzemety, M., Murage, B., Mathieson, K. and Iñigo Petralanda, M.I. (2023), "Strengthening health data governance: new equity and rights based principles", *International Journal of Health Governance*, Vol. 28 No. 3, pp. 225-237, doi: 10.1108/IJHG-11-2022-0104.

Hughes, C.E. and Stevens, A. (2010), "What can we learn from the Portuguese decriminalisation of illicit drugs?", *The British Journal of Criminology*, Vol. 50 No. 6, pp. 999-1022, doi: 10.1093/bjc/azq038.

Israel, B. (2023), "Mediating effect of integrated health commodities procurement system on the relationship between responsiveness and health service delivery", *International Journal of Health Governance*, Vol. 28 No. 3, pp. 284-298, doi: 10.1108/IJHG-03-2023-0028.

Kunzler, A.M., Helmreich, I, Chmitorz, A., König, J., Binder, H., Wessa, M. and Lieb, K. (2020), "Psychological interventions to foster resilience in healthcare professionals", *Cochrane Database Systematic Review*, Vol. 7 No. 7, CD012527, Jul 5 doi: 10.1002/14651858. CD012527.pub2.

Mariano, B. (2020), "Toward a global strategy on digital health", *Bulletin of the World Health Organization*, Vol. 98 No. 4, pp. 231-231A, doi: 10.2471/BLT.20.253955.

McMillan, B., Eastham, R., Brown, B., Fitton, R. and Dickinson, D. (2018), "Primary care patient records in the United Kingdom: past, present and future research priorities", *Journal of Medical Internet Research*, Vol. 20 No. 12, e11293, doi: 10.2196/11293.

Millington, K.A. and Bhardwaj, M. (2017), "Evidence and experience of procurement in health sector decentralisation", K4D Helpdesk Report, Institute of Development Studies, Brighton, available at: https://assets.publishing.service.gov.uk/media/59845568e5274a1707000065/108-Evidence-and-experiences-of-other-countries-health-procurement.pdf (accessed 6 July 2023).

Pinho, M. (2023), "The role of lifestyles in the commitment to the United Nations Sustainable Development Goal 3. An exploratory study", *International Journal of Health Governance*, Vol. 28 No. 3, pp. 267-283, doi: 10.1108/IJHG-03-2023-0026.

Polater, A. and Demirdogen, O. (2018), "An investigation of healthcare supply chain management and patient responsiveness: an application on public hospitals", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 12 No. 3, pp. 325-347, doi: 10.1108/IJPHM-07-2017-0040.

Saurin, T.A., Wiig, S., Patriarca, R. and Groton, T.O. (2023), "The cost-effectiveness of resilient healthcare", *International Journal of Health Governance*, Vol. 28 No. 3, pp. 319-327, doi: 10.1108/IJHG-03-2023-0027.

Sulmasy, L.S., López, A.M. and Horwitch, C.A. (2017), "Ethical implications of the electronic health record: in the service of the patient", *Journal of General Internal Medicine*, Vol. 32, pp. 935-939, doi: 10.1007/s11606-017-4030-1.

Webster, P. (2019), "Digital health technologies and health-care privatisation", *The Lancet Digital Health*, Vol. 1 No. 4, pp. E161-E162, doi: 10.1016/S2589-7500(19)30091-3.

Werger, A.C., Breel, J., Van Kuijk, S., Bulte, C.S.E., Koopman, S., Scheffer, G.J., Noordzij, P.G., in't Veld, B.A., Wensing, CGCL, Hollman, M.W., Buhre, W. and de-Korte de-Bohr, D. (2022), "Outcome in patients undergoing postponed elective surgery during the COVID-19 pandemic (TRACE II): study protocol for a multicentre prospective observational study", *BMJ OPEN*, Vol. 12 No. 6, doi: 10.1136/bmjopen-2021-060354.

World Health Organisation (WHO) (2022), "Noncommunicable diseases fact sheet", 16 September 2022, available at: https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases (accessed 5 July 2023).

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