Annotated bibliography of health in the 2030 Agenda for Sustainable Development OUP

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The views contained herein do not necessarily reflect those of UNAIDS

The adoption in 2015 of the 2030 Agenda for Sustainable Development marked a defining moment in the history of the United Nations and the creation of an unprecedented development paradigm. The agenda was the result of three years of consultation and eventual negotiation and brought together the social, environmental, economic development strands into one comprehensive, ambitious and balanced framework. The Agenda contains 17 interdependent Sustainable Development Goals (SDGs), which replace the narrower and more limited Millennium Development Goals, and established 169 targets. Two important features of the Agenda are first their intended universality (applicable to all countries and populations) and, second, a commitment to 'leaving no one behind' - irrespective of population characteristics or place on the development-humanitarian continuum.

SDG 3 is the dedicated health goal which seeks to ensure healthy lives and promote well-being for all at all ages. The Goal is supported by nine substantive targets, across a broad spectrum of health issues (from child survival to drug use to road traffic injuries) and four so-called means of implementation targets which cover issues such as financing, human resources and research and development. Given that the social determinants of health (such as education, employment, gender-equality) are the focus of other goals in the Agenda and furthermore that the architects of the Agenda conceptualise the goals and targets as inter-dependent, in practice at least 11 goals and many more targets can be said to be health-related (see World Health Statistics, 2017).

In adopting the agenda, countries agreed to domesticate the goals and targets and to report to the United Nations on progress towards their realization. There has been considerable buy-in to the goals from mainstream international development community. Many countries have reoriented their national development strategies around the SDGs and have been enthusiastic in presenting Voluntary National Reviews to the annual UN High-Level Political Forum on Sustainable Development.

The Agenda 2030 marks a departure for the global health community as well as countries implementing health programmes in that it seeks to focus attention and resources on a far broader set of health concerns than had previously been the case and it provides both the impetus and exigency for more cross-cutting approaches as well as inter-sectoral collaboration for health.

It remains to be seen whether or not countries, particularly ministries of health, and the international partners are willing in practice to adopt the broader agenda, to establish new ways of working (and to break from traditional siloed approaches). The SDGs have however been critiqued for their omission (from social mobilisation to global health security) as well as more existentially for their perceived failure to disrupt deep economic and structural injustices, with an accompanying concern that a central focus on economic growth is in itself unsustainable and harmful to people and planet[1].

In our review of the English language literature, we have identified over 50 papers that address some aspect of the SDGs and health. We are reluctant to conceptualise these as a single literature on the broad, diverse and complex nature of sustainable development as it relates to human health, particularly since a significant proportion of the publications are commentaries rather than primary studies or new theoretical/conceptual ideas. We have therefore grouped the papers into 6 areas: the genesis and significance of Agenda 2030 and its relationship to health; goals, target and indicators; projections of progress and financing implications; goal interdependence and intersectoral collaboration; human rights, participation and the principle of leaving no-one behind; critiques and criticisms. If any topic dominates, it is on universal health coverage, one of the 13 targets in SDG3. These papers generally tend to address the nature and extent of problems to be addressed by SDG3 (and the readiness and appropriateness of SDG3 to "solve" such problems) rather than offering a detailed prescriptive guidance on how to move from analysis to action. Given that the Agenda was only agreed upon less than 3 years ago, we are hopeful that the literature on how to implement action and activities to reach the Goals that might be more directly relevant to policy-makers in health and other sectors will be forthcoming in the near future.

Topics:

1. **The genesis, negotiations, significance and implications of Agenda 2030 and its approach to health**

The Agenda 2030 arose as a follow up to the United Nations Conference on Sustainable Development (Rio+20), and in particular to the desire for the adoption of a successor framework to the Millennium Development Goals (MDGs). A range of consultative processes were established. Among the more prominent was a high-level UN panel co-chaired by UK Prime Minister Cameron, Sierra Leone President Sirleaf and Indonesian President Yudhoyon in 2012. The governments of Botswana and Sweden co-chaired a thematic consultation on health with support of WHO and UNICEF. In light of the expansive and competitive agenda, covering planet, people and prosperity, there were concerns that health might not enjoy the same profile

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[1] **Dasgupta, P, 2016**
"What's missing from the SDGs." Global Views Blog: https://www.devex.com/news/what-s-missing-from-the-sdgs-88207

in the SDGs as it had in the MDGs - where it had three of the eight goals (Hill et al 2014). The political negotiations took place in the UN in New York co-facilitated by Hungary and Kenya with adoption of the Agenda in September 2015 (Kamau, Chasek, O'Connor, 2018).

As noted by Brolan and Hill 2015 there was considerable contestation over the content of the health goal - particularly whether or not good health outcomes or good health services should be at the center. A coalition of countries, notably France, Germany, Japan, Thailand and Indonesia with support from the Rockefeller Foundation, WHO and the World Bank aimed to see Universal Health Coverage (UHC) as the overarching health goal. Others proposed focussing on health outcomes (healthy lives) as the goal with targets for different diseases and different inputs for creating good health (such as UHC or financing). Ultimately, healthy lives were adopted with UHC one among 13 targets.

Some authors have analysed the implications of the comprehensive and interlinked nature of the SDG targets (e.g. see Morton et al, 2017) and have concluded that there is a need to "do health differently". Buse and Hawkes 2015 call for a paradigm shift in global health to focus on prevention as well as access to treatment and care services and propose a five-point agenda for change. Jha et al (2016) acknowledge the fundamental shifts needed, and argue that greater emphasis be placed on capacity strengthening, knowledge sharing and innovation.

The need for governance structures which are adequate to ensure implementation of the SDG Agenda is addressed by Waage et al. 2015 who propose a framework that recognises the interactions between Goals as well as highlighting the infrastructure and institutions necessary. Magnusson 2017 also calls for enhanced governance structures to manage the cross-sectoral relationships inherent in Agenda 2030 for health, and proposes framework legislation as a mechanism for managing interests. Pradhan and colleagues 2017 urge a note of caution on intersectoral interaction and by identifying synergies and trade-offs between the different indicators they find that SDG3 is linked with progress on most other Goals - particularly SDG 1 (poverty reduction), 4 (quality education), 5 (gender equality), 6 (clean water and sanitation) and 10 (inequalities reduction).

Brolan, C. E., & Hill, P. S. 2015
"Universal Health Coverage's evolving location in the post-2015 development agenda: Key informant perspectives within multilateral and related agencies during the first phase of post-2015 negotiations." *Health Policy and Planning,31*(4), 514-526. doi:10.1093/heapol/czv101

The paper uses an agenda-setting framework from political science to describe negotiations on the health goal in the post-2015 Agenda (SDG agenda) - in particular, the place of Universal Health Coverage therein.

Buse, K. and Hawkes, S. 2015
"Health in the sustainable development goals: ready for a paradigm shift?" Globalization and Health 11. https://doi.org/10.1186/s12992-015-0098-8.

Buse and Hawkes argue that success in achieving the health goal in the SDG Agenda will be dependent on 5 shifts in how we address global health: (1) ensuring leadership for intersectoral coherence and coordination; (2) shifting focus from treatment to prevention; (3) identifying means to tackle the commercial determinants of health; (4) integrating rights-based approaches; (5) engaging with civil society and ensuring accountability.

Hill, P. S., Buse, K., Brolan, C. E., & Ooms, G. 2014
"How can health remain central post-2015 in a sustainable development paradigm?" *Globalization and Health,10*(1), 18. doi:10.1186/1744-8603-10-18.

So as to ensure adequate and appropriate attention on health in Agenda 2030, the authors put forward an advocacy agenda for reframing health in the negotiations with a focus on sustainability, universality and making health relevant to other sectors - they also called for more attention to governance structures to implement the health goal and targets.

Jha, A., Kickbusch, I., Taylor, P., & Abbasi, K. 2016
"Accelerating achievement of the sustainable development goals." *BMJ,*I409. doi:10.1136/bmj.i409

The paper is an output from a meeting of 60 global health policy think tanks, which agreed that beyond generation of the requisite political will, three key challenges need to be addressed to succeed on SDG3: (i) knowledge sharing on the determinants of health, response to disease and mitigation of environmental problems; (ii) enhancing technical capacity to implement programmes; and (iii) innovation to overcome long-standing and inherent challenges in coverage and accountability.

Kamau M, Chasek P, O'Connor D. 2018
"Transforming Multilateral Diplomacy: The Inside Story of the Sustainable Development Goals." Routledge.
This book provides an insider account of the negotiations that led to the 2030 Agenda for Sustainable Development. The authors, one of the co-facilitators of the negotiations, an academic observer as well as a senior UN official relay the events as they unfolded as well as outline how these negotiations and the resulting agreement were different than any that had come before.

Magnusson, RS. 2017
"Framework legislation for non-communicable diseases: and for the Sustainable Development Goals?" BMJ Global Health 2 (3). https://doi.org/10.1136/bmjgh-2017-000385

Magnusson argues that 'framework legislation' for NCDs, and for the broader health-related SDGs, would provide the opportunity for countries to set national targets and create cross-

sectoral governance structures - which could manage commercial relationships and conflicts of interest.

Morton S, Pencheon D, Squires N. 2017
"Sustainable Development Goals (SDGs), and their implementation." British Medical Bulletin 124 (1):81-90. https://doi-org.libproxy.ucl.ac.uk/10.1093/bmb/ldx031.

The paper reviews existing literature on the SDGs, focusing on health, and identifies areas of agreement (e.g. the need for system wide planning) and areas of controversy (e.g. countries may not recognise the potential for positive interactions between Goals). They call for a proportional emphasis on finding solutions rather than simply focusing on causes of disease.

Pradhan P, Costa L, Rybski D, Lucht W, Kropp JP. 2017
"A Systematic Study of Sustainable Development Goal (SDG) Interactions." Earths Future 5 (11):1169-1179. https://doi.org/10.1002/2017ef000632.

The authors have quantified synergies and trade-offs of interaction between all targets across the SDG agenda, for 227 countries. SDG3 has positive synergies with a large number of Goals in most countries.

Waage, J., Yap, C., Bell, S., Levy, C., Mace, G., Pegram, T., . . . Poole, N. 2015
"Governing the UN Sustainable Development Goals: Interactions, infrastructures, and institutions." *The Lancet Global Health,3*(5). doi:10.1016/s2214-109x(15)70112-9

The paper provides a framework across the Goals that reveals potential conflicts and synergies. They call for new governance structures across goals and sectors.

2. Health-related goals, targets and indicators in Agenda 2030

The Agenda 2030 Resolution adopted by the United Nations in September 2015 sets one Goal (SDG3) to ensure healthy lives and promote wellbeing for all at all ages, with 9 targets and 4 means of implementation commitments. After a period of extensive consultation and negotiation, 26 indicators were selected to measure progress on the SDG3 targets. Principles of indicator selection were outlined by Murray 2015 in a paper which highlighted that the feasibility and credibility of indicators would likely determine "the amount of action and attention each target receives". The process of selecting indicators for one health topic in particular (sexual and reproductive health, SRH) was detailed by Edouard and Bernstein 2016 who note that ideally indicators should span interventions from policies through process to outputs and outcomes. However, they also note the ability of resource-diversion if the focus of government attention is on impact indicators rather than the "supportive conditions required and barriers to be overcome" (ie process).

While UN agencies support countries to report on all indicators and targets within the Goal (see, for example, the World Health Organization report, 2017, on monitoring health statistics which reports on status/progress among six specific disease areas and six lines of action to promote health in every country), much of the academic literature on health in the SDGs has been focused on just one target - 3.8: achieve universal health coverage (UHC). Authors from WHO Headquarters and country offices writing in the Bulletin of WHO (Kieny et al 2017), for example, emphasise the "importance of all people and communities having access to quality health services without risking financial hardship". Their paper argues that access to quality UHC is a route to equitable health outcomes. This theme is reiterated by Tangcharoensathien et al 2015 who argue that UHC will improve both the level (outcomes) and distribution of health, but only if there is a significant increase in funding to strengthen primary health care services in particular.

Edouard, L., & Bernstein, S. 2016
"Challenges for Measuring Progress towards the Sustainable Development Goals." *African Journal of Reproductive Health,20*(3), 45-54. doi:10.29063/ajrh2016/v20i3.9

The authors provide an in-depth review of the development of indicators for sexual and reproductive health. They argue that indicator selection is critical for issue resource allocation and future attention.

High-Level Political Forum on Sustainable Development. 2017
"2017 HLPF Thematic Review of SDG3: Ensure healthy lives and promote well-being for all at all ages." Accessible at:
https://sustainabledevelopment.un.org/content/documents/14367SDG3format-rev_MD_OD.pdf

This status report, prepared by Executive Committee on Economic and Social Affairs with inputs from a number of UN agencies involved in health, uses a range of sources to provide an update on progress across all targets and indicators within SDG3.

Kieny, M. P., Bekedam, H., Dovlo, D., Fitzgerald, J., Habicht, J., Harrison, G., . . . Travis, P. 2017
"Strengthening health systems for universal health coverage and sustainable development." *Bulletin of the World Health Organization,95*(7), 537-539. doi:10.2471/blt.16.187476

Authors, all from WHO country, regional and headquarters offices, call for health systems strengthening to achieve progress towards universal health coverage (UHC), and argue that UHC will be essential for SDG1 (end poverty), SDG4 (education), SDG5 (gender equality) and SDG16 (inclusive societies).

Murray, C. J. 2015
"Choosing indicators for the health-related SDG targets." *The Lancet,386*(10001), 1314-1317. doi:10.1016/s0140-6736(15)00382-7

Following the adoption of the SDG Agenda in September 2015, Murray provides principles and proposals for selection of indicators for the Goals and targets, including a review of how much it will cost to collect the data and whether or not organisations already exist to collect the data.

Tangcharoensathien, V., Mills, A., & Palu, T. 2015
"Accelerating health equity: The key role of universal health coverage in the Sustainable Development Goals." *BMC Medicine,13*(1). doi:10.1186/s12916-015-0342-3

The authors argue that universal health coverage is improved health outcomes and equity, but that aspirations must be matched with political will and resources to improve delivery systems and retain more and relevant health workers.

United Nations General Assembly. 2015
"Transforming our world: the 2030 Agenda for Sustainable Development." A/RES/70/1
Accessible at: http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

This is the Resolution adopted by the UN General Assembly in September 2015 which is the official document detailing the preamble, Goals and targets of the 2030 Agenda for Sustainable Development.

World Health Organization. 2017
"World Health Statistics 2017 - Monitoring Health for the SDGs". Accessible at:
http://apps.who.int/iris/bitstream/handle/10665/255336/9789241565486-eng.pdf?sequence=1

The World Health Organization provides an annual compilation from all 194 member states of statistics and data for the health-related SDGs. Data are available disaggregated to country level.

3. **SDG3 burden and/or projections of progress on SDG target indicators as well as financing needs of SDG3 targets (M&E)**

Assessing whether progress is being made on the SDG indicators, and the associated costs of implementation towards progress, rely upon data gathered at sub-national, national, regional and global levels. The Global Burden of Disease (GBD) project has been operational since 1990. Located at the Institute for Health Metrics and Evaluation (IHME) in the United States of America, the project has produced some of the most empirically rigorous estimates of the extent and costs of health conditions both locally and globally. Schmidt-Traub and colleagues 2017 have developed a comprehensive SDG Index and Dashboard covering 149 countries using baseline data across all 17 Goals (i.e. not only health), and identify the size of the gap in achieving the Goals in each participating country.

Lim et al as part of the GBD (2016) present baseline data from 188 countries on 33 health-related SDG indicators in 2015 and compare these, where possible, with data from 2000 - thus allowing for monitoring of progress (or not, e.g. in the case of childhood obesity) over time. Their analysis goes beyond mere prevalence and burden assessments to give estimates of the relationship between burden and socio-demographic determinants - thus emphasising the relationship between SDG3 and other SDGs. Fullman and collaborators 2017 use the GBD data to predict future performance of 37 health-related SDG indicators - and modelled projected differences between indicators ranging from a likelihood of 60% of countries on track to meet targets for maternal, neonatal and child health, to less than 5% of countries likely to reach targets for the proportion of children overweight and the extent of road injury mortality. Herrick and colleagues 2017 took a different approach and used modelling to assess the likely impact of new innovations for maternal, newborn and child health on progress towards SDG health targets in a range of low- and middle-income countries. They find that promising innovations can potentially make a contribution to reaching targets, but recognise the challenge of implementation.

Measurement of specific mortality data and trend analysis at the national level in Mexico by Gonzalez et al. 2016 allowed for a comparison of different projections for reduction of premature mortality. The authors highlighted that the use of national level data allowed them to develop a national roadmap for health priority-setting: in this case they identified NCDs and injury-related mortality (mainly related to road safety) as the urgent priorities for younger populations and diabetes control for older adults.

The financing of health systems has been studied by both Dielman et al (2018) and Stenberg et al 2017 using GBD datasets - with accompanying estimates of the financial resources likely to be required to reach the SDG3 targets through health systems strengthening. Nugent and colleagues 2018 estimate the likely impact on health and other Goals of investing in the prevention and control of NCDs. Who will provide the required resources and what kinds of interventions will they fund? Yamey and colleagues 2016 study the implications for one donor country (Sweden) to fund three "core functions" in global health as set out in Agenda 2030: (a) provision of global public goods (e.g. health research and knowledge generation/sharing); (b) management of trans-border risks of pandemics; and (c) supporting and fostering global health leadership and stewardship. They conclude that there needs to be a gradual shift by donors towards these three areas which will advance the SDG agenda.

Dieleman J et al, and the Global Burden of Disease Health Financing Collaborator Network. 2018
"Trends in future health financing and coverage: future health spending and universal health coverage in 188 countries, 2016–40"
The Lancet , Volume 391 , Issue 10132 , 1783 - 1798, DOI: https://doi.org/10.1016/S0140-6736(18)30697-4

Authors from the GBD health financing group modelled future scenarios for health spending and its relationship with UHC in 188 countries. They conclude that ensuring that all countries have sustainable pooled health resources is crucial to the achievement of UHC, but identifying and acting on policy levers is also necessary to ensure equity.

Fullman, N. et al. and the GBD 2016 SDG Collaborators. 2017
"Measuring progress and projecting attainment on the basis of past trends of the health-related Sustainable Development Goals in 188 countries: an analysis from the Global Burden of Disease Study 2016"
The Lancet , Volume 390 , Issue 10100 , 1423 - 1459
DOI: https://doi.org/10.1016/S0140-6736(17)32336-X

Authors from the GBD SDG group measured 37 SDG indicators over the period 1990-2016 in 188 countries. Country level performance varies widely, by socio-demographic development. They estimate that fewer than 5% of countries will achieve targets linked to 11 indicator targets, including those for childhood overweight, tuberculosis, and road injury mortality and conclude that multisectoral commitments and investments are vital to make the health-related SDGs within reach of everyone.

González-Pier, E., Barraza-Lloréns, M., Beyeler, N., Jamison, D., Knaul, F., Lozano, R., . . . Sepúlveda, J. 2016
"Mexico's path towards the Sustainable Development Goal for health: An assessment of the feasibility of reducing premature mortality by 40% by 2030." *The Lancet Global Health,4*(10). doi:10.1016/s2214-109x(16)30181-4

The authors use baseline data to model three different scenarios of mortality rates in Mexico and identify existing health challenges to reduce premature mortality rates. The main health challenges are injuries, road traffic accidents and homicide for young adults, and diabetes for older adults.

Herrick, T., Harner-Jay, C., Shaffer, C., Zwisler, G., Digre, P., & Batson, A. 2017.
"Modeling the potential impact of emerging innovations on achievement of Sustainable Development Goals related to maternal, newborn, and child health." *Cost Effectiveness and Resource Allocation,15*(1). doi:10.1186/s12962-017-0074-7

Eight new innovations to improve health are identified and their potential impact on improving maternal, newborn and child health is modelled. The authors identify a water-treatment intervention as having the potential to save most lives.

Lim SS et al for the GBD 2015 SDG Collaborators, 2016
"Measuring the health-related Sustainable Development Goals in 188 countries: a baseline analysis from the Global Burden of Disease Study 2015." Lancet 388 (10053):1813-1850.
https://doi.org/10.1016/S0140-6736(16)31467-2

Authors from the GBD group conduct a baseline analysis of 33 SDG health indicators from 188 countries over the period 1990-2015. They construct and SDG "index" to examine the relationship between health and socio-economic indicators, and identify a positive relationship between income, education and fertility as drivers of health improvement, but caution that investments in these areas alone is likely insufficient to achieve the SDG health targets.

Nugent, R., Bertram, M. Y., Jan, S., Niessen, L. W., Sassi, F., Jamison, D. T., . . . Beaglehole, R. 2018
"Investing in non-communicable disease prevention and management to advance the Sustainable Development Goals." *The Lancet*. doi:10.1016/s0140-6736(18)30667-6

A report from the Lancet Taskforce on NCDs and economics, the authors examine the benefits across nine SDGs (1,2,3,4,5,8,10,11,12) from investing in prevention of NCDs - a group of conditions that the authors maintain can threaten economic growth and development.

Schmidt-Traub, G., Kroll, C., Teksoz, K., Durand-Delacre, D., & Sachs, J. D. 2017
"National baselines for the Sustainable Development Goals assessed in the SDG Index and Dashboards." *Nature Geoscience,10*(8), 547-555. doi:10.1038/ngeo2985

By constructing an SDG Index and Dashboard for all countries, the authors identify the size of existing gaps for reaching the SDGs. They also examine the relationship between the SDG index and other development indices - e.g. the human development index. A selection of non-OECD countries are assessed, all of which been identified as having major challenges to meet SDG3.

Stenberg, K., Hanssen, O., Edejer, T. T., Bertram, M., Brindley, C., Meshreky, A., . . . Soucat, A. (2017)
"Financing transformative health systems towards achievement of the health Sustainable Development Goals: A model for projected resource needs in 67 low-income and middle-income countries." *The Lancet Global Health,5*(9). doi:10.1016/s2214-109x(17)30263-2

Authors have modelled the costs of making progress on SDG3 using four different health care service delivery platforms and 2 scenarios. They conclude that all countries need to strengthen investments in health systems.

Yamey, G., J. Sundewall, H. Saxenian, R. Hecht, K. Jordan, M. Schaferhoff, C. Schrade, C. Deleye, M. Thomas, N. Blanchet, L. Summers, and D. Jamison. 2016
"Reorienting health aid to meet post-2015 global health challenges: a case study of Sweden as a donor." Oxford Review of Economic Policy 32 (1):122-146. https://doi-org.libproxy.ucl.ac.uk/10.1093/oxrep/grv024.

Authors review the current development assistance for health (DAH) spending of one donor country (Sweden) and suggest changes needed to meet SDG health targets. They identify a range of principles and policy options to align Swedish spending towards providing global public goods, addressing cross-border externalities, and supporting global leadership and stewardship.

4. **Cross goal interdependence and intersectoral collaboration to impact on health or other goals and targets**

The need for intersectoral action to achieve health-related goals has been recognised since at least the 1970s when the Alma Ata Declaration (1978) called for the "attainment of the highest possible level of health" and acknowledged that its "realization requires the action of many other social and economic sectors in addition to the health sector". These sectors were identified as "agriculture, animal husbandry, food, industry, education, housing, public works, communications and other sectors" with a demand for "coordinated efforts" across all these sectors. Intersectoral collaboration for health promotion was further stressed in the Ottawa Charter (1986) which called for healthy public policies. Agenda 2030 is predicated on the notion of interdependence - Goals are not intended to be achieved through vertical, siloed action, but instead the interdependent and interwoven nature of the Goals is highlighted in the preamble to the Agenda itself. Buss et al 2016 draw on the literature which examines the potential not only for synergies but also for policy incoherence across goals and sectors and inherent tradeoffs, in their view, this reinforces the need for 'health in all policies' approaches and they establish a number of guiding questions to guide action at country level

SDG literature in this field generally falls into two camps: (i) the need to address the upstream determinants of ill-health (i.e. the SDGs beyond SDG3) alongside ensuring that the right to health-care is realised for all; and (ii) the contribution that SDG3 can make to achieving targets in the other SDGs. Very few authors take the necessary steps to outline exactly how interdependence can be promoted and intersectoral collaboration can be achieved through distributed leadership and accountability processes and structures..

Galvao and colleagues 2017 conducted systematic reviews on four areas which have a positive impact on health - sustainable food production (SDG2), sustainable energy use (SDG7), sustainable employment (SDG8), and prevention of toxic exposure to chemicals (SDG3). They find a relatively limited number of studies (thus limiting the strength of the evidence), but conclude that intersectoral approaches are beneficial to health. Such a conclusion is supported by work in more specific population- and disease-focused areas, such as addressing public health nutrition (SDG2) in Baye 2016. Ruckert and colleagues 2016 conduct a health impact assessment of trade policies and conclude that there is potential policy incoherence between trade and health goals - particularly in relation to the trade in unhealthy products (alcohol, tobacco, ultra-processed foods) and access to essential medicines. Other authors focus on the evidence for specific interventions in other sectors to improve health outcomes - Cluver and colleagues 2016 evaluate whether social protection programmes can improve adolescent

health, while Heymann et al 2017 investigate the health (particularly on maternal and child health) and wellbeing impacts of paid parental leave programmes.

The evidence that reaching SDG3 targets will have an impact on other SDGs is investigated by Bangert et al 2017, (for neglected tropical diseases), and Baye 2016 who calls for improvements in maternal and child nutrition as a means of ensuring success in other SDGs.

Post Alma Ata and Ottawa, there has been an increasing discourse on the need for health-in-all-policies and intersectoral collaboration. How to implement such an approach and examples of successful implementation tend to be less prevalent in the literature. Buse and Hawkes 2015 call for new platforms and accountability multisectoral collaboration, while Rasanathan and Diaz 2016 call for more action on implementation, while Nunes and colleagues 2016 propose a framework for implementation. As Rasanathan and Diaz note, however, "the time has come to stop focusing so much energy on prevalence and pathways, and….shift to proposing and testing solutions".

Bangert, M., D. H. Molyneux, S. W. Lindsay, C. Fitzpatrick, and D. Engels. 2017
"The cross-cutting contribution of the end of neglected tropical diseases to the sustainable development goals." Infectious Diseases of Poverty 6. https://doi.org/10.1186/s40249-017-0288-0.

The neglected tropical diseases proliferate in low-income populations across the development continuum, according to the authors, where people have little or no access to clean water, sanitation, housing, education, transportation and health care. The authors call for an integrated approach to tackling these diseases, including, for example, water and sanitation programmes (SDG6), and highlight the benefit this will have across a range of SDGs, including poverty (SDG1), gender equality (SDG5) and non-discrimination (SDG16).

Baye, K. 2016
"The Sustainable Development Goals cannot be achieved without improving maternal and child nutrition." *Journal of Public Health Policy,38*(1), 137-145. doi:10.1057/s41271-016-0043-y
The author makes a link between nutrition and each of the SDGs and argues that progress across them is vital to maternal and child health outcomes.

Buse, K. and Hawkes, S. 2015
"Health in the sustainable development goals: ready for a paradigm shift?" Globalization and Health 11. https://doi.org/10.1186/s12992-015-0098-8.

Buse and Hawkes argue that success in achieving the health goal in the SDG Agenda will be dependent on 5 shifts in how we address global health: (1) ensuring leadership for intersectoral coherence and coordination; (2) shifting focus from treatment to prevention; (3) identifying means to tackle the commercial determinants of health; (4) integrating rights-based approaches; (5) engaging with civil society and ensuring accountability.

Buss P.M., Fonseca L.E, Galvão L.A.C., Fortune K., Cook C. 2016
"Health in all policies in the partnership for sustainable development." *Rev Panam Salud Publica* 40(3), 2016 http://iris.paho.org/xmlui/bitstream/handle/123456789/31235/v40n3a7-186-91.pdf?sequence=1&isAllowed=y

The authors propose specific actions for Health-in-All-Policies to achieve SDG3. These actions include strengthening multi-sector governance for health, and inclusion of civil society and the UN in these arrangements, identifying lines of responsibility, and forging partnerships between Parliaments and civil society to ensure policy coherence for SDG3.

Cluver LD, Orkin FM, Meinck F, Boyes ME, Yakubovich AR, Sherr L. 2016
"Can social protection improve Sustainable Development Goals for Adolescent Health?" PLoS ONE 11(1):e0164808. doi:10.1371/journal.pone.0164808

Using data from longitudinal surveys of adolescents in South Africa, the authors find evidence that social protection programmes are associated with significant risk reduction in 12 SDG indicators including SDG2 (hunger) SDG3 (AIDS, tuberculosis, mental health and substance abuse), SDG5 (sexual exploitation, sexual and reproductive health) and SDG16 (violence perpetration).

Galvao LAC, Hany MM, Chapman E, Clark R, Camara VM, Luiz RR, Becerra-Posada F, 2016
"The new United Nations approach to sustainable development post-2015: Findings from four overviews of systematic reviews on interventions for sustainable development and health." Rev Panam Salud Publica 39(3)157-65. https://www.scielosp.org/pdf/rpsp/2016.v39n3/157-165/en

Authors seek to identify rigorous evidence, through analysis of systematic reviews, on the impact of non-health sector interventions on improved health outcomes. They find that although there is little published evidence, these interventions generally show positive impacts on health. The impact on health inequalities remains un-measured in most studies.

Heymann, J., Sprague, A. R., Nandi, A., Earle, A., Batra, P., Schickedanz, A., . . . Raub, A. 2017
"Paid parental leave and family wellbeing in the sustainable development era." *Public Health Reviews,38*(1). doi:10.1186/s40985-017-0067-2

The authors review the impact of parental leave policies on a range of SDG outcomes including SDG1(poverty), SDG3 (health), SDG5 (gender equality), SDG8 (decent work) and SDG10 (inequalities). Most countries offer at least some paid maternal leave, but many less than six months, while only around half as many provide paid paternal leave. Paid leave is associated with a range of improvements relevant to parental and child health.

Nugent, R., Bertram, M. Y., Jan, S., Niessen, L. W., Sassi, F., Jamison, D. T., . . . Beaglehole, R. 2018
"Investing in non-communicable disease prevention and management to advance the Sustainable Development Goals." *The Lancet.* doi:10.1016/s0140-6736(18)30667-6

A report from the Lancet Taskforce on NCDs and economics, the authors examine the benefits across nine SDGs (1,2,3,4,5,8,10,11,12) from investing in prevention of NCDs - a group of conditions that the authors maintain can threaten economic growth and development.

Nunes, A. R., Lee, K., & O'Riordan, T. 2016
"The importance of an integrating framework for achieving the Sustainable Development Goals: The example of health and well-being." *BMJ Global Health,1*(3). doi:10.1136/bmjgh-2016-000068

The authors propose a health and wellbeing framework as a more integrated approach to implementation of the SDGs. It complements the health in all policies approach. The framework can be used by other sectors to set objectives more relevant to the Goals that they are primarily responsible for.

Rasanathan, K., & Diaz, T. 2016.
"Research on health equity in the SDG era: The urgent need for greater focus on implementation." *International Journal for Equity in Health,15*(1). doi:10.1186/s12939-016-0493-7

The authors argue that we need to move from advocacy on health equity towards supporting implementation. They argue for a greater focus on implementation research, natural experimental policy studies, research on buy-in by policy-makers, and geospatial analysis.

Ruckert, A., Schram, A., Labonté, R., Friel, S., Gleeson, D., & Thow, A. 2016
"Policy coherence, health and the sustainable development goals: A health impact assessment of the Trans-Pacific Partnership". *Critical Public Health,27*(1), 86-96. doi:10.1080/09581596.2016.1178379

The authors conducted a health impact assessment to identify potential incoherencies between regional trade agreements and nutrition- and health-related SDGs. They identify a number of areas where policy incoherence could arise with negative outcomes for health and they make recommendations on how they can be avoided or mitigated.

5. **Human rights, participation and leaving no one behind**

The SDG Agenda is frequently aligned with the concept of "Leaving No One Behind" - drawn from the preamble of the General Assembly Resolution, and critical to the notion that the Agenda's Goals and targets are to be met for all people and all parts of society in all parts of the world. To know whether people and populations are "falling behind", however, requires disaggregated data (e.g. to shed light on the health and wellbeing of vulnerable and disadvantaged communities).

Vulnerability and disadvantage can encompass a range of factors, and two papers focus on the health needs of specific target populations. Brolan and colleagues 2017 identify four ways of promoting and protection the right to health of non-national populations, particularly those affected by conflict and displacement. Asi and colleagues 2018 propose that digital health technologies can be used to improve health for conflict-affected populations in particular. For Brolan, the role of civil society is crucial in formulating appropriate local indicators to ensure that no-one is left behind - a theme that is expanded on by Smith et al 2016 who propose that engagement of civil society as partners is vital to achieving the SDGs.

Whether human rights have been sufficiently recognised in the SDG discourse is a theme explored by Forman et al 2015 who analysed the influence of human rights language on the construction of the SDGs. Chapman 2017 contends that the "SDG framers" did not adopt a sufficiently human rights-based approach to SDG3 and its targets. Williams and Hunt 2017 critically review SDG3 indicators through a lens of state obligations to human rights entitlements, with a specific focus on accountability. They find gaps - particularly in relation to the "accountability challenge", which they conceptualise as covering three areas: monitoring, review and remedial action.

Barroso et al. 2016 and Bewley-Taylor 2017 examine monitoring and accountability mechanisms for two areas in particular (women's, children's and adolescents' health; and drug control, respectively). Barroso makes a plea for an increase in both the quantity and quality of subnational data to ensure that "women, children and adolescents are not left behind", while Bewley-Taylor argues that the "dominant metrics currently used" in drug control programmes are inadequate to capture the complexity of the current drugs markets or associated harms and health outcomes. He proposes that a greater alignment between the SDGs and drug control policy could be beneficial if a more holistic frame based on human development rather than simply on reducing supply was applied. Torres et al 2017 review the tools and processes established to monitor, discuss and report on the AIDS epidemic and response and indicate lessons from the approach to the participatory monitoring of targets in the health and other goals of Agenda 2030.

Friedman 2016 proposes a Framework Convention on Global Health (FCGH), based on the right to health, and with health equity as the outcome, as a means of strengthening accountability for the health-related SDGs. Such a Framework, he argues, would enhance monitoring, transparency, participation, and, importantly, would ensure enforcement of right to health obligations on both public and private sectors.

Asi, Y. M., & Williams, C. 2018
"The role of digital health in making progress toward Sustainable Development Goal (SDG) 3 in conflict-affected populations." *International Journal of Medical Informatics,114*, 114-120. doi:10.1016/j.ijmedinf.2017.11.003

The paper reviews the health of populations in conflict-affected settings, and examines the extent to which digital technologies (e.g. mHealth and telehealth) can be used to improve data collection and assess progress.

Barroso, C., Lichuma, W., Mason, E., Lehohla, P., Paul, V. K., Pkhakadze, G., . . . Yamin, A. E. 2016
"Accountability for women's, children's and adolescents' health in the Sustainable Development Goal era." *BMC Public Health,16*(S2). doi:10.1186/s12889-016-3399-9

This overview provides an introduction to a journal supplement on "Countdown to 2015, Country Case Studies" which reviewed country experiences with the MDGs for women's and children's health and sets out an agenda for these areas in the SDG era.

Bewley-Taylor, D. R. 2017
"Refocusing metrics: Can the sustainable development goals help break the "metrics trap" and modernise international drug control policy?" *Drugs and Alcohol Today,17*(2), 98-112. doi:10.1108/dat-12-2016-0033
The author proposes that the SDGs offer an opportunity to reimagine the metrics for drug control - moving away from measuring production and seizures and towards a measurement focused on drug and drug policy related harms, including harms to health outcomes.

Brolan, C. E., Forman, L., Dagron, S., Hammonds, R., Waris, A., Latif, L., & Ruano, A. L. 2017
"The right to health of non-nationals and displaced persons in the sustainable development goals era: Challenges for equity in universal health care." *International Journal for Equity in Health,16*(1). doi:10.1186/s12939-016-0500-z

Focusing on the protection of those who are non-nationals or displaced persons, the paper proposes four ways to improve their right to health. This includes indicators that explicitly mention these populations, and participation of affected communities in formulating indicators.

Chapman, A. R. 2017
"Evaluating the health-related targets in the Sustainable Development Goals from a human rights perspective." *International Journal of Human Rights* 21 (8):1098-1113. https://doi.org/10.1080/13642987.2017.1348704.

The author identifies a range of human rights shortfalls in relation to the health-related targets in the SDGs, with a particular concern that the SDGs have not adopted a human rights framing or approach, and hence will be unable to realise rights for all in their implementation.

Forman, L., Ooms, G., & Brolan, C. E. 2015
"Rights Language in the Sustainable Development Agenda: Has Right to Health Discourse and Norms Shaped Health Goals?" *International Journal of Health Policy and Management,4*(12), 799-804. doi:10.15171/ijhpm.2015.171

A 2015 (pre-Resolution) review of four major SDG reports that fed into the final Agenda, but not including the final Agenda itself. The authors undertake a content analysis of rights language and find a great deal of variation between the reports in the extent to which the language of rights is adopted.

Friedman, E. A. 2016
"An Independent Review and Accountability Mechanism for the Sustainable Development Goals: The Possibilities of a Framework Convention on Global Health." Health and Human Rights 18 (1):129-140.

Drawing on calls for a Framework Convention on Global Health, the author proposes that such a Framework would enhance systems of accountability for the health-related SDG targets, e.g. by establishing a "Right to Health Capacity Fund" and requiring states to provide regular update reports to a treaty body.

Smith, J., Buse, K., & Gordon, C. 2016
"Civil society: The catalyst for ensuring health in the age of sustainable development." *Globalization and Health,12*(1). doi:10.1186/s12992-016-0178-4

The authors argue that a robust civil society is fundamental to achieving SDG3, through 8 essential functions: producing compelling moral arguments for action; building coalitions; introducing novel policy alternatives; enhancing the legitimacy of global health initiatives and institutions; strengthening systems for health; enhancing accountability systems; mitigating the commercial determinants of health; and ensuring rights-based approaches.

Torres A., Gruskin, S., Buse, K., Erkkola, T., Bendaud, V., Alfvén, T. 2017

"Monitoring HIV-Related Laws and Policies: Lessons for AIDS and Global Health in Agenda 2030." AIDS and Behaviour. https://link.springer.com/article/10.1007/s10461-016-1621-5

The authors review 10 years of experience with one of the key accountability mechanisms established by the global AIDS response, namely the so-called The National Commitments and Policy Instrument (NCPI) with a view to proposing refinements to the mechanism for the SDG

era. It is argued that the Instrument holds lessons for reporting across the SDGs, in particular its participatory approach and reviews of policy and legal environments.

Williams, C., and P. Hunt. 2017
"Neglecting human rights: accountability, data and Sustainable Development Goal 3."
International Journal of Human Rights 21 (8):1114-1143.
https://doi.org/10.1080/13642987.2017.1348706.

The authors examine SDG3 through the lens of state obligations for human rights. They identify areas where breaches of human rights could remain undetected - particularly in relation to concepts of participation and quality health care. They are concerned that Big Data has potential to fill gaps, but only if capacity is strengthened and the digital divide bridged. They conclude that strengthening traditional statistical methods and monitoring are more important as a first step as well as the obligations of richer states to support poorer ones to meet their human rights obligations.

6. Critiques of the treatment of health in Agenda 2030

The SDG Agenda represents a unique opportunity to address the three interlinked strands of sustainable development: economic, social and environmental (sometimes referred to planet, people and prosperity) Some have criticised the Agenda as being too broad, too general, and lacking a targeted focus - a concern raised by Nunes et al 2017 in their call for an integrated framework for health and wellbeing across the SDGs. Koivsualo 2017 goes further and argues that the large number of goals will inevitably result in prioritisation and that health in particular will risk losing out if the goals are in conflict with commercial and investor interests - a theme explored in relation to one particular international trade treaty (Trans-Pacific Partnership) by Ruckert et al. 2016. Koivasulo goes further and raises the question of whether SDG17 (Global Partnerships) will lead to "dilution of the agenda and commercialization of how the SDGs are tackled".

Even in light of these concerns about the breadth of the Agenda and the lack of specifics to guide implementation across such a comprehensive terrain of social and economic development and environmental protection, other authors focus on what topics have been omitted from the SDG health agenda. Bali and Taaffe 2017 and Kitaoka 2016 express concern with the lack of a specific target centred on security. Kitaoka addresses human security more broadly - defined as "the right to live ...with dignity", while Bali and Taaffe focus on the question of global health security more specifically and review how the security agenda with its preoccupation with infectious diseases can be aligned with the broader SDG Agenda.

Jasovsky et al 2016 identify another gap in the SDG3 agenda - antimicrobial resistance (AMR). They argue that despite the growing recognition of AMR as a threat to global health, we lack policies and governance mechanisms to tackle the problem. Nonetheless, AMR is mentioned in

the introductory preamble to the Agenda (para 26) and the authors highlight the benefits accrued to a number of SDGs from addressing AMR.

Bali, S., and J. Taaffe. 2017
"The Sustainable Development Goals and the Global Health Security Agenda: exploring synergies for a sustainable and resilient world." *Journal of Public Health Policy* 38 (2):257-268. https://doi:10.1057/s41271-016-0058-4

The authors review both the SDG framework and the Global Health Security Agenda They conclude that both agendas have strengths and limitations, but are fundamentally complementary. They discuss ways to "implement the two agendas synergistically to hasten progress toward a more sustainable and resilient world."

Jasovský, D., Littmann, J., Zorzet, A., & Cars, O. 2016
"Antimicrobial resistance—a threat to the world's sustainable development." *Upsala Journal of Medical Sciences,121*(3), 159-164. doi:10.1080/03009734.2016.1195900

The authors highlight how the rise of antimicrobial resistance globally has implications across a range of SDGs including SDG1 (poverty), SDG2 (hunger and food security), SDG3 (health) and SDG6 (water and sanitation). They propose that SDG17 (global partnerships) should be used as a framework for policy and institutional coherence to address this issue.

Kitaoka, S. 2016
"Sustainable Development Goals and Japan's Official Development Assistance Policy: Human Security, National Interest, and a More Proactive Contribution to Peace." *Asia-Pacific Review,23*(1), 32-41. doi:10.1080/13439006.2016.1195951

The paper draws on more than 20 years experience of Japan's foreign policy commitment to human security and explores the implications of this approach for the SDGs, including health. Points of commonality in the two approaches include commitments to be "people-centred" and "leave no-one behind".

Koivusalo, M. 2017
"Global health policy in Sustainable Development Goals." *Global Social Policy* 17 (2):224-230. https://doi.org/10.1177/1468018117703442.

According to the author, the greatest potential of Agenda 2030 for health rests in its platform for the further realisation of health--in--all--policies and practice - e.g. by addressing the social determinants of health. However, realising the full potential of the health SDG will only be possible if there is sufficient public policy space to address the potential trade-offs inherent in bilateral and multilateral trade and investment agreements.

Nunes, A. R., Lee, K., & O'Riordan, T. 2016
"The importance of an integrating framework for achieving the Sustainable Development Goals:
The example of health and well-being." *BMJ Global Health,1*(3). doi:10.1136/bmjgh-2016-
000068

*The authors propose a health and wellbeing framework as a more integrated approach to
implementation of the SDGs. It complements the health in all policies approach. The framework
can be used by other sectors to set objectives more relevant to the Goals that they are primarily
responsible for.*

Ruckert, A., Schram, A., Labonté, R., Friel, S., Gleeson, D., & Thow, A. 2016
"Policy coherence, health and the sustainable development goals: A health impact assessment
of the Trans-Pacific Partnership". *Critical Public Health,27*(1), 86-96.
doi:10.1080/09581596.2016.1178379

*The authors conducted a health impact assessment to identify potential incoherencies between
regional trade agreements and nutrition- and health-related SDGs. They identify a number of
areas where policy incoherence could arise with negative outcomes for health and they make
recommendations on how they can be avoided or mitigated.*

Seidman, G. 2017
"Does SDG 3 have an adequate theory of change for improving health systems performance?"
Journal of Global Health 7, no. 1. https://dx.doi.org/10.7189%2Fjogh.07.010302.

The author identifies a range of input and output/outcome and impact indicators, currently
absent, which limit the full potential to realise the aspirations of SDG3.