厚生労働科学研究費補助金
地球規模保健課題推進研究事業

我が国の世界保健総会等における効果的なプレゼンスの確立に関する研究
（H29-地球規模-一般-002）

平成 30 年度　総括・分担研究報告書

研究代表者　渋谷　健司

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「我が国の世界保健総会等における効果的なプレゼンスの確立に関する研究」

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研究代表者・渋谷健司

総括研究報告書

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研究要旨

2016 年の G7 伊勢志摩サミット・神戸保健大臣会合では、議長国である日本が中心となり世界を巻き込んだ政策形成が行われ、グローバルヘルス分野における我が国のプレゼンスが確実に示された。G7 を終えた現在も、我が国が主導してグローバルヘルスの課題を前進させ、主要会合において効果的に議論を先導する役割を果たす必要がある。今年度はまず初めに G7 伊勢志摩サミットのプロセスを通じて我が国がブローバルヘルスにどのように貢献したかについて分析を行った。加えて、日本がグローバルヘルス分野優先領域として定めているユニバーサル・ヘルス・カバレッジ（UHC）については、現在世界的にも大きな政策目標となっており、我が国の知見がアジア諸国を中心とした発展途上国から求められている。また、低成長と少子高齢化の中で多くの課題が噴出し、我が国がどのように対応していくかが世界の注目を集めている。このような状況を踏まえ、WHO の Asia-Pacific Health Observatory（APO）の枠組みを活用し、我が国の保健医療制度の現状と課題及び将来像を。書籍「Resilient and people-centred health systems: Progress, challenges and future directions in Asia. New Delhi」にて発表した（第７章 Japan Chapter）。さらには、このようにして得られた知見が、今後 UHC の達成を目指している各国においてどの程度有用であるかを検証するために、ミャンマーをケースとして UHC 達成状況について評価を行った。なお日本・諸外国共に UHC を含めた今後のグローバル・ヘルスの推進には人材育成が急務であることから、本研究ではタイ公衆衛生省等と協力し、ワークショップの開催並びに人材開発プログラムの策定を実施した。

これらの研究から得られた知見は、今後 UHC 達成を目指す各国にとって、社会経済状況や疾病構造の変化とそれが保健医療政策に及ぼす影響についての対処を講じるために有用となるとともに、我が国が国際会議等の場で UHC の議論に参画する際の基盤となる知識を提供するものである。

A．研究目的

2016 年の G7 伊勢志摩サミット・神戸保健大臣会合では、議長国である日本が中心となり世界を巻き込んだ政策形成が行われ、グローバルヘルス分野における我が国のプレゼンスが確実に示された。G7 を終えた現在も、我が国が主導してグローバルヘルスの課題を前進させ、主要会合において効果的に議論を先導する役割を果たす必要がある。しかし、これまで、国際的議論の場における戦略的介入に関する系統的な分析は我が国では行われていない。

政策分析と定量的分析の 2 つのアプローチを有機的に用いて、今後の WHO 主要会合において我が国がより効果的にイニシアチブを取るための方策を提案する。先の G7 に向けて我が国の国際保健外交政策の現場に参画し政策指針をまとめた実績ある研究者が、政府及び WHO 関係者らと共同で分析を行うために、成果が確実に期待できる。さらに、特に若手の政府人材を含む将来の国際保健人材に対し会議等でのスピーチや交渉、ファシリテーションの能力開発、効果的・戦略的介入のためのワークショップ開催を行うとともに、政府代表団に同行し実際の各種会合において直接的な技術支援も提供する。

上記目的を視野に平成 30 年度は以下４つの研究を実施する。

1) 2016 年 G7 伊勢志摩サミットを通じて、特に Global Health Architertuce に関して、我が国のグローバルヘルス分野への貢献に関する分析
2) 我が国がグローバルヘルス分野の重点課題としてあげる UHC に焦点を当て、我が国の医療保健制度を包括的に分析し、諸外国が UHC 達成を目指すうえで有用な知見の抽出
3) 上記２)の成果がどのように諸外国にとって有用となりうるかを検討するために、アジア諸国を中心とした低中所得国における UHC 達成状況の評価
4) タイと共同でグローバルヘルス領域の人材育成ワークショップの開催並びに人材育成プログラムの開発

本研究の成果は、我が国のグローバルヘルスにおけるプレゼンスと知的貢献の強化に直接資するものであり、我が国の国際保健外交戦略とも合致した内容である。主な成果物は、政府へ向けた WHO 主要会合のための戦略提言書、学術論文、効果的・戦略的介入のためのマニュアル開発とワークショップ開催である。若手人材の能力開発や政府代表団への技術支援は、我が国における保健医療政策分析人材の知的・人的貢献のプールを作ることも視野に入れている。

B．研究方法

平成 30 年度は主に以下を実施する。

1．班会議（4 月：東京）：前年を踏まえ、今年度の活動予定や分担等について関係者間で議論を行う。なお、全体会議は年 2 回開催する。2．WHO 総会事前勉強会（4 月-5 月：東京）：5 月下旬に開催される第 71 回 WHO 総会に備え、国内外の専門家を招聘し主要議題に関する事前勉強会を開催する。3．国際保健

外交ワークショップ（5 月：タイ）：国際保健政策外交ワークショップに日本側講師として参加する。4. WHO 総会（5 月：ジュネーブ）：第 71 回 WHO 総会に同行し技術的支援を提供する。5. 研究の中間報告会（9 月）：2.-4.を踏まえ、年度後半の活動計画について見直しを行うとともに、各分担研究者より研究の経過報告を行う。分析を年度内に完了し、最終レポートの草稿を作成する。6.国際保健外交ワークショップ日本（12 月：東京）：タイから専門家を招聘し保健関連会合における両国のプレゼンスや貢献に係る課題を中心に情報交換を行う。また会議における政府関係者のスピーチや交渉、ファシリテーションの能力開発を目的としたワークショップを開催する。

C．研究結果

G7 を通じた我が国の貢献については、実際に G7 伊勢志摩のプロセスに関わった研究者・行政官を中心に、Global Health Architecture を取り上げて分析を行い、その成果は Journal of Global Health に掲載された。平成 30 年以降についても引き続き、Health Security、Antimicrobial Resistance、医薬品 R&D、結核対策、非感染性疾患（NCDs）等の主要課題における我が国の貢献について検証を行って行く。

加えて、日本がグローバルヘルス分野優先領域として定めている UHC については、現在世界的にも大きな政策目標となっており、我が国の知見がアジア諸国を中心とした諸外国から求められている。また、低成長と少子高齢化の中で多くの課題が噴出し、我が国がどのように対応していくかが世界の注目を集めている。このような状況を踏まえ、平成 30 度は WHO の Asia-Pacific Observatory（APO）の枠組みを活用し、UHC に焦点を当て、世界で最も高齢化が進んだ日本の医療制度を書籍「Resilient and people-centred health systems: Progress, challenges and future directions in Asia. New Delhi」にて発表した（第７章 Japan Chapter）。本書籍は今後広く、日本の保健医療制度を参照する際の有用なツールとなることが期待される。

なお、東京大学国際保健政策学教室（GHP）並びに、タイ IHPP（International Health Policy Programme）は、APO のリサーチハブに任命されている。 APO は政策研究を通じてアジア太平洋域内における、政策実務者並びに若手研究者の能力強化を行うことをその活動目的の一つとして掲げており、リサーチハブである GHP および IHPP は APO の各種活動を通じて技術支援を提供している。具体的には、APO の board meeting に計３回参加し、APO が実施する各種プロジェクトに対する技術的支援を提供した他、 スリランカにおける HiT レポート作成支援を行なっている。平成 31 年度は引き続き APO の活動に参画し、諸外国における HiT レポートの作成を支援するとともに、IHPP を中心にアジア域内のグローバルヘルス主要課題に関する共同研究を行なっていく。

APO の活動については、2017 年 7 月に日本がホストした日 ASEAN 保健大臣会合成果物

に当たる日 ASEAN 保健大臣会合宣言にも明記されており、当教室が実施する研究支援活動は、日 ASEAN 保健大臣宣言の着実な履行を示す一助ともなる。

加えて、平成 30 年度には上記の日本の医療制度に関する分析の成果がどのように諸外国にとって有用となりうるかを検討するためにミャンマーを取り上げ、ミャンマーにおける UHC 達成状況の評価を実施した。平成 31 年度は対象国を拡大するとともに、UHC 分野において我が国がより良い貢献をできるための各種方策について提言を取りまとめて行く。

D. 考察

１）本研究の成果は、我が国のグローバルヘルスにおけるプレゼンスと知的貢献の強化に直接資する。つまりそれは、国際貢献という観点のみならず、我が国の国際保健外交戦略とも合致した内容である。２）本研究の主な成果物としては、政府へ向けた WHO 主要会合のための戦略提言書及び学術論文のみならず、効果的・戦略的介入のためのマニュアル開発とワークショップ開催である。これまで重点的に分析されてこなかった我が国の WHO 等会合におけるプレゼンスや優位性、弱点を包括的に分析し、保健医療研究者と政策決定者の連携をとりながら、より戦略的・効果的なイニシアチブの取り方を提案する。本研究を通して得られた手法や成果はすべて一般公開し、広く社会へ還元していく。３）本研究では、若手の政府人材を含む将来の国際保健人材に対し会議等でのスピーチや交渉、ファシリテーションの能力開発を行うとともに、我が国における保健医療政策分析人材の知的・人的貢献のプールを作ることも視野に入れる。

E. 結論

2016 年 G7 伊勢志摩サミット及び関連会合を通じて我が国はグローバルヘルスを積極的に牽引してきた。とりわけ、現在、グローバルヘルスにおける最重要課題である UHC への貢献は大きい。我が国では 1961 年に国民皆保険制度を達成し、以降人口動態や疾病構造の変化を踏まえて数々の制度改革を繰り返し、現在では世界有数の健康指標を達成している。一方で、アジア地域の多くの国では未だ UHC 達成の途上であり、我が国がこれまで経験してきた成功例・失敗例の双方が有用となりうる。我が国が今後も引き続き当該分野においてリーダーシップを発揮するとともに、UHC 以外の重要課題（Health Security、NCDs 等）においても同様のリーダーシップを発揮することが望まれる。

F. 健康危険情報

特になし

G．研究発表

1. 論文発表

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2. **学会発表**

特になし

H．知的財産権の出願・登録状況（予定を含む。）

1. **特許取得**

特になし

2. **実用新案登録**

特になし

3. **その他**

特になし

参考資料

特になし

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分担研究報告書

Japan's contribution to making global health architecture a top political agenda by leveraging the G7 presidency

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研究要旨

The recent outbreak of Ebola virus caused tremendous debate about the current global health architecture (GHA) for health emergencies. This has been fueled by the complex interactions of health transition, global health priorities, and uncertainties in global governance and economic prospects. In the midst of this transformation, Japan hosted the G7 Ise-Shima Summit in May 2016 and set health as one of its priority agenda items with a major focus on GHA alongside Universal Health Coverage and Antimicrobial Resistance. In this paper, using Jeremy Shiffman's analytical framework, we analyze why Japan placed GHA high on the political agenda, and how it developed and succeeded in raising political momentum for GHA in collaboration with other G7 members and partner organizations.

A．研究目的

Global health is currently at a crossroads. The majority of low- and middle-income countries are now suffering from double burden of diseases. Compared with the Millennium Development Goals (MDGs) in which three out of eight goals were directly related to health, the newly adopted Sustainable Development Goals (SDGs) give less attention to health challenges. There are also a growing number of competing global issues for policy makers, including downside risks to global economy, terrorism, migration and refugees, and climate change. Consequently, the level of Official Development Assistance (ODA) for global health has stagnated in recent years. This is further confounded by new and emerging political and economic actors in this arena.

The debates on global health architecture (GHA) have been fueled by the complex interactions of health transition, global health priorities, and uncertainties in global governance and economic prospects. In particular, the recent Ebola outbreak was a game changer in global health architecture, defined as "the relationship between the many different actors engaged in global health and the processes through which they work together" by Kickbusch et al. The World Health Organization (WHO), as the only United Nation (UN) agency specializing in health, was criticized for not handling the Ebola outbreak effectively and efficiently, which has evoked a series of debates and controversies on GHA.

In the midst of this transformation in global health, Japan hosted the G7 Ise-Shima summit in May 2016 and set health as one of its priorities with a major focus on GHA alongside Universal Health Coverage (UHC) and Antimicrobial Resistance (AMR). Japan has a history of leading the health agenda at previous G8 summits. At the G8 Kyushu-Okinawa Summit in 2000, Japan advocated the importance of combatting infectious diseases and took a leading role in establishing the Global Fund to Fight AIDS, Tuberculosis and Malaria. Subsequently, at the G8 Hokkaido Toyako Summit in 2008, Japan moved forward the agenda of health systems strengthening with an emphasis on health information, financing and human resources.

In this paper, we first review a series of political analysis framework which have been used in the area of global health, and then using Jeremy Shiffman's political analysis framework we analyze why Japan put GHA high on the political agenda, and how it developed and succeeded in raising political momentum for GHA in collaboration with other G7 members. We also describe how Japan has played a major role in rebuilding GHA after the G7 summit in Japan.

B．研究方法

A framework for analyzing political power of

global health agenda-setting

Several analytical frameworks have been developed in assessing elements which influence the global health agenda. Kingdon's theory of window of opportunity, path dependence theory, Anthony Down's issue-attention cycle and Duncan Black's median voter theorem are examples that have been commonly used in analyzing political power in health care.

In 2007, Jeremy Shiffman proposed a framework for determinants of political priority in global health initiatives. This approach was built on the analysis of the global motherhood initiative, which was jointly launched in 1987 by the World Bank, WHO and the UN Population Fund (UNFPA). By analyzing the stakeholders of the global motherhood initiative primarily through interviews and literature reviews, he defined four main criteria as key areas of determining political power:

1. Actor power: the strength of the individuals and organizations concerned with the issue,
2. Ideas: the ways in which those involved with the issue understand and portray it,
3. Political contexts: the environments in which actors operate), and
4. Issue characteristics: features of the problem.

Obviously no single category is sufficient nor a necessary condition to ensure political momentum. Even if a certain health policy agenda meets some categories, this does not necessarily mean that it is successful in capturing political attention. Nonetheless, because of its relative usefulness, we primarily employed this framework to analyze the political momentum on and Japan's contribution to GHA in this paper.

Applying the framework

We did a systematic review of documents including papers both published and unpublished documents, the official reports and notes on GHA at the UN and other relevant meetings, and from the outcome documents of conferences (e.g. the G7 Ise-Shima Leaders' Declaration). Because our research largely relied on diplomatic processes, which were sometimes not documented for political reasons, we also conducted a series of interviews with staffs from the departments involved in global health at the Cabinet Secretariat, the Ministry of Foreign Affairs (MOFA), the Ministry of Finance (MOF) and the Ministry of Health, Labour and Welfare (MHLW) of Japan who participated in the preparatory processes for the G7 Ise-Shima Summit, G7 Kobe Health Ministers' Meeting, Tokyo International Conference on African Development (TICAD), the World Health Assembly (WHA), the UN General Assembly and other meetings related to GHA. Since degree of financial contribution largely pertains to the process of policy making, we also analyzed financial aspects of GHA, although the original framework does not contain a financial assessment.

C．研究結果

Political mapping of GHA

Actor power

Actor power consists of: 1) policy community cohesion, 2) leadership, 3) guiding institutions and 4) civil society. First, with respect to policy community cohesion, we analyzed three different types of actor power: Japan, G7 member states and others. There are four major actors within Japan: the Cabinet Secretariat, MOFA, MHLW, and MOF. These ministries have slightly different views on and interests in GHA. Since health emergencies directly affect the health status of the Japanese citizens, a key responsibility of the MHLW, and given their comparative advantage in technical expertise in this area, the ministry had strong interest in GHA at an early stage. Besides, the MHLW thought GHA could evoke leader's level attention beyond health sectors since GHA is strongly related with national and global security and serves as an entry point to wider global health challenges such as UHC and AMR. MOFA emphasized the relevance of UHC in the context of ensuring human security and implementing the SDGs as part of its foreign policy framework, while MOF focused on promoting the World Bank Group's funding scheme initiatives (i.e., Pandemic Emergency Facility (PEF) and International Development Associations (IDA)) to respond to and prepare for health security. However, since health security is strongly related to national, global and human security, under Prime Minister Abe's leadership, the Cabinet Secretariat and these three ministries were aligned successfully around the goal of reinforcing GHA as well as streamlining the focus of the health agenda into three key areas: GHA, UHC and AMR. The three ministries and the Cabinet Secretariat constantly had joint meetings, with director-general level participants of each ministry, in order to share information and discuss how to consolidate Japan's commitment under a unified government.

Besides Prime Minister Abe's leadership, Mr. Yasuhisa Shiozaki, Minister for Health, Labour and Welfare is a leading figure enthusiastic about Japan leading and contributing to global health. He leveraged Japan's experience in achieving the world's highest longevity through generations of health policies including achieving and managing UHC in a globalized and ageing world.

Under his leadership, the MHLW made a significant contribution to leading and promoting policy cohesion within the government. Minister Shiozaki first established the Advisory Panel on Health Care 2035 in February 2015 to envision Japan's future health care, in which leadership in global health was one of the three key recommendations along with promoting value-based care and social determinants of health. He also established the Advisory Panel on Global Health in August 2015 in order to institutionalize a mechanism to develop global

health policies within the MHLW. The Panel consisted of two working groups: human resources for global health policy making and global health governance, which aimed to make recommendations to the Government of Japan. This process contributed to the basis for discussions not only among Japanese stakeholders, but also with other G7 member states to reach consensus on the global health agenda at the G7 Ise-Shima Summit.

Strong political support also came from Professor Keizo Takemi, member of the House of Councilors and a chairman of the Special Mission Committee on Global Health Strategy of the ruling Liberal Democratic Party of Japan. As a champion of global health with solid academic and policy-making background in this area, he published internationally recognized papers that gave significant influence to the previous G8 preparatory processes as well as being the main advocator of global health issues through the track 2 process at the G8 Kyushu-Okinawa Summit in 2001 and the G8 Hokkaido Toyako Summit in 2008. In 2016, he led the track 2 process for the G7 Ise-Shima Summit with a set of policy proposals form his working group. Prof. Keizo Takemi also chairs round table meetings with government, relevant private and civil society institutions, which serve to promote mutual understanding of key global health issues including those relevant to the G7.

As to the cohesion among G7 member states, global governance for future public health emergencies started to be shed light on at the 2015 G7 Elmau Summit in Germany. In light of the global situation where the global community was still traumatized by the aftermath of the Ebola outbreaks, the WHO's emergency reform was still at an early stage and a series of policy documents to tackle health emergencies were published. Therefore, there was virtually no strong opposition and in fact a huge expectation from the head of state to include global health architecture for future pandemics into the G7 agenda.

In order to secure and expand cohesion, it was important to have communication be as extensive and effective as possible, especially with non-G7 countries. Japan prepared several dialogue opportunities with these countries throughout its G7 presidency in 2016. First, at the 69th World Health Assembly, as the only G7 member from Asia, Japan acted on behalf of member states from the WHO Western Pacific region. The countries made a joint statement to support the WHO's emergency reform explicitly, which sent a strong political signal to back up the directions proposed by the WHO Director-General.

Simultaneously, representatives of the Japanese delegation attended several side events organized by the WHO, the World Bank, the National Academy of Medicine and the Graduate Institute of International and Development Studies resulting in enhanced mutual understanding of

how the global community should rebuild and revamp GHA.

The World Health Assembly was an opportunity for Japan to disseminate G7 efforts towards GHA and reach out to health ministers and policy makers around the world, whereas the Tokyo International Conference on African Development (TICAD) in August 2016 was a platform to discuss GHA specifically with African leaders. TICAD VI was the first to be held in Kenya, Africa instead of Japan. It was co-organized by the Government of Japan, the United Nations, UNDP, the African Union Commission, and the World Bank. Health was one of the three major themes at TICAD VI and was picked up as an agenda item for the first time under the leadership of the Prime Minister Abe together with Ministers for Foreign Affairs and Health, Labour and Welfare. The debate on health focused on promoting resilient health systems.

As the chair of the meeting's thematic session for health, Minister Shiozaki led an intense debate with the African heads of state and ministers, as well as leaders from international organizations such as the WHO and the World Bank. During the preparatory process, the MHLW had an extensive debate with the WB, the co-chair of the thematic session, as to how to raise awareness toward reinforcing GHA among the African leaders, international organizations and civil society organizations (CSO). Throughout this consultation process, they reached consensus on what should be done to prepare for and respond to future health crises, summarized in the Nairobi Declaration and its implementation measures. In particular, Minister Shiozaki's remarks emphasized the importance of coordination with the current international movement including the WHO emergency reform as well as the WHO and the WB efforts towards financing mechanisms; the emphasis on building on Africa's own experience in fighting against health crises to enhance networking of human resources within the continent:

"Protecting human security is emerging as a core challenge for political leaders, who are concurrently dealing with refugee and migration crises, climate change, and disease epidemics. The Ebola virus outbreaks in West Africa exposed fundamental fragility in global health architecture as well as in health systems. This is a crucial juncture for the future of global health…. Now the world needs well-balanced and comprehensive strategy more than ever in order to deal with health emergencies, the global community including the World Health Assembly and G7 Ise-Shima Summit this May agreed that the global coordination arrangement is desperately essential for large-scale health emergencies." (Speech made by Mr. Yasuhisa Shiozaki at TICAD VI, thematic session)

Two weeks after TICAD VI, the G7 Kobe Health Ministers' Meeting was held in September, 2016,

where four Asian Ministers as well as the WHO, UN Office for the Coordination of Humanitarian Affairs (UNOCHA), the World Bank and the OECD also joined discussions. This meeting aimed to elaborate and move forward the health-related agenda at the G7 Ise-Shima Summit in May and propose concrete actions to attain the goals described at the G7 Ise-Shima Leaders' Declaration. Together with three official preparatory meetings, the meeting also contributed to increasing policy cohesion among G7 members both at head of state and health minister level.

Ideas

Ideas refer to internal and external frames. As for internal frame, the concept of human security has been the central tenet of Japan's foreign policy, where health is considered its core element. Human security as defined by the UN is "to protect the vital core of all human lives in ways that enhance human freedom and fulfilment (36)." Prime Minister Shinzo Abe also supported this idea, as mentioned in his comment in the Lancet in 2015, that addressing basic health needs, especially for women and children, is of vital importance in order to attain human security.

Regarding the external frame, since GHA is concerned not only with health aspects but also with national, global and economic security features, GHA could successfully portray its image as a useful framework for addressing a wide-range of challenges that different types of political leadership need to be dealt with respectively. Challenges for peace and prosperity to G7 leaders, economic threats to finance ministers, humanitarian emergencies to international organizations and CSO are linked with GHA. Large threats to and burdens on the health of the citizens keep health ministers concerned. Public health emergencies were also highlighted as security issues for foreign ministers for the first time, in the G7 Foreign Ministers' Meeting Joint Communique adopted at the G7 Hiroshima Foreign Ministers' Meeting in 2016 clearly mentioned the importance of collective efforts toward GHA.

Political context

Policy window and good global governance structure are two key components in this category. Generally, a policy window is likely to open after major events such as disasters, discoveries, or forums. The Ebola outbreak was not an exception. Since it caused tremendous damage with a total of 28,616 cases and 11,301 deaths with a global pandemic potential, it was quite natural to draw political attention including the UN High-Level Meeting on the Response to the Ebola Virus Disease Outbreak in 2014 and newly creating the UN Mission for Ebola Emergency Response (UNMEER). Under the UN Secretary-General, UN High-level Panel on Global Response to Health Crises worked at the highest level of the policy window by publishing an influential report *Protecting Humanity From*

Future Health Crises. Following the recommendations made by the Panel, the Global Health Crises Task Force was launched. Dr. Shigeru Omi, the former WHO Regional Director for Western Pacific Region participated in this task force with financial contribution from the Government of Japan, to enhance cohesion between the work done by the task force and the preparatory process of the G7 Summit.

In parallel, the WHO published the second report of the advisory group on reform of WHO's work in outbreaks and emergencies in 2016 and, by recognizing the need for significant changes throughout the WHO, proposed a set of recommendations. The Director General of the WHO also established an Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme to provide direction and monitor the activities of the Programme. Together with these efforts, the 69th World Health Assembly also contributed to creating political momentum towards reinforcing GHA, especially among health ministers, by adopting a resolution recommending a reform of WHO's emergency response capacity. Academic institutes also played a major role in opening the political windows. Especially the National Academy of Medicine (NAM), and Harvard and London School of Hygiene & Tropical Medicine (LSHTM) Independent Panel on the Global Response to Ebola published their views of the Ebola outbreak and its responses respectively, and strongly advocated that the international community prepare for and respond to future public health emergencies.

As described earlier, Japan played an important role in creating a policy window, by convening a series of high-level political meetings and adopting key documents as an outcome of these political meetings: G7 Leaders' Declaration and G7 Vision for Global Health at G7 Ise-Shima Summit, Nairobi Declaration and Nairobi Implementation Measures at TICAD VI, and the G7 Kobe Communique at G7 Kobe Health Ministers' Meeting.

Another element in the political context is global governance structure—the degree to which norms and institutions operating in a sector provide a platform for effective collective action. The Oslo Group which consists of seven diverse countries (Brazil, France, Indonesia, Norway, Senegal, South Africa and Thailand) has been a strong advocate for the relationship between foreign policy and global health since 2007. At the 70th UN General Assembly (UNGA) in 2015, a resolution proposed by the Oslo Group entitled, *Global health and foreign policy: strengthening the management of international health crises*, was adopted. This resolution successfully discussed health issues outside the WHO. In order to keep up this momentum, Japan also worked with the Oslo Group at the 71st UNGA in 2016, and successfully included sections related to enhanced GHA in the form of coordination arrangements among UN entities mentioned

below in resolution A/RES/71/159 entitled *Global Health and Foreign Policy: Health Employment and Economic Growth*. Although the main topic this time was economic growth and human resources for health, it also served as the basis for continuing dialogue regarding GHA among the UN entities.

Issue characteristics

This category consists of a credible indicator, its severity, and effective interventions. At the beginning, only severity was widely recognized, whereas the other two elements were not sufficiently addressed. In 1994 Jamison and colleagues proposed the core functions of international organizations in the area of global health as promotion of global public goods, and interventions to deal with international externalities. The Ebola outbreak is not only characterized by its severity, the number of deaths, but also by its significance as it revealed fundamental fragility of the existing governance including the WHO, which could not handle these core functions; failure to contain virus transmission, lack of providing vaccines or other public goods. In terms of the severity of the economic aspect, the World Bank Group estimated that the three countries most affected by Ebola lost at least US $1.6 billion in forgone economic growth in 2015. Sub-Saharan Africa, as a whole, also lost US $500 million (low) to US $6.2 billion (high).

With regard to credible indicators and effective interventions, because a large scale public health emergency like the Ebola outbreak in 2014 is a rare event, there was not enough evidence on credible indicators. There were also limited effective interventions at the time of the outbreak primarily due to the failure of global public goods provision. However, some progresses were made: the WHO Emergency Programme and the Level 3 (L3) Activation Procedures for Infectious Disease Events were adopted.

Financial resource flow

We also analyzed financial contribution as one of the most visible ways to show the government's commitment in a specific area. There are two key components in this category: existence of a mechanism which directly allocates financial resources, and actual amount of financial contributions. The fundamental challenge of the Ebola outbreak was the failure of the existing global health architecture to deal with core functions. Schäferhoff and colleagues pointed out that in 2015, 78% of total development assistance went to supportive functions such as technical cooperation in developing countries while only 21% went to core functions to fix market failure. At the time of the Ebola outbreak, the global community did not have adequate funding for outbreaks nor mechanisms of effectively disbursing financial resources.

However, some progress has been made and the Japanese government was the driving force of these progresses. The WHO's Contingency Fund

for Emergencies (CFE) and the WB' Pandemic Financing Facility (PEF) were launched. CFE fills a critical gap from the beginning of an emergency which enables WHO to deploy experts and begin operations immediately. The aim of PEF is to fill a critical gap in the current financing architecture and its financing. PEF is activated once an outbreak reaches a significant level of severity, well after the WHO's CFE has disbursed to support early responses. On the occasion of the G7 Ise-Shima Summit, Japanese Prime Minister Shinzo Abe pledged a total of US $1.1 billion to global health institutes, including US $50 million to the WHO. Also at the G7 Finance Ministers and Central Bank Governors' Meeting in Japan in 2016 where PEF was officially launched, the Government of Japan announced their financial commitment of US $50 million to this new facility.

The Coalition for Epidemic Preparedness Innovations (CEPI) was also officially launched at the 2017 World Economic Forum, an international collective effort toward creating vaccines for future pandemics. Japan is a founding member of this new initiative and has committed a financial contribution of 25 million USD per year to this.

Efforts are not only necessary at times of emergencies, but also at a "peace time" through strengthening health systems to prepare for and respond to public health emergencies. Through Japan's efforts to reposition resilient health systems as a precursor to address public health emergencies, there is increasing momentum toward financially contributing to health systems strengthening. At TICAD VI in 2016, "UHC in Africa: A Framework for Action" was launched together with the WHO, WB, GF, Japan International Cooperation Agency (JICA) and the African Development Bank (AfDB) which provides useful guidance for African countries to develop national roadmaps and concrete actions toward UHC. In line with this framework, the WB group and the GF pledged 24 billion USD for African countries in order for them to attain UHC.

D. 結論

An implication from the analysis of reinforcing GHA through Japan's G7 presidency is that GHA could successfully get higher political attention by fulfilling four core categories; actor power, idea, context, issue characteristics and finance. In the case of mainstreaming the nutrition initiative globally, Pelletier et al. introduced the concept that policy community cohesion could contribute to increase political awareness toward ending the malnutrition endemic. Similar to the global nutrition initiative case, this time with GHA, Japan initiated several policy dialogues under the leadership of Prime Minister Abe echoed by Health Minister Yasuhisa Shiozaki and Keizo Takemi. These all contributed to strengthening collective efforts toward reinforcing GHA. It was exceptional in the history of Japan's global health-policy making

where powerful political leaders fully endorsed this agenda. As seen in the example of James Grant, the former director of the UN Children's Fund (UNICEF) who successfully gathered global attention to focus on children's health, the emergence of strong political leadership helped generate a high level of political attention. One remaining issue in the actor power category is CSO engagement in Shiffman's framework. In light of the fact that HIV/AIDS could successfully generate political awareness by effectively developing grassroots activities, further analysis of CSO engagement for reinforcing GHA is needed. Private sector also plays an important role at a time of pandemics. Japanese pharmaceutical companies not only provided drugs and diagnostics directly at the time of Ebola outbreak, but also contributed to the area of infectious disease control through the Global Health Innovative Technology (GHIT) Fund. The GHIT Fund was launched in 2013 as a collaborative effort between the MHLW, MOFA, Japanese pharmaceutical companies, the Gates Foundation and UNDP with a mission to facilitate international public and private partnerships that bring Japanese innovation, investment, and leadership to the global fight against infectious diseases and poverty in the developing world. GHIT has shown tangible achievements such as new malaria vaccine and is expected to further contribute to develop new drugs, diagnostics and vaccines especially for neglected tropical diseases (NTDs).

As to the idea category, Shiffman pointed out that, by applying his framework to the global motherhood initiative, compared with child health, maternal health failed to catch higher political attention because of its vague concept and hard to have same understanding among stakeholders. On the contrary, the GHA issue was visible and impactful to major stakeholders both within and outside Japan, which have already shared a concept of health security as a national, global and economic security issue. Similar to the HIV/AIDS endemic, which was recognized as public health, humanitarian, human rights, or in many other ways, therefore successfully drew wide political attention, GHA successfully involved several aspects from other sectors: public health, humanitarian crises, national, global and economic security.

With regard to the political context, the severity and externality of the Ebola outbreak itself caused higher political attention such as the UN High-level Meeting on the Response to the Ebola Virus Disease Outbreak and several influential reports from WHO and academic institutions. As shown in HIV/AIDS and NCDs, UN high level meetings largely promoted the health agenda. GHA was discussed at the UN high-level meeting which in turn supported GHA to be at the top global health agenda. Additionally, as seen in previous G7/G8 leaders meetings advancement of the global health agenda (i.e, strong emphasis on infectious diseases and increasing momentum toward creating the

Global Fund in Japan in 2000 and Italy in 2001, G8 dementia summit in UK in 2008, and maternal and child health in Muskoka Summit in Canada in 2010), Japan was also leading the political process and contributed to opening the political window; with the G7 leaders at G7 Ise-Shima Summit, with health ministers at the 69th WHA, with leaders from African countries and international organizations at TICAD VI, and G7 health ministers, WHO and UNOCHA at the G7 Kobe Health Ministers' Meeting.

There are some limitations to this framework. Previous research shows that, other conditions being equal, every category increases the chances of obtaining political attention. However, this framework does not analyze the relative causal weights of the factors, interaction between categories, interaction from outside the health sector and the additive effect of the combination of different categories and further research is therefore needed for these challenges. As indicated in the framework regarding the importance of credible indicators and effective interventions, renewed global health architecture for future public health crises are in early stages of being development including the WHO's Health Emergencies Programme, Level 3 Activation Procedures for Infectious Disease Events as well as new financing schemes of CFE, PEF and CEPI, and these new mechanisms should be closely monitored and evaluated. Particularly, effective and efficient use of financial resources are needed as scarce financial resources may hinder sustainability.

Conclusion

The recent Ebola outbreak revealed the fundamental fragility of the current global health architecture and caused tremendous debate about how to reinforce it. Taking advantage of the G7 presidency in 2016 and thereafter, Japan has been contributing to strengthening global health architecture for future public health crises through the involvement of notable Japanese political leaders, by enhancing community cohesion within and outside G7 members. In order to keep up this momentum toward GHA and ensure that recent global efforts fully result into health for all, new architecture such as the WHO emergency reform and Level 3 Activation Procedures for Infectious Disease Events as well as financing mechanisms should be closely monitored and evaluated.

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2. 学会発表

特になし

F. 知的財産権の出願・登録状況

（予定を含む。）

1. **特許取得**

特になし

2. **実用新案登録**

特になし

3. **その他**

特になし

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（H29-地球規模-一般-002）

研究代表者・渋谷健司

分担研究報告書

Context and challenges of Japan’s health system

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研究要旨

UHC（すべての人に基本的な保健サービスを支払い可能な価格で普及させること）が大きな政策目標となったグローバルヘルス分野において、我が国の知見がアジア諸国を中心とした発展途上国から求められている。また、低成長と少子高齢化の中で多くの課題が噴出し、我が国がどのように対応していくかが世界の注目を集めている。UHC は WHO 総会をはじめとして各種国際会議にて必出の議題となっており、また 2019 年には UHC に関する国連ハイレベル会合の開催も予定されており、UHC に関する議論は今後も盛り上がることが予想される。本研究は、WHO 総会等の主要会合における日本のプレゼンス向上を大目標に掲げるものであるが、とりわけ、G7 伊勢志摩サミット以降日本が牽引し、また今後国際的にも議論が盛り上がるであろう UHC に焦点を当て、UHC を推進する上で我が国の比較優位性を抽出するものである。主な研究目的は WHO Asia-Pacific Health Observatory（APO）の枠組みを活用し、我が国の保健医療制度の現状と課題及び将来像を、実証的かつ包括的に分析することで、UHC 達成に必要不可欠な疾病構造と人口動態の変化がもたらす医療システムへの影響の対処方法への示唆を得ることである。得られた成果については 2018 年 11 月に Resilient and people-centred health systems; Progress, challenges and future directions in Asia で公表した。この研究から得られた知見は、UHC 達成を目指す各国にとって、社会経済状況や疾病構造の変化とそれが保健医療政策に及ぼす影響についての対処を講じるために有用となるとともに、今後、国際会議等の場における UHC 関連議論において、我が国が積極的に打ち出す内容への基盤となるものである。

A．研究目的

Japan, the world's third-largest economy, with a correspondingly high standard of living, level of development, safety and stability, has had great success in improving population health outcomes, such as boasting of the highest life expectancy in the world. However, the country faces many challenges, including an ageing population with a low fertility rate, a shrinking economy, and an increasing burden from NCDs and degenerative diseases, such as dementia, which all impose a considerable stress on the current health and long-term care systems in Japan.

C．研究結果

Performance of the health system

Effectiveness and quality

Empirical evidence is scarce regarding the quality of primary health-care services in Japan. Hashimoto et al. (2011) showed that, compared to the USA, effective coverage for control of hypertension and hyperlipidaemia was much less in Japan. Using an administrative dataset, Tanaka et al. (2016) also reported that clinical practices for control of diabetes, including screening for complications of diabetes, are of relatively poor quality in Japan compared to those of the USA and European countries. These concerns might be attributable to relatively low rates of compliance to guidelines, limited opportunities for training in general practice, and the division between preventive and curative services in Japan (Hashimoto et al., 2011).

According to the OECD Health Statistics 2015, the quality of acute care services in hospitals in Japan showed poor performance for acute myocardial infarction (AMI). The death rate due to AMI in Japan was 12%, compared with the OECD average of 8.0%. However, according to the national databases that cover around 90% of acute care hospitals in Japan, the in-hospital mortality rate due to AMI was around 7.2%, suggesting that databases need to be refined for cross-country comparisons.

Moreover, evaluation of performance is still limited for outpatient services and chronic-care inpatient services. These data are covered mainly by the national database, which was primarily intended to facilitate reimbursements under the unified fee control schedule. As this database was not intended for research purposes, crucial data needed to determine service efficacy are often missing.

For data-driven, evidence-based policy-making, the government has slowly but steadily evolved its policy to make data available for open public use. However, the organizational infrastructure needed to improve the quality of data and

to support wider use is lacking.

Accessibility

Watanabe and Hashimoto (2012), using methodology originally proposed by Wagstaff et al. (1991), measured horizontal inequality – in accessing a health-care facility by using cross-sectional, nationally representative household surveys. Horizontal inequality is calculated as the difference between two types of concentration indices – acute health-care visits over a household's income level and expected health-care needs based on demographic and clinical conditions. By using the dataset from the Comprehensive Survey of People's Living Condition, they calculated horizontal inequality in Japan and the results are presented in Fig. 7.3. The horizontal inequality (gaps between two indices) was negative, indicating that people with a lower household income were likely to withdraw health-care use despite their health care needs. This gap was at its largest in 284 2001, though it jumped back to approximately –0.05 in 2007 (Sakamoto et al., 2018).

Fig. 7.4 and 7.5 show horizontal inequality in access to health care for two age groups (20–64 years and 65 years and above, respectively). Compared with the younger group, horizontal inequality has been low in people aged 65 years and above, presumably due to the reduced co-payment rate, which contributes to equalizing health-care utilization regardless of income levels among the elderly. However, a further decline in horizontal inequality is seen in 2013 among the older age group, which may be an early sign of the declining household capacity to pay for health-care costs due to economic stagnation. Further monitoring is required to assess this trend (Sakamoto et al., 2018).

It is worth noting that the Japanese health-care system does not adequately address the cultural needs of ethnic minorities, especially with respect to language barriers and religious backgrounds. Some efforts are being made in this direction as part of the preparations for the 2020 Tokyo Olympic and Paralympic games, foreseeing that there will be many foreign patients at that time. However, systematic and empirical evidence is scarce, making it difficult to assess the magnitude and severity of this problem.

Resilience

The likelihood of rising expenditure poses risks to fiscal sustainability. The ageing population and increases in the prices of medicines and medical devices have been pushing the total health-care expenditure, which has put a significant burden on the health-care system in Japan. To tackle this challenge, in 2008, the government (both the ruling party and the opposition party) agreed to pass the "Comprehensive Reform of Social Security and Tax", a joint reform of the social security and taxation system that should improve fiscal sustainability for the health and long-term care

system in Japan. It originally planned to raise the consumption tax, with any additional funds from it being channelled for social security costs, including health and long-term care. Though the current Abe Cabinet originally planned to increase the consumption tax rate to 10% in October 2015, it has been postponed to September 2019, which has delayed social security and taxation reform. An increase in the consumption tax being a big political issue, the future progress of reform remains unclear.

Integrated community care system (ICCS)

A majority of the elderly wish to stay in their homes during the very end of their lives. However, because of the increase in the number of unmarried people, single-person households and parent–child separated households, more elderly persons are living alone. Consequently, it is difficult to provide arrangements for them to die at home (78.4% die at health-care facilities). In response to this, the government promoted an Integrated Community Care System (ICCS) in 2006. This system aims to provide appropriate living arrangements, social care and daily life support services within the community as well as integrate prevention, medical services and long-term care for the elderly.

Twelve years since its adoption in 2006, the ICCS continues to be the central core policy of health and long-term care in Japan. However, several challenges remain: how to encourage local stakeholders to participate in the community discussion, how to channelize diverse interests to evolve a consensus on efficient allocation of resources, and how to meet bureaucratic demands both at the central and local government levels.

D. 結論

Thanks to the overall efficiency of its health system and parallel advances in technology, Japan has for many years enjoyed increased life expectancy, decreased maternal and infant mortality, and a reduced burden of communicable diseases. However, the Japanese health-care system faces several challenges, including an ageing society, increasing health-care expenditure, economic stagnation and increasing inequity, all of which place a heavy burden on the current health-care system.

Fundamentally, what Japan needs is a health-care paradigm shift. Such a shift in Japan’s approach to health care has already been proposed in Japan vision: health care 2035, a report drafted by young Japanese leaders in health care under the leadership of the then minister Yasuhisa Shiozaki. The goal of Japan vision: health care 2035 is to build a sustainable health-care system that delivers better health outcomes through care that is responsive and equitable to all members of society, and that contributes to prosperity in Japan and the world. Bearing in mind these transformations by 2035, fundamental reforms that focus on outcomes, quality, efficiency, care and integrated

approaches across sectors will be necessary to maintain a low-cost, equitable health system in the future (Miyata et al., 2015).

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2. 学会発表

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2. 実用新案登録

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3. その他

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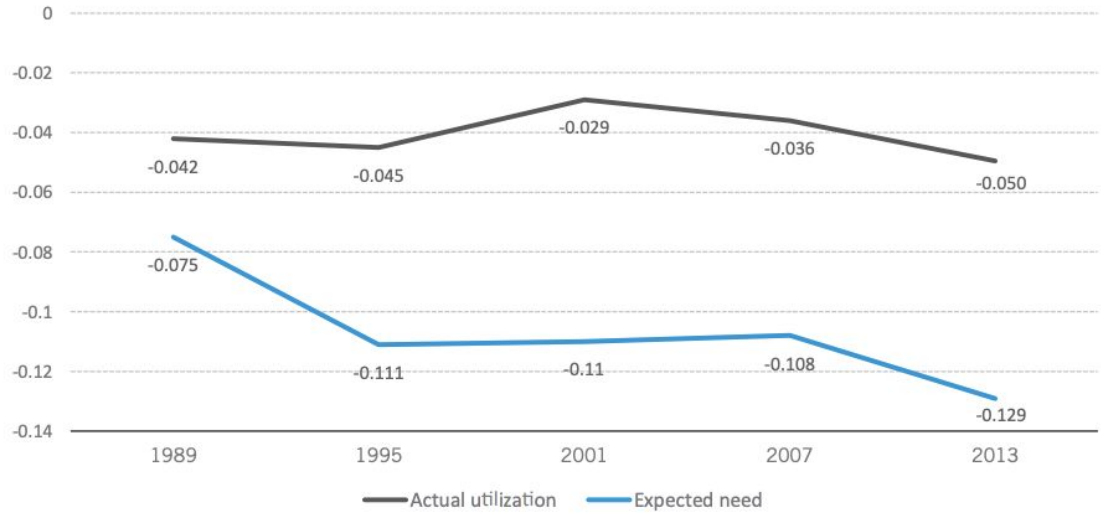
Fig 7.3 Japan: Horizontal equity in access to healath caare

Fig. 7.3 Japan: Horizontal equity in access to health care (concentration indices over household income), age 20+ years, 1989–2013

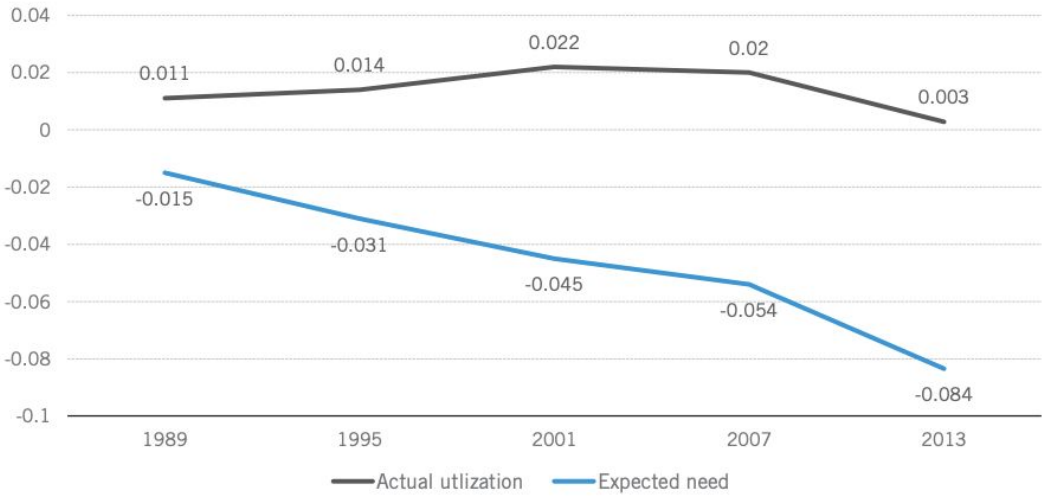


Notes: Actual utilization: concentration indices for actual health-care use; expected need: concentration indices for expected health-care needs (estimated health status)

Source: Sakamoto et al., 2018

Fig 7.4 Japan: Horizontal equity in access to health care (concentration indices over household income), age 20 – 64 yeaars, 1989 – 2013

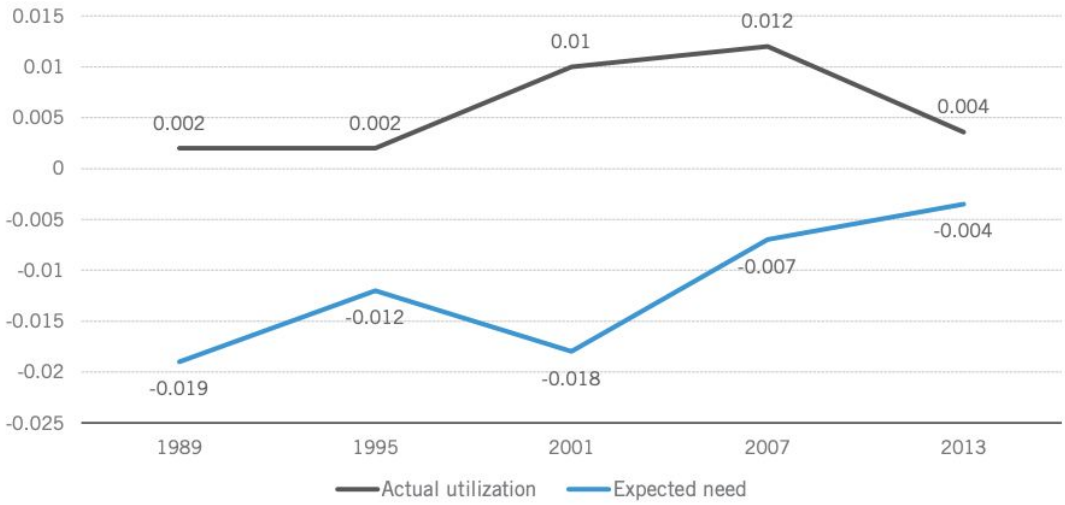
Fig. 7.4 Japan: Horizontal equity in access to health care (concentration indices over household income), age 20–64 years, 1989–2013



Notes: Actual utilization: concentration indices for actual health-care use; expected need: concentration indices for expected health-care needs (estimated health status)
Source: Calculated by Hashimoto from MHLW, 2016d

Fig 7.5 Japan: Horizontal equity in access to health care (concentration indices over household income), age 65+ yeaars, 1989 – 2013

Fig. 7.5 Japan: Horizontal equity in access to health care (concentration indices over household income), age 65+ years, 1989–2013



Notes: Actual utilization: concentration indices for actual health-care use; expected need: concentration indices for expected health-care needs (estimated health status)
Source: Calculated by Hashimoto from MHLW, 2016d

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研究代表者・渋谷健司
分担研究報告書

Health care financing in low- and middle- income countries

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研究要旨

Background: Attainment of universal health coverage is a global health priority. The Myanmar Government has committed to attainment of universal health coverage by 2030, but progress so far has not been assessed. We aimed to estimate national and subnational health service coverage and financial risk protection.

Methods: We used nationally representative data from the Myanmar Demographic and Health Survey (2016) and the Integrated Household Living Condition Assessment (2010) to examine 26 health service indicators and explored the incidence of catastrophic health payment and impoverishment caused by out-of-pocket payments. We used logistic regression models of inequalities in, and risk factors for, indicators of universal health coverage.

Findings: Nationally, the coverage of health service indicators ranged from 18·4% (95% CI 14·9–21·9) to 96·2% (95·9–96·5). Coverage of most health services indicators was below the universal health coverage target of 80%. 14·6% (95% CI 13·9–15·3) of households that used health services faced catastrophic health-care payments. 2·0% (95% CI 1·7–2·3) of non-poor households became poor because of out-of-pocket payments for health. Health service coverage and financial risk protection varied substantially by region. Although the richest quintiles had better access to health services than the poorest quintiles, they also had a higher incidence of financial catastrophe as a result of payments for health care. Of the indicators included in the study, coverage of adequate sanitation, no indoor use of solid fuels, at least four antenatal care visits, postnatal care for mothers, skilled birth attendance, and institutional

delivery were the most inequitable by wealth quintile.

Interpretation: Attainment of universal health coverage in Myanmar in the immediate future will be very challenging as a result of the low health service coverage, high financial risk, and inequalities in access to care. Health service coverage and financial risk protection for vulnerable, disadvantaged populations should be prioritised.

A．研究目的

Universal health coverage (UHC) is a global health priority, and a core element of the Sustainable Development Goals (SDGs) adopted by the UN in September, 2015.Goal 3 sets an ambitious agenda to “ensure healthy lives and promote wellbeing for all at all ages”. The aim of UHC is to ensure that all people can access good-quality health services without incurring financial hardship. WHO and the World Bank's target for UHC is at least 80% coverage of essential health services and 100% coverage of financial protection in the whole population. To measure progress towards UHC, WHO developed a framework that consists of three dimensions: essential health service coverage, financial risk protection, and population coverage (equity).

Like many WHO member countries, the Myanmar Government has committed to achieving UHC by 2030. The Ministry of Health and Sports launched the 5-year National Health Plan (2017–21) in December, 2016. The major goals are to ensure access to a basic essential package of health services (EPHS) for the whole population by 2020, and to increase financial risk protection. The Myanmar health system is a pluralistic mix of public and private systems in terms of both financing and service provision. After the transition to a civilian government in March, 2011, investments in the health sector have increased. The Myanmar Government increased the budget allocation for health to 3·4% of total government expenditure in the 2014–15 fiscal year, a substantial improvement from the 1% allocated in 2010–11. However, this allocation remains the lowest in the Asia-Pacific region. External funding, mostly in the form of official development assistance channelled through governmental and not-for-profit organizations, is also a source of finance. Official development assistance funded 21·8% of total expenditure on health as of 2014. Public spending on health has increased from 0·2% of the gross domestic product (GDP) in 2009, to 1% in 2014. However, despite this substantial increase in health investment, public spending on health in Myanmar is lower than that in all other countries of the Association of Southeast Asian Nations. Because of an absence of health insurance and cost-sharing policies, out-of-pocket payments are the main source of health financing in Myanmar. Alongside increases in health-sector investment, out-of-pocket health expenditure as a proportion of total health expenditure decreased from 79% in 2011, to 51% in 2014. However, the proportion of health expenditure that out-of-pocket payments comprise in Myanmar is still one of the highest in the region.

Other key challenges in Myanmar's health system include the insufficient health workforce, limitations in decentralization of health services, and a lack of infrastructure. The health worker density in 2016 was 15 per 10 000 population, 61% lower than the southeast Asian regional estimate. Despite the introduction of

health-sector decentralization, financial and human resources are still centrally managed. Only 0·6 hospital beds are available per 1000 population, the second lowest availability in the southeast Asian region. Additionally, inequality in access to health services and financial risk protection as a result of geographical, ethnic, and socioeconomic differences is a major concern in Myanmar.

The path to UHC differs between all countries on the basis of variations in demographic and socioeconomic characteristics. Thus, measurement of progress is both necessary and informative. This study provides a baseline measurement of UHC in Myanmar both nationally and subnationally, against which subsequent measurements can be compared to monitor progress. In view of the current situation, understanding of progress towards UHC at a subnational level assessment is very important for identification of states or regions that are failing to meet targets for health service coverage and financial risk protection.

B．研究方法

Data sources

We used data from two nationally representative surveys to assess progress towards UHC in Myanmar. To assess indicators of health service coverage, we used the 2015–16 Demographic and Health Survey. The survey had a stratified two-stage sample design. Data from the survey consisted of 13 260 households from 4000 primary sampling units collected nationally, for urban and rural areas, and for each of the seven states and eight regions of Myanmar. The overall response rate was 98%. Details of sampling methods and questionnaires were described in the Myanmar Demographic and Health Survey report. Data from the Integrated Household Living Condition Assessment 2009–2010 were used for estimation of indicators of financial risk protection associated with out-of-pocket health-care payments. The survey had a stratified multistage design, and provided data for key dimensions of living conditions and wellbeing. The survey was done in two rounds 6 months apart between December, 2009, and May, 2010. In our study, we used data from both rounds. 18 660 households were selected, and the overall response rate was 99%. The Integrated Household Living Condition Assessment was based on data from household questionnaires, which provide information about household living conditions that is needed for assessments of financial risk. Details of the study design can be found in the Integrated Household Living Condition Assessment report.

Indicators

In accordance with WHO and World Bank recommendations, health service coverage, financial risk protection, and inequalities for UHC indicators were measured. We included both prevention and treatment indicators in the assessment of health services, in line with WHO recommendations. The 22 prevention indicators that were considered for inclusion were

improved water; adequate sanitation; no indoor use of solid fuels; family planning needs satisfied; at least one antenatal care visit; at least four antenatal care visits; BCG immunisation; three doses of diphtheria, tetanus, and pertussis (DTP3) immunisation; three doses of polio immunisation; measles immunisation; full immunisation; vitamin A supplementation; care seeking for pneumonia; care seeking for fever; care seeking for diarrhoea; exclusive breastfeeding; postnatal care for mothers; postnatal care for neonates; no use of tobacco among women; non-overweight or obese; use of insecticide-treated bednets by children younger than 5 years; and use of insecticide-treated bednets by pregnant women. The four treatment indicators considered for inclusion were skilled birth attendance, oral rehydration therapy for childhood diarrhoea, institutional delivery, and acute respiratory infection treatment for childhood pneumonia. Two indicators—incidence of catastrophic health payments and impoverishment—were used to assess financial hardship dimensions in the UHC framework. A household's expenditure on health care was defined as catastrophic if it exceeded some proportion of total household expenditure, non-food expenditure, or capacity to pay. Consistent with the methods of a previous study, we used a threshold of 40% of non-food expenditure. Health expenditure was judged to be impoverishing when a non-poor household became poor after out-of-pocket payment for health-service utilisation. We estimated impoverishment on the basis of the national food poverty line directly from the Integrated Household Living Condition Assessment survey.

Statistical analysis

Similar to previous studies, we estimated mean prevention, mean treatment coverage, and composite coverage indices. The composite prevention index was based on all prevention indicators and the composite treatment index was based on the four treatment indicators. For the composite coverage index, we used a weighted mean of eight interventions (family planning needs satisfied, skilled birth attendance, antenatal care with skilled provider, DTP3, measles immunisation, BCG immunisation, oral rehydration therapy for children with diarrhoea, and care seeking for pneumonia) from four specialties (family planning, maternity care, child immunisation, and case management). They were calculated by random-effects meta-analyses. Coverage of indicators was estimated as a proportion, taking into account the sampling weight. Consistent with the methods used in a previous study, we assessed both the absolute and relative measures of inequality with the slope index of inequality, relative index of inequality, and concentration index to summarise wealth-quintile-specific inequalities in indicators of health service coverage and financial risk protection. At a national level, we measured both absolute and relative inequality in health. However, for subnational assessments of inequality, we used the slope index of inequality,

which provided the magnitude of inequality. We used a logistic regression model to compute these indices, taking into consideration the whole population distribution of wealth. We used a series of multilevel logistic regression models to identify potential risk factors for selected indicators of health service coverage and financial hardship. In the risk-factor analysis, we selected six indicators with the greatest inequalities in indicators of health service coverage (as shown by the highest slope indices of equality). The key confounding factors adjusted for in the model were the age, sex, and education level of the head of the household, household size, households with chronic illness, and residence (urban or rural). Because of their effects on health, we included socioeconomic and demographic characteristics as confounding factors in our multilevel analysis. All analyses were performed in Stata (version 14.1).

Role of the funding source

The study funders had no role in study design; data collection, analysis, or interpretation; or writing of the report. The corresponding author had full access to all study data and had final responsibility for the decision to submit for publication.

C．研究結果

National coverage of most prevention and treatment indicators was roughly 50–80% (table 1). The composite coverage index was 71·2% (95% CI 69·9–72·5), the composite prevention index was 58·7% (47·9–69·1), and the composite treatment index was 49·2% (34·3–64·2; table 1). The lowest national coverage indicators were for use of insecticide-treated bednets by both pregnant women and children younger than 5 years, followed by postnatal care for neonates and institutional delivery (table 1). Non-use of tobacco by women, BCG immunisation, and improved water sources had the highest coverage (table 1).

Coverage of indicators varied by state and region (figure 1). National coverage of adequate sanitation was 59·4% (95% CI 58·5–60·3; table 1), which ranged from 34·4% (95% CI 30·9–38·0) in Rakhine to 92·8% (95% CI 90·1–95·4) in Kachin (figure 1A). Coverage of institutional delivery was low across all states and regions (figure 1A, table 1). Coverage of immunisation varied substantially: although nationally the BCG coverage target of 80% was reached, in Shan (76%) and Ayeyarwaddy (75%) it was not (figure 1B). Full immunisation coverage reached the 80% target in Mandalay and Kayah only (figure 1B).

At the national level, 14·6% (95% CI 13·9–15·3) of households incurred catastrophic health payments (table 2), and 2·0% (1·7–2·3) of non-poor households became poor as a result of health-care costs. The overall incidence of catastrophic health care payment was highest in Chin (24·5% [95% CI 17·2–31·9]), followed by Kayin (20·6% [12·9–28·2]) and Taninthayi (20·4% [16·9–23·9]; table 2). Wealthier people

faced more financial catastrophe than poorer people in all states and regions except for Chin and Kayin (figure 2). Substantial inequality in the frequency of catastrophic payment was evident in Yangon, Ayeyarwaddy, and Chin, where the incidences of catastrophic payment among the wealthiest households was 18·5 (95% CI 7·5–29·5) percentage points higher, 17·6 (9·6–25·7) percentage points higher, and 16·3 (2·0–30·6) percentage points higher, respectively than those in the poorest households (figure 2, table 2). By contrast, in Kayin, the incidence of catastrophic health payments was 14·6 (95% CI –28·8 to –0·3) percentage points lower among the richest households than the poorest households.

The most inequitable prevention and treatment indicators were adequate sanitation, no indoor use of solid fuel, at least four antenatal care visits, postnatal care for mothers, presence of a skilled birth attendant during delivery, and institutional delivery (table 3). Notable differences in inequality of coverage for skilled birth attendance, institutional delivery, adequate sanitation, and full immunisation were noted across all states and regions (appendix pp 14–15).

Multilevel models showed that access to perinatal care services increased with increased levels of education (either mothers or their partners) and older age (appendix p 16). Women with some higher education were five times more likely to have at least four antenatal care visits, and seven times more likely to have an institutional delivery than were those with no education (appendix p 16). Women with a partner with higher education were at least five times more likely to have access to perinatal services than were those whose partners did not have any education (appendix p 16). Irrespective of sex, households headed by someone with higher education were nearly twice as likely to have access to adequate sanitation facilities and not to use solid fuels indoors as those headed by someone with no education (appendix p 17).

In terms of financial risk, households containing a person with a chronic illness were 5·95 times more likely, households containing a person or older than 65 years were 1·79 times more likely, and those headed by women were 1·23 times more likely to incur catastrophic health payments than their counterparts (table 4). The risk of impoverishment was 3·44 times higher among households containing a person with a chronic illness than among those without a person with a chronic illness (table 4). Risk of impoverishment was roughly 1·5 times higher for female-headed households than for male-headed households and for households headed by someone with higher education than for those headed by someone with no education (table 4).

Discussion

To our knowledge, this study is the first attempt to assess systematically progress towards UHC in Myanmar both nationally and subnationally, as measured with a wide range of indicators of health service coverage and financial risk

protection. Our findings suggest that overall coverage of essential health services is far from the 80% target by 2030. Coverage varied widely across states and regions. Many households faced catastrophic and impoverishing health expenditure. Furthermore, we noted substantial wealth-based inequality in both coverage of health services and catastrophic health payments across all states and regions.

In our study, coverage of most health service indicators was lower than 60%, both nationally and subnationally (table 1). These findings are similar to those from countries such as Afghanistan, Bangladesh, Nepal, and India. There are many barriers to access to health services, which are mainly the result of poor availability of good-quality health services, large distances to health facilities, and long waiting times at overcrowded facilities with restricted opening hours. The most important barrier in many Asia Pacific countries, including Myanmar, is high user fees and direct out-of-pocket payment for health services, which is especially likely to deter poor populations from attempting to access care. Another obvious reason for poor service coverage in Myanmar is low investment in health care. Only 3% of the total government budget is allocated to health care, and allocations between regions and states are not proportionate to health needs. Civil conflicts and the remoteness of some regions also contribute to poor coverage.

The lowest coverage noted was for maternal, neonatal, and child health indicators, such as postnatal care for neonates and institutional delivery. Low coverage of maternal, neonatal, and child health indicators has also been reported in India, Afghanistan, and Bangladesh. A previous study suggested that the shortage of human resources in the health sector, especially in hard-to-reach or remote areas, was strongly linked to slow progress towards increased coverage of maternal, neonatal, and child health indicators in Myanmar. Maternal and child health promoters (community volunteers in rural areas who are part of community initiatives to provide a connection between mothers and health-care providers) and auxiliary midwives in Myanmar probably cannot adequately address poor access to maternal, neonatal, and child health services, especially in remote areas. Furthermore, financial constraints and transportation difficulties are common barriers to accessing delivery care in health-care facilities. The Ministry of Health and Sports introduced the Maternal and Child Health Voucher Scheme, a financial incentive for the use of maternal and child health services, in 2013. However, motivation to use the voucher is low, especially among pregnant women living in remote areas and those living far from health facilities. Similarly, in Bangladesh, use of maternal health services remains low despite the introduction of a cash benefits system in the form of a maternal health voucher scheme because of the insufficient availability of health facilities. Our findings suggest that a maternal, neonatal, and child health coverage gap still exists, and 80%

coverage is unlikely to be reached by 2030 without focused efforts to expand services and increase coverage.

BCG immunization was the only immunization coverage indicator that reached the 80% target nationally—a finding that policy makers should be aware of. Only two states and regions (Mandalay and Kayah) achieved 80% coverage in all vaccinations. No vaccinations had more than 80% coverage in Ayeyarwaddy or Shan (figure 2). The Expanded Program on Immunization in Myanmar is supported by WHO, UNICEF, and Gavi, the Vaccine Alliance. According to Myanmar's Gavi co-financing status, and because of the country's transition from low-income to lower-middle-income status, the immunisation programme should in theory be 100% domestically financed in the very near future. Fully self-financing an immunisation programme is likely to be a challenge for the Ministry of Health and Sports, mainly because current budget allocations to the health sector are not sufficient to cover all vaccination services. Furthermore, there is also no separate financing mechanism for the health sector apart from official development assistance and the government budget allocation to the health sector. Barriers associated with low immunisation uptake should be identified, so that appropriate interventions can be implemented to increase coverage.

Availability of health services was greatest among the wealthiest quintile in this study, consistent with findings from Bangladesh, India, Nepal, Pakistan, and many other low-income and middle-income countries. The most substantial inequalities between the richest and poorest quintiles were in coverage of at least four antenatal care visits, postnatal care for mothers, institutional delivery, skilled birth attendance, adequate sanitation, and no indoor use of solid fuel. The coverage of some health indicators such as at least four antenatal care visits, skilled birth attendance, and institutional delivery was substantially higher in urban than in rural populations. This wide inequality exists despite the introduction of trained community health workers and auxiliary midwife programmes in 2010, which were intended to fill the gap in primary care services, especially in 1444 hard to-reach or remote areas. Barriers to the effective implementation of these programmes include heavy workloads, geographical and transportation barriers, inadequate supervision and training, and inadequate replenishment of auxiliary midwife kits. Despite efforts to increase the health workforce, the attrition rate is as high as 15–20% for community health workers and 5–10% for auxiliary midwives. The reasons for low retention of the health workforce, especially in remote areas, need to be assessed and addressed effectively. In addition to inadequate and inequitable distribution of the health workforce, a study of baseline health system assessments in hard-to-reach villages showed that lack of infrastructure, essential medicines, medical equipment, and insufficient financing restricted the delivery of primary

health-care services. Policies to support, fund, and provide technical supervision to these programmes need to be strengthened to achieve desired outcomes.

Along with wealth-based inequality, our study also showed that socioeconomic characteristics such as secondary or higher education and living in urban areas were associated with increased coverage of health services. Subnational analysis of indicators of health service coverage showed that coverage was notably low in Rakhine, Chin, and Shan, which are remote, conflicted regions whose populations comprise mostly ethnic groups. Disparities in health and health care will persist unless Myanmar addresses the lack of access to health services in vulnerable populations. For example, Rohingya populations in Rakhine cannot access proper nutrition, obstetric care, or maternal and child health care. In Chile, gender, ethnic, and age-related inequality in access to care, and the adequacy and quality of care all remain to be addressed even after the introduction of the Explicit Health Guarantees Regime (known as AUGE). AUGE covers health conditions for free through both the public and private systems. Turkey has successfully increased equity in health-service use and financing through the Health Transformation Program, which has raised access to, and use of, key health services for all citizens but especially the poorest populations. Thus, a strong commitment to scaling up health coverage in remote areas, areas with ethnic populations, and regions of conflict, while ensuring that services are accessibly by the most marginalised and poorest populations, should be a priority for national policy and decision making in Myanmar.

Roughly 15% of households in Myanmar incurred financial catastrophe, and 2% of non-poor households were impoverished as a result of out-of-pocket health payments. Households in the richest quintiles were more likely to incur catastrophic health expenditure than those in the poorest quintiles. These findings are consistent with those in other south Asian countries, such as Bangladesh, Nepal, and India. A possible explanation for the lower frequency of catastrophic payment among poor populations might be that poor households refrain from seeking health care because of their limited ability to pay. Decisions to seek care are likely to involve a tradeoff with income needed for daily expenditure for such households. Furthermore, wealthy households are more likely to use both outpatient and inpatient services than poor households, and thus are more likely to face catastrophic health expenditure when paying for the services they have used. Additionally, our multilevel analysis showed that households with members older than 65 years or members with chronic illnesses were more likely to experience financial catastrophe or impoverishment as a result of health expenditure. Studies in India and China showed that financing chronic diseases contributed to high out-of-pocket payments, and pushed households into poverty.

The absence of prepayment or health insurance

systems, high dependency on out-of-pocket payments, and low spending on health (as a proportion of gross domestic product) contribute to financial catastrophe and impoverishment in low-income and lower-middleincome countries. All these factors need to be urgently addressed in Myanmar. In Mexico between 2000 and 2010, a national protection programme known as Seguro Popular, which is financed through general taxation, reduced the incidence of catastrophic health expenditure from 3·1% to 2·0%, and of impoverishment because of health expenditure from 3·3% to 0·8%. Furthermore, the introduction of health insurance mechanisms, such as government-funded insurance schemes in China, social health insurance financed by income tax in Thailand and Vietnam, and voluntary insurance schemes such as micro health insurance in Pakistan, can protect against catastrophic health payments. Policy makers need to develop appropriate risk-pooling mechanisms for health insurance to protect households from financial risk from health payments, with an emphasis on improving access to health services among poor households. Health service coverage and incidence of financial catastrophe varied across states and regions in our study. Kachin, Kayin, Chin, Rakhine, and Ayeyarwaddy, which are in the north and northwest of Myanmar, generally had less than 50% coverage in essential health services indicators such as skilled birth attendance, institutional delivery, and at least four antenatal care visits. The incidence of financial catastrophe was highest in Chin, followed by Kayin, Taninthayi, and Ayeyarwaddy (table 2). An absence of accessible health facilities, insufficient health workforce, and insufficient health budget allocation were the major causes of this regional inequity. Efforts should be made to prioritise the provision of cost-effective health services on the basis of states' specific needs. States and regions in Myanmar have very few autonomous source of revenue, and very little individual accountability. However, decentralisation in Myanmar began with the adoption of the 2008 Constitution. The fiscal decentralisation process has been in progress since the transition to a civilian government in 2011. Thus, although primary responsibility would remain with the central government, subnational governments choosing to prioritise the expansion of health services and to raise revenues in the form of taxes could be a way to address inequality. A strength of our study was that we used a wide range of metrics to estimate the coverage of prevention and treatment indicators. Ours is the first study in which national and subnational progress towards UHC was assessed on the basis of all three dimensions of the UHC framework. We used nationally representative surveys with high response rates as our data source, and did sensitivity analysis to assess the association between inequality in health indicators and exposure variables. However, our study has some limitations. First, indicators related to services for non-communicable diseases and two

major communicable diseases (HIV and tuberculosis) were not included. The burden of non-communicable diseases is increasing in Myanmar, and the burden of communicable diseases— especially tuberculosis and HIV—remains substantial, but very few data are available. Second, we did not take into account transportation costs to receive health services, and other opportunity costs. As a result, the incidence of catastrophic payment might be higher than our results suggest. Finally, the data for indicators of health service coverage and those for indicators of financial risk protection were not from the same year and thus could not be compared.

D. 結論

Attainment of UHC in Myanmar in the immediate future will be very challenging in view of low coverage of health services, high financial risk because of out-ofpocket payments, and large inequalities. There is a need to prioritise health service coverage and financial risk protection for poor populations in Myanmar. Our estimates of components of UHC indicators could help to guide health policy makers with important decisions and strategy planning to achieve these goals.

E. 研究発表

1. 論文発表

Han SM, Rahman MM, Rahman SM, Swe KT, Palmer M et al. **Progress towards universal health coverage in Myanmar: a national and subnational assessment**. *Lancet Glob Health*, 2018, 6(9): e989-e997

2. 学会発表

特になし

F. 知的財産権の出願・登録状況

（予定を含む。）

1. 特許取得

特になし

2. 実用新案登録

特になし

3. その他

特になし

Table 1. Coverage of health services nationally and in urban and rural areas in Myanmar, 2016

	National (95% CI)	Urban (95% CI)	Rural (95% CI)
Prevention indicators			
Improved water sources	80·3% (79·6–81·0)	89·3% (88·2–90·3)	77·1% (76·2–77·9)
Adequate sanitation	59·4% (58·5–60·3)	76·9% (75·4–78·3)	51·6% (50·6–52·6)
No indoor use of solid fuels	51·2% (50·3–52·1)	76·3% (74·8–77·7)	48·9% (47·8–49·9)
Family planning needs satisfied	75·9% (74·8–77·1)	81·9% (79·9–83·8)	73·7% (72·3–75·1)
At least one antenatal care visit	80·1% (78·8–81·4)	93·7% (92·1–95·4)	75·9% (74·3–77·5)
At least four antenatal care visits	55·5% (53·8–57·1)	83·1% (80·5–85·6)	47·0% (45·2–48·9)
BCG immunisation	87·8% (85·6–90·0)	91·8% (88·2–95·5)	86·4% (83·7–89·1)
DTP3 immunisation	62·7% (59·4–65·9)	75·2% (69·5–81·0)	58·3% (54·4–62·1)
Three doses of polio immunisation	67·2% (64·1–70·4)	76·0% (70·4–81·7)	64·2% (60·4–67·9)
Measles immunisation	77·1% (74·2–79·9)	81·7% (76·5–86·8)	75·5% (72·1–78·8)
Full immunisation	55·2% (51·8–58·5)	67·5% (61·2–73·7)	50·9% (47·0–54·8)
Vitamin A supplementation	54·8% (53·2–56·4)	53·6% (50·2–57·0)	55·1% (53·3–56·9)
Care seeking for pneumonia	58·6% (50·0–67·1)	76·9% (60·3–93·5)	53·6% (43·8–63·4)
Care seeking for fever	57·0% (53·2–60·8)	59·8% (51·9–67·7)	56·2% (51·8–60·5)
Care seeking for diarrhoea	53·8% (49·0–58·5)	48·7% (37·3–60·1)	54·9% (49·6–60·1)
Exclusive breastfeeding	51·2% (46·3–56·2)	51·8% (41·8–61·7)	51·1% (45·4–56·8)
Postnatal care for mother	58·3% (55·9–60·6)	77·7% (73·7–81·7)	51·8% (49·0–54·5)
Postnatal care for neonate	27·6% (25·4–29·7)	32·0% (27·5–36·5)	26·1% (23·7–28·5)
Does not use tobacco	96·2% (95·9–96·5)	98·8% (98·5–99·1)	95·1% (94·7–95·6)
Not overweight or obese	75·3% (74·6–76·1)	66·9% (65·4–68·5)	78·8% (77·9–79·6)
Use of ITN (children <5 years old)	18·6% (17·5–19·7)	8·3% (6·6–10·0)	21·5% (20·2–22·9)
Use of ITN (pregnant women)	18·4% (14·9–21·9)	10·4% (4·5–16·4)	20·7% (16·5–24·9)
Treatment indicators			
Acute respiratory infection treatment for pneumonia	43·3% (34·8–51·9)	53·8% (34·2–73·5)	40·5% (30·9–50·1)
Oral rehydration therapy	55·8% (51·1–60·6)	62·5% (51·5–73·5)	54·4% (49·1–59·6)
Institutional delivery	37·1% (35·6–38·5)	70·1% (67·2–73·0)	27·6% (26·1–29·1)
Skilled birth attendance	60·2% (58·7–61·6)	87·8% (85·8–89·9)	52·3% (50·6–54·0)
Composite indices			
Composite coverage index	71·2% (69·9–72·5)	74·4% (68·7–80·1)	69·1% (62·9–75·2)
Composite prevention index	58·7% (47·9–69·1)	67·6% (53·5–80·2)	55·9% (45·7–65·9)
Composite treatment index	49·2% (34·3–64·2)	70·8% (54·9–84·5)	43·5% (27·4–60·4)

DTP3=three doses of diphtheria, tetanus, and pertussis immunisation. ITN=insecticide-treated net.

Table 1: **Coverage of health services nationally and in urban and rural areas in Myanmar, 2016**

Table 2. Incidence of catastrophic health-care payment and inequality nationally and sub-nationally in Myanmar, 2010

	Incidence of catastrophic health expenditure (95% CI)			Slope index of inequality (95% CI)
	Overall	Poorest quintile	Richest quintile	
National	14·6% (13·9 to 15·3)	11·0% (9·7 to 12·3)	21·5% (19·5 to 23·4)	12·3 (10·0 to 14·7)
Kachin	14·9% (11·6 to 18·3)	9·3% (0·8 to 17·8)	16·9% (10·4 to 23·3)	8·7 (–2·3 to 19·6)
Kayah	14·7% (8·3 to 2·1)	N/A	16·2% (0·8 to 31·6)	N/A*
Kayin	20·6% (12·9 to 28·2)	12·3% (3·0 to 38·7)	14·5% (3·8 to 6·8)	–14·6 (–28·8 to –0·3)
Chin	24·5% (17·2 to 31·9)	20·8% (3·9 to 12·7)	20·7% (2·3 to 39·1)	16·3 (2·0 to 30·6)
Sagaing	12·7% (10·6 to 14·7)	8·8% (5·1 to 12·5)	17·9% (12·8 to 23·0)	10·0 (3·9 to 16·0)
Taninthayi	20·4% (16·9 to 23·9)	17·0% (8·8 to 25·1)	26·5% (20·4 to 32·6)	11·1 (1·2 to 21·0)
Bago	16·1% (14·0 to 18·2)	11·1% (6·7 to 15·4)	26·4% (20·7 to 32·0)	16·2 (9·5 to 22·9)
Magway	13·7% (11·7 to 15·7)	9·7% (6·6 to 12·8)	27·9% (20·2 to 35·6)	16·1 (9·0 to 23·2)
Mandalay	9·9% (8·4 to 11·4)	6·8% (4·6 to 8·9)	13·3% (9·5 to 17·1)	7·3 (3·8 to 10·8)
Mon	16·4% (13·4 to 19·4)	16·3% (1·8 to 30·8)	20·3% (14·7 to 25·9)	12·9 (6·6 to 19·2)
Rakhine	13·2% (10·1 to 16·3)	11·9% (7·7 to 16·0)	31·4% (16·8 to 46·0)	7·7 (–1·2 to 16·7)
Yangon	17·2% (14·6 to 19·8)	18·3% (10·8 to 25·9)	24·3% (19·6 to 29·0)	18·5 (7·5 to 29·5)
Shan	8·0% (6·0 to 10·1)	4·0% (1·4 to 6·7)	16·9% (7·6 to 26·3)	12·1 (5·7 to 18·4)
Ayeyarwaddy	18·3% (16·3 to 20·2)	13·5% (10·5 to 16·4)	27·4% (18·5 to 36·2)	17·7 (9·6 to 25·7)

Catastrophic health expenditure was defined on the basis of a threshold of 40% of non-food expenditure. N/A=not applicable. *Could not estimate slope index of inequality because of the small sample size for catastrophic health expenditure.

Table 2: **Incidence of catastrophic health-care payment and inequality nationally and subnationally in Myanmar, 2010**

Table 3. Quintile-specific inequalities in access to health services in Myanmar, 2016

	Coverage (95% CI)		Slope index of inequality (95% CI)
	Poorest quintile	Richest quintile	
Prevention indicators			
Improved water sources	66·0% (64·2 to 67·9)	87·1% (85·7 to 88·4)	31·0 (24·2 to 37·9)
Adequate sanitation	27·7% (26·0 to 29·5)	89·3% (88·1 to 90·5)	67·8 (63·6 to 72·0)
No indoor use of solid fuels	31·6% (29·8 to 33·4)	86·6% (85·2 to 87·9)	61·1 (56·2 to 66·0)
Family planning needs satisfied	70·1% (67·4 to 72·9)	81·8% (79·5 to 84·1)	12·8 (7·1 to 18·5)
At least one antenatal care visit	66·7% (63·8 to 69·7)	97·3% (95·9 to 98·7)	38·4 (31·2 to 45·6)
At least four antenatal care visits	35·2% (32·2 to 38·2)	88·2% (85·6 to 90·9)	58·3 (51·4 to 65·1)
BCG immunisation	86·1% (81·7 to 90·5)	97·8% (95·5 to 100)	18·2 (7·9 to 28·5)
DTP3 immunisation	49·8% (43·5 to 56·2)	84·4% (78·4 to 90·4)	44·1 (32·0 to 56·1)
Three doses of polio immunisation	57·1% (50·8 to 63·4)	85·4% (79·6 to 91·2)	38·3 (25·9 to 50·6)
Measles immunisation	75·1% (69·6 to 80·6)	92·0% (87·5 to 96·4)	24·3 (11·8 to 36·8)
Full immunisation	41·9% (35·6 to 48·2)	77·1% (70·2 to 84·0)	45·5 (32·9 to 58·0)
Vitamin A supplementation	49·4% (46·5 to 52·4)	54·8% (50·5 to 59·1)	12·6 (0·3 to 22·0)
Care seeking for pneumonia	46·1% (31·9 to 60·2)	81·2% (56·9 to 100)	38·1 (11·5 to 64·8)
Care seeking for fever	46·5% (39·9 to 53·2)	75·3% (65·8 to 84·9)	30·5 (15·0 to 46·1)
Care seeking for diarrhoea	69·6% (41·5 to 57·7)	60·7% (45·9 to 75·4)	13·9 (–5·0 to 32·8)
Exclusive breastfeeding	52·2% (42·5 to 61·9)	61·8% (50·4 to 73·2)	13·2 (–6·6 to 33·1)
Postnatal care for mother	37·8% (33·2 to 42·3)	87·7% (83·8 to 91·7)	55·5 (46·8 to 64·1)
Postnatal care for neonate	20·2% (16·5 to 23·9)	33·4% (27·8 to 39·0)	18·5 (9·1 to 27·9)
Does not use tobacco	89·7% (88·5 to 91)	99·4% (99·1 to 99·7)	11·6 (0·9 to 14·1)
Not overweight or obese	85·5% (84·0 to 87·0)	65·5% (63·7 to 67·3)	–23·5(–27·3 to –19·8)
Use of ITN (children <5 years old)	23·8% (21·5 to 26·1)	10·1% (7·8 to 12·4)	–17·0 (–24·1 to –9·9)
Use of ITN (pregnant women)	20·7% (14·0 to 27·4)	8·5% (2·4 to 14·6)	–15·6 (–29·3 to –2·0)
Treatment indicators			
Acute respiratory infection treatment for pneumonia	38·0% (24·3 to 51·8)	53·0% (21·9 to 84·0)	12·6 (–18·5 to 43·6)
Oral rehydration therapy	54·4% (46·4 to 62·5)	66·4% (52·1 to 80·7)	8·2 (–11 to 28·1)
Institutional delivery	16·8% (14·7 to 18·8)	82·5% (79·5 to 85·5)	65·3 (58·9 to 71·7)
Skilled birth attendance	36·3% (33·7 to 39·0)	97·0% (95·6 to 98·4)	67·4 (61·5 to 73·4)
Composite indices			
Composite coverage index	57·9% (55·7 to 60·2)	84·5% (82·2 to 86·7)	33·1 (25·7 to 40·5)
Composite prevention index	49·0% (38·5 to 59·5)	60·7% (54·9 to 66·3)	29·1 (10·0 to 48·3)
Composite treatment index	35·5% (20·2 to 52·4)	53·4% (40·6 to 66·0)	46·0 (20·2 to 71·8)

DTP3=three doses of diphtheria, tetanus, and pertussis immunisation. ITN=insecticide-treated net.

Table 3: **Quintile-specific inequalities in access to health services in Myanmar, 2016**

Table 4. Multilevel logistic regression of financial risk indicators in Myanmar, 2010

	Catastrophic payment adjusted OR (95 %CI)	Impoverishment adjusted OR (95% CI)
Sex of head of household		
Male	1	1
Female	1·23 (1·10–1·37)	1·51 (0·50–4·56)
Age of head of household, years		
≤24	1	1
25–34	0·98 (0·54–1·78)	1·01 (0·34–4·00)
≥35	0·92 (0·52–1·63)	0·98 (0·76–1·28)
Education of head of household		
No education	1	1
Primary	0·87 (0·74–1·01)	1·16 (0·84–1·62)
Secondary	0·69 (0·59–0·81)	0·78 (0·37–1·65)
Higher	0·48 (0·38–0·61)	1·47 (1·14–1·89)
Household member older than 65 years		
No	1	1
Yes	1·79 (1·55–2·08)	0·96 (0·92–1·01)
Household member with chronic disease		
No	1	1
Yes	5·95 (5·21–6·79)	3·44 (2·64–4·49)
Number of household members	0·89 (0·87–0·92)	1·30 (0·97–1·75)
Wealth quintile		
1 (poorest)	1	N/A
2	1·27 (1·08–1·49)	N/A
3	1·58 (1·38–1·81)	N/A
4	1·91 (1·63–2·23)	N/A
5 (richest)	2·86 (2·42–3·38)	N/A
Place of residence		
Urban	1	1
Rural	0·96 (0·86–1·07)	1·04 (0·78–1·40)
Variance (covariance)		
Level 2 (cluster)	0·14 (0·04)	0·14 (0·14)
Level 3 (states)	0·24 (0·04)	0·06 (0·13)

ORs are adjusted for regions. OR=odds ratio. N/A=not applicable.

Table 4: **Multilevel logistic regression of financial risk indicators in Myanmar, 2010**

Figure 1. Essential health service coverage (A), and immunization coverage (B) in Myanmar, 2016

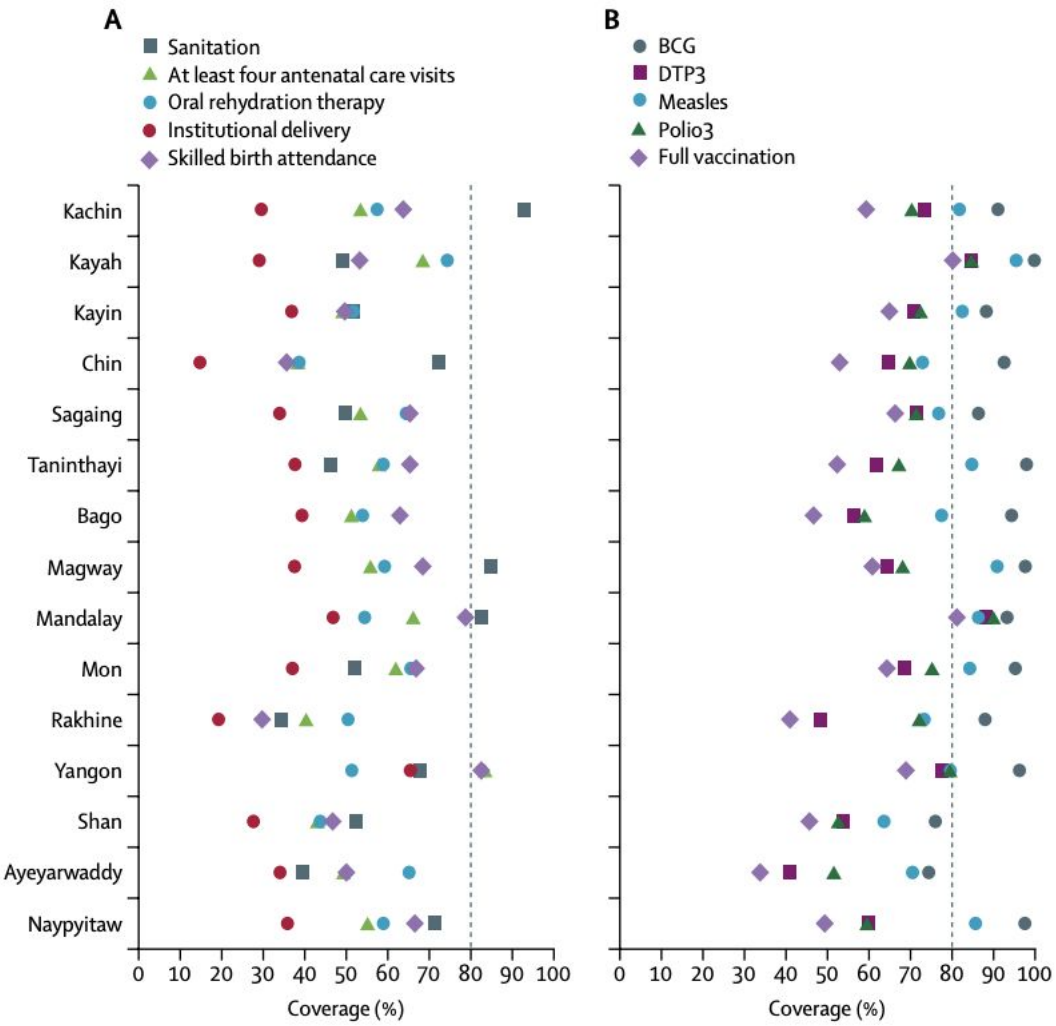
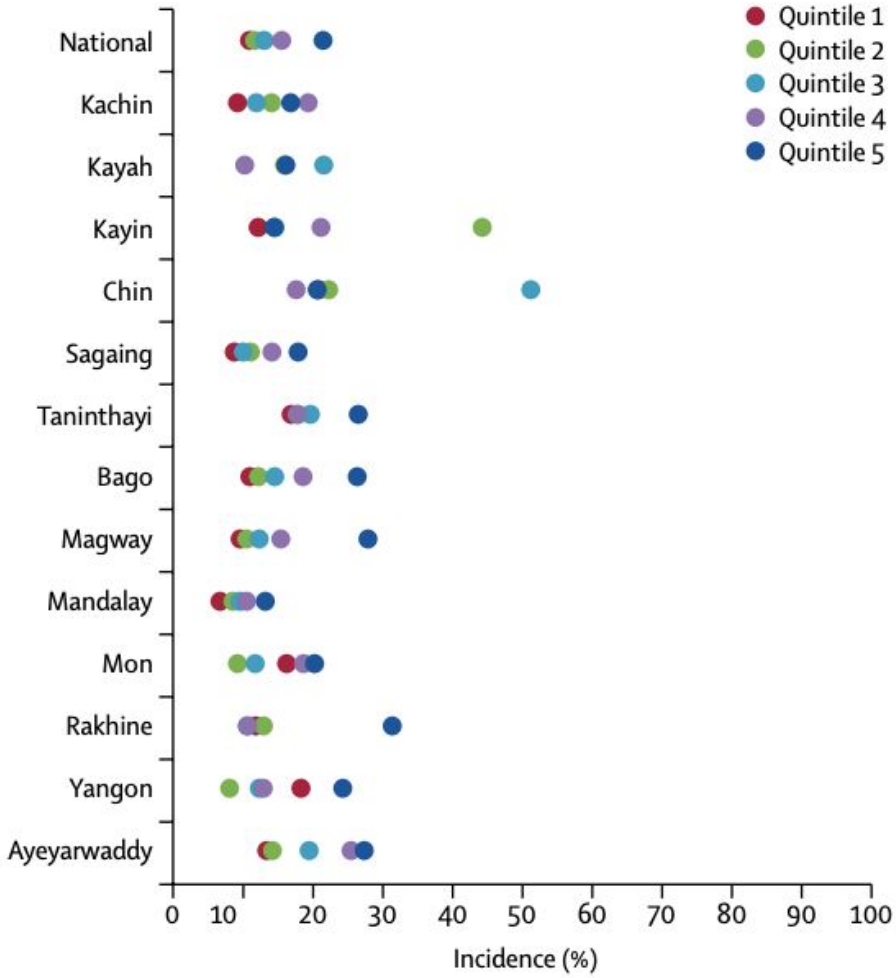


Figure 2. Quintile-specific incidence of catastrophic payments for health care in Myanmar, 2010



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「我が国の世界保健総会等における効果的なプレゼンスの確立に関する研究」

（H29-地球規模-一般-002）

研究代表者・渋谷健司

分担研究報告書

Global Health Diplomacy Workshop

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研究要旨

グローバル・ヘルスの重要性が高まっている中、我が国が主導してグローバルヘルスの課題を前進させ、主要会合において効果的に議論を先導する役割を果たすためには、そのようなことを可能とする人材の育成が急務である。本研究は、同じようにグローバルヘルス領域での人材育成を優先課題として掲げるタイと協力し、日・タイ双方の将来を担う若手人材に対し会議でのスピーチや交渉、効果的・戦略的介入、ファシリテーション等の能力開発を行うものである。

研修は年に２回（日・タイ　各１回)、３～４日の日程で開催され、参加者たちはグローバルヘルスの概況から具体的な交渉術まで、**グローバルヘルス領域における基礎的スキルについて包括的に学ぶ。研修の最後には参加者全員に対してアンケート調査を実施し今後 WHO 総会等国際会議に参加する際や、日々の業務においてどのような点が有用だったか聞き取りを行う。得られたアンケート結果を踏まえ、次年度以降の人材開発研修プログラム案の策定を行う。**

A．研究目的

グローバル・ヘルスの重要性が高まっている中、我が国が主導してグローバルヘルスの課題を前進させ、主要会合において効果的に議論を先導する役割を果たすためには、そのようなことを可能とする人材の育成が急務である。本研究は、同じようにグローバルヘルス領域での人材育成を優先課題として掲げるタイと協力し、日・タイ双方の将来を担う若手人材に対し会議でのスピーチや交渉、効果的・戦略的介入、ファシリテーション等の能力開発を行うものである。

B．研究方法

年に２回（日本・タイ　各１回）で、グローバルヘルス領域の中でも特に保健外交に焦点を当てた研修を開催する。対象は、厚生労働省/保健省、アカデミア、NGO 職員等グローバルヘルスに関わる若手 – 中堅とする。また、日本とタイ以外にも、グローバルヘルス領域における人材開発に興味を有する国については参加を促す（フィリピン、ラオス等）。

研修は２泊３日～３泊４日の日程で行い、扱う内容については主に以下の内容とする。1) グローバルヘルスの概況、2) グローバルヘルスのアクターの変化、3) グローバルヘルスの主要課題の傾向、4) WHO 総会等の WHO governing body における意思決定プロセスのあり方、5) WHO 総会等における効果的なインターベンションの構築方法、6) 国際会議等における交渉術。

ワークショップ終了時点で参加者全員を対象としたアンケート調査を実施し、今後 WHO 総会等国際会議に参加する際や、日々の業務においてどのような点が有用だったか聞き取りを行う。得られたアンケート結果を踏まえ、次年度以降の人材開発研修プログラム案の策定を行う。

C．研究結果

平成 30 年度には５月に３泊４日の日程でタイにて、12 月には２泊３日の日程で日本にて研修を開催した（プログラム詳細については参考資料として掲載）。日本での研修には 35 名の参加があった他、タイの公衆衛生省、外務省、マヒドン大学及び北京大学（中国）より有識者を招聘し、研修全般に渡り支援を受けた。

日本での研修では、最初にグローバルヘルスの概況、グローバルヘルス領域のアクターの変化、現在のグローバルヘルスにおける主要課題等について講義を行った。その後、WHO 総会における主要議題のうち、「がん患者における緩和ケア」並びに「保健医療人材の国境を超えた移動」の２つについて、参加者各自に発言を作成してもらい、実際に発言・プレゼンテーションを実施した。交渉術に関しては、「保健医療人材の国境を超えた移動」を引き続き取り上げ、参加者各自をスタンスの異なる複数の国に割り振り、実際の交渉の練習をおこなった。

研修後のアンケート調査では、大半の参加者から参考になったという好意的なフィードバックが得られた。一方で、WHO 総会等の

国際会議に参加できる機会は非常に限られているため、発言や交渉の練習等については、実際に会議に参加しない場合でも有用なものとなるよう、次年度以降はさらなる工夫が必要であるという一面も明らかになった。

D.　結論

我が国がグローバルヘルスを牽引していく上で、グローバルヘルス領域で活躍できる人材の育成は急務であるが、今までは体系的なトレーニングの機会は限られていた。今回実施した研修は包括的にグローバルヘルス領域の全体像を学べるとともに、発言や交渉等の実践も含まれており、参加者にとって非常に満足度の高いものとなった他、日本及びタイ双方における人的ネットワークの構築にも貢献した。今年度のフィードバックを踏まえ内容を改定し、次年度以降も継続して人材育成研修を実施していくことが望ましい。

E. 研究発表

1. 論文発表

特になし

2. 学会発表

特になし

F. 知的財産権の出願・登録状況（予定を含む。）

1. 特許取得

特になし

2. 実用新案登録

特になし

3. その他

特になし

Japan's contribution to making global health architecture a top political agenda by leveraging the G7 presidency

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CHANGING DYNAMICS IN GLOBAL HEALTH AND FUNDAMENTAL FRAGILITY OF GLOBAL HEALTH GOVERNANCE

Global health is currently at a crossroads. The majority of low- and middle- income countries are now suffering from a double burden of diseases. Compared with the Millennium Development Goals, the Sustainable Development Goals give less attention to health challenges. Additionally, there is also an increasing number of global issues competing for attention among policy makers, including downside risks to the global economy, terrorism, migration/refugees, and climate change. Consequently, the amount of Official Development Assistance for global health has stagnated in recent years [1]. These challenges are further confounded by newly emerging political and economic actors in global health arena.

Global health architecture (GHA) is defined as "the relationship between the many different actors engaged in global health and the processes through which they work together" by Kickbusch et al. [2]. The debates on GHA have been fueled by the complex interactions between health transitions, global health priorities, and uncertainties in global governance and economic prospects [2]. In particular, the Ebola outbreak in 2014 provided a wake-up call that drew the world's attention to GHA. The World Health Organization (WHO), as the only United Nations (UN) agency specializing in health, was criticized for not handling the Ebola outbreak effectively and efficiently, which has evoked a series of debates and controversies on GHA [3]. In 1994, Jamison and colleagues proposed that the core functions of international global health organizations be the promotion of global public goods and the implementation of interventions to deal with international externalities [4]. Though global community including WHO has been making their efforts on GHA such as revision of International Health Regulations in 2007, the Ebola outbreak revealed the fundamental fragility of the existing governance, including that of the WHO, which could not handle these core functions: containment of viral transmission, vaccine provision, and the provision of other public goods [3].

> Having the high-level champions is a crucial ingredient for raising awareness for the global health agenda. Attendance of high-level policy-makers at health-related meetings and prioritizing health agendas at international meetings can be a driving force.

In the midst of this transformation in global health, Japan hosted the G7 Ise-Shima summit in May 2016 and successfully set GHA as one of its priorities.

HOW TO INCREASE POLICY COMMUNITY COHESION AMONG STAKEHOLDERS?

The key factor of Japan to successfully raise political awareness on GHA was that there was strong policy cohesion among stakeholders. There were four different actors: Japanese domestic stakeholders, G7 member states, non-G7 members and actors other than health sectors. First about actors in Japan, there are four major actors: the Cabinet Secretariat, Ministry of Foreign Affairs (MOFA), Ministry of Health, Labour and Welfare (MHLW), and Ministry of Finance (MOF). These ministries have slightly different views on and interests in GHA. Since health emergencies directly affect the health status of the Japanese citizenry, the MHLW expressed a strong interest in GHA at an early stage. MOFA emphasized the relevance of human security, which is defined by UN as "protecting the vital core of all human lives in ways that enhance human freedom and fulfilment," and has been Japan's core foreign policy. MOF focused on promoting the World Bank (WB) Group's funding scheme initiatives (ie, Pandemic Emergency Facility (PEF) and International Development Associations) to respond to and prepare for health security. Since health security is strongly related to national, global, and human security, under Prime Minister Abe's leadership, the Cabinet Secretariat and these three ministries successfully aligned around the goal of reinforcing GHA [5]. The three ministries and the Cabinet Secretariat constantly held joint meetings, with director-general level participants from each ministry, in order to share information and discuss how to consolidate Japan's commitment in a unified manner.

Aside from Prime Minister Abe, Mr. Yasuhisa Shiozaki, then Minister for Health, Labour and Welfare, is a leading figure who has expressed enthusiasm about Japan's leadership and contribution to global health. Under his leadership, the MHLW made a significant contribution to leading and promoting policy cohesion within the government. He established the Advisory Panel on Global Health in August 2015 so as to institutionalize a mechanism to develop global health policies within the MHLW. The Panel consisted of two working groups: human resources for global health policy-making and global health governance, which sought to make recommendations to the Japanese government [6]. This process contributed to the basis for discussions among Japanese stakeholders in reaching consensus on the global health agenda at the G7 Ise-Shima Summit.

Strong political support also came from Professor Keizo Takemi, member of the House of Councilors and a chairman on the Liberal Democratic Party's Special Mission Committee for Global Health Strategy. As a champion for global health with a solid academic and policy-making background, Prof. Takemi has published internationally recognized papers that significantly influenced the previous G8 preparatory processes while also serving as the main advocate for global health issues through the track 2 process at previous G8 summits hosted in Japan. In 2016, he led the track 2 process for the G7 Ise-Shima Summit with a set of policy proposals from his working group [7]. Prof. Takemi also chairs round table meetings with the government and relevant private and civil society institutions, which serve to promote a mutual understanding of key global health issues, including those relevant to the G7.

As to the cohesion among G7 member states, GHA for future public health emergencies started to be shed light on at the 2015 G7 Elmau Summit in Germany. In the aftermath of the Ebola outbreaks, the WHO's emergency reform plan was still at an early stage and therefore, there was virtually no strong opposition to include GHA for future pandemics into the G7 agenda; in fact, it was expected by the G7 members heads of state. Particularly the United States of America and Germany urged health security to be included as a G7 agenda item. The US has been promoting the Global Health Security Agenda (GHSA) and Germany highlighted the importance of health security at the Berlin Health Minister's Meeting in 2015.

Connecting diverse stakeholders is important. Though G7 is an influential body with respect to global health, the G7 itself is not enough for raising awareness and moving forward the global health agenda.

In order to elaborate and move forward the health-related agenda at the G7 Ise-Shima Summit in May 2016 and propose concrete actions to attain the goals described at the G7 Ise-Shima Leaders' Declaration, the G7 Kobe Health Ministers' Meeting was held in September, 2016, where four Asian Ministers as well as the WHO, UN Office for the Coordination of Humanitarian Affairs (UNOCHA), the WB and the Organisation for Economic Co-operation and Development (OECD) also joined discussions. Together with three official preparatory

Photo: at the 42nd G7 summit, Ise-Shima (from the Ministry of Foreign Affairs and Ministry of Health, Labour and Welfare; used with permission)

meetings, the meeting also contributed to increasing policy cohesion among G7 members both at head of state and health minister level.

In order to secure and deepen cohesion, it was important to have communication as extensively and effectively as possible, especially with non-G7 countries. Japan prepared several dialogue opportunities with these countries throughout its G7 presidency in 2016 including several side events at the 69th World Health Assembly (WHA), which resulting in enhanced mutual understanding of how the global community should rebuild and revamp GHA.

The WHA was an opportunity for Japan to disseminate G7 efforts towards GHA and reach out to health ministers and policy makers around the world, whereas the Tokyo International Conference on African Development (TICAD) in August 2016 was a platform to discuss GHA specifically with African leaders.

As the chair of the meeting's thematic session for health, then Health Minister Shiozaki led an intense debate with the African heads of state and ministers, as well as leaders from international organizations. During the preparatory process, the MHLW had an extensive debate with the WB, the co-chair of the thematic session, regarding how to raise awareness for reinforcing GHA among African leaders, international organizations, and civil society organizations. Throughout this consultation process, they reached consensus on what should be done to prepare for and respond to future health crises, deepened the Nairobi Declaration and its implementation measures.

Lastly about actors other than health sectors, noteworthy influence came from foreign ministers. Public health emergencies were also highlighted as security issues for foreign ministers for the first time in the G7 Foreign Ministers' Meeting Joint Communique (adopted at the G7 Hiroshima Foreign Ministers' Meeting in 2016), which clearly mentioned the importance of collective efforts toward GHA.

POLITICAL SURROUNDINGS AND FINANCIAL SITUATION ON GHA

The policy window and good global governance structure are key for attaining political attention and generally, a policy window is likely to open after major events such as disasters, discoveries, or forums [8]; the Ebola outbreak is no exception. Because it caused tremendous damage, amounting to a total of 28 616 cases and 11 301 deaths with global pandemic potential [9], it naturally attracted political attention, such as at the UN High-Level Meeting on the Response to the Ebola Virus Disease Outbreak in 2014 or in the creation of the UN Mission for Ebola Emergency Response (UNMEER). Under the UN Secretary-General (UNSG), the UN High-Level Panel on Global Response to Health Crises worked at the strongest power for opening the policy window by publishing an influential report, *Protecting Humanity From Future Health Crises*. Following the recommendations made by the Panel, the Global Health Crises Task Force was launched. Dr Shigeru Omi, the former WHO Regional Director for the Western Pacific Region participated in this task force with financial contributions from the Japanese government, aiming to enhance coordination between the work done by the task force and the preparatory process of the G7 Summit.

As to financial situation, at the time of the Ebola outbreak, the global community had neither adequate funding for outbreaks nor mechanisms of effectively disbursing financial resources [3]. However, some progress has been made, and the Japanese government has been the driving force of these improvements. The WHO's Contingency Fund for Emergencies (CFE) and the WB's Pandemic Financing Facility (PEF) were launched. CFE fills a critical gap from the onset of an emergency, which enables WHO to deploy experts and begin operations immediately. On the occasion of the G7 Ise-Shima Summit, Japanese Prime Minister Abe pledged a total of US$ 1.1 billion to global health institutes, including US$ 50 million to the WHO. At the G7 Finance Ministers and Central Bank Governors' Meeting in Japan in 2016 where

PEF was officially launched, the Government of Japan announced their financial commitment of US$ 50 million to this new facility.

Moreover, the Coalition for Epidemic Preparedness Innovations (CEPI) was also officially launched at the 2017 World Economic Forum, an international collective effort to create vaccines to combat future pandemics. Japan is a founding member of this new initiative, and has committed to contributing US$ 25 million per year in order to fund its programs.

FUTURE DIRECTIONS ON GHA

Taking advantage of the G7 presidency in 2016, Japan has contributed to strengthening GHA for future public health crises through the involvement of notable Japanese political leaders and by enhancing community cohesion within and outside of G7 members.

Three leaders, Prime Minister Abe, which were echoed by then Health Minister Yasuhisa Shiozaki and Prof. Keizo Takemi, all contributed to strengthening collective efforts toward reinforcing GHA. The fact that powerful political leaders fully endorsed this agenda, echoed by the G7 leadership as well as the heads of WHO and the World Bank Group, remains an exceptional achievement in Japan's history of global health policy making. As seen with the case of James Grant, former director of the UN Children's Fund (UNICEF) who successfully drew global attention to children's health [10], the emergence of strong political leadership helped generate a high level of political attention.

With regard to the political context, the severity and externality of the Ebola outbreak itself caused increased political attention, such as at the UN High-Level Meeting on the Response to the Ebola Virus Disease Outbreak and in several influential reports from WHO and academic institutions. As also seen with HIV/AIDS and NCDs, UN high-level meetings largely promoted the health agenda [11][12]. GHA was discussed at the UN high-level meeting, which in turn boosted GHA to the top of the global health agenda. Additionally, as seen in previous G7/G8 leaders meetings advancement of the global health agenda, Japan was also leading the political process and contributed to opening the political window: the G7 leaders at G7 Ise-Shima Summit, with health ministers at the 69th WHA, with leaders from African countries and international organizations at TICAD VI, and with G7 health ministers, WHO, and UNOCHA at the G7 Kobe Health Ministers' Meeting.

Through G7 in 2016 and after, new financing schemes for CFE, PEF and CEPI was launched and these new mechanisms should be closely monitored and evaluated. In particular, effective and efficient use of financial resources is needed as scarce financial resources and tendency of waning political attention may hinder sustainability.

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Resilient and people-centred health systems: Progress, challenges and future directions in Asia

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Chapter 7. Japan

Haruka Sakamaoto, Cyrus Ghaznavi, Kenji Shibuya

7.1 Introduction

Japan, the world's third-largest economy, with a correspondingly high standard of living, level of development, safety and stability, has had great success in improving population health outcomes, such as boasting of the highest life expectancy in the world. However, the country faces many challenges, including an ageing population with a low fertility rate, a shrinking economy, and an increasing burden from NCDs and degenerative diseases, such as dementia, which all impose a considerable stress on the current health and long-term care systems in Japan.

7.1.1 Economic context

Japan is an archipelago set between the Sea of Japan to the west and the Pacific Ocean to the east, consisting of more than 6000 islands. The majority of its population inhabit the four major islands, which are divided into 47 prefectures. These are further divided into approximately 1700 cities, towns and villages. Japan's total population stands at 126 million in 2018, though it has been constantly declining since 2011. The proportion of the population aged 65 years and above reached 27.3% in 2016, which together with a low fertility rate and strict immigration policy, makes Japan one of the "oldest" countries in the world.

Japan is the world's third-largest economy in terms of total GDP. However, although Japan's GDP increased rapidly in the period immediately after the Second World War, the economic crisis of the 1990s caused several decades of stagnation and recession. The recession, along with more recent stagnation in GDP growth rate and an ageing population has meant that the Gini coefficient reached 0.33 in 2012, higher than the OECD average of 0.318. Moreover, although the unemployment rate was low at 3.4% in 2015, the number of part-time and contingent workers has been increasing in recent years. The majority of them are the elderly and post-childrearing women. The inequality in working conditions and low wages among this population pose a serious labour issue.

Table 7.1 Japan: Socioeconomic indicators, 1980–2017

Indicators	1980	1990	2000	2010	2015	2017
Population, total (in millions)	116.8	123.5	126.8	128.1	127.1	126.8
Population density (people per sq.km of land area)	318.8	338.8	348	351.3	348.8	347.8
Fertility rate, total (births per woman)	1.8	1.5	1.4	1.4	1.5	1.44 (2016)
Birth rate, crude (per 1000 people)	13.5	10.0	9.4	8.5	8.0	7.8 (2016)
Death rate, crude (per 1000 people)	6.1	6.7	7.7	9.5	10.3	10.5 (2016)
Population growth (annual %)	0.8	0.3	0.2	0	-0.1	-0.2
Population ages 65 and above (% of total)	8.9	11.9	17.0	22.5	26.0	27.0
Age dependency ratio, old (% of working-age population)	13.2	17.0	24.9	35.1	42.7	45.0
Age dependency ratio, young (% of working-age population)	34.9	26.5	21.7	20.8	21.3	21.5
GDP (current US$, billions)	1105.4	3132.8	4887.5	5700.1	4395	4872.1
GDP per capita (current US$)	9465.4	25 359.3	38 532	44 507.7	34 567.7	38 428.1
GDP growth (annual %)	2.8	4.9	2.8	4.2	1.4	1.7
Gross national expenditure (% of GDP)	101.0	99.2	98.6	98.5	100.4	99.0 (2016)
Tax revenue (% of GDP)	10.5	12.9	10.4	8.8	11.4	11.1 (2016)
Central Government debt, total (% of GDP)	..	52.9	100.5	162.3	197	195.5 (2016)
Industry, value added (% of GDP)	..	..	32.8	28.4	28.9	29.3 (2016)
Agriculture, forestry and fishing, value added (% of GDP)	..	..	1.5	1.1	1.1	1.2 (2016)
Services, value added (% of GDP)	..	..	65.9	70.2	69.1	68.8 (2016)
Labour force, total (in millions)[a]	56.5	63.9	67.7	66.7	66.4	66.5
Unemployment, total (% of total labour force) (modelled ILO estimate)[a]	2.0	2.1	4.7	5.1	3.3	2.8
Income inequality (Gini coefficient)[b]	0.318 (1981)	0.364	0.381 (1999)	0.379 (2011)	0.376 (2014)	
Current health expenditure (% of GDP)	..	..	7.2	9.2	10.9	..

Key: GDP: gross domestic product; ILO: International Labour Organization

Note: The Gini coefficient is a measure of income inequality; higher figures indicate greater inequality among the population (the Survey of the Redistribution of Income is conducted once in three years).

Sources: World Bank, 2018a; [a]Statistics Bureau, Ministry of Internal Affairs and Communications, 2017; [b]Ministry of Health, Labour and Welfare (MHLW), 2017a

7.1.2 Political context

The Liberal Democratic Party of Japan (LDP) has been the major party since 1955 (except in 1993 and between 2009 and 2012), so most of Japan's health-care systems have been created and managed under the LDP administration. Since the Second World War, political conflict between the major parties resulted in the expansion of health service coverage to more vulnerable groups, as the LDP attempted to weaken the socialist and communist party. Nobusuke Kishi of the LDP, then prime minister, strongly believed that attaining an equitable health-care and welfare system could be the driving force in making his administration sustainable and declared that Japan had officially achieved universal health insurance coverage in 1961. Since then, together with the pressure from the socialist party, the ruling LDP expanded the breadth and depth of universal insurance coverage (which in turn caused a constant increase in health-care expenditure).

In the early 1980s, at a time when global leaders were promoting austere fiscal policy, also known as "small government", the then prime minister, Yasuhiro Nakasone from the LDP also started an austere fiscal policy on health care in Japan. This was the turning point at which the government began to contain the health-care budget primarily through introducing a fee-control schedule (details of the fee-control schedule are explained later).

In 2001, Junichiro Koizumi of the LDP was elected as prime minister. He had a strong preference for "small government" and minimum government subsidy for social welfare. Although there was strong opposition from the Japan Medical Association (JMA) (mainly directed at the strong, austere fiscal policy on health care and the increase in both OOP expenditures and insurance premiums), Koizumi initiated the largest-ever cut in health-care budget in Japan's history, which inevitably put a strain on the health-care setting and created a "health-care crisis". Since then, how to balance cost and quality of health care remains a central debate in Japan.

Historically, both the Ministries of Health, Labour and Welfare, and the Ministry of Finance had strong influence over the health policy making process. Since 2016, the current Prime Minister, Shinzo Abe changed this process drastically as he believes that health care is the Japan's main

industry. Consequently, along with the Ministry of Economy, Trade and Industry, the cabinet office now leads many of health care policies in Japan.

7.1.3 Natural and human-induced disasters

Japan's geographical proximity to the Pacific Rim makes the country particularly prone to seismic activity, earthquakes, tsunamis and typhoons originating from the Pacific Ocean. Thus, disaster has been a major threat to population health, both in terms of acute response and long-term recovery phases. Of particular note, the devastating magnitude 9.0 Great East Japan Earthquake in 2011 killed more than 16 000 people and, coupled with the subsequent tsunami and Fukushima Daiichi nuclear power plant accident, this triple disaster caused massive destruction of local health-care and long-term care facilities. However, despite the damage to infrastructure, people in many affected areas have had continued access to quality health care under the universal health insurance system, in part due to introduction of temporary exemptions for OOP payments (Tanihara, Tomio and Kobayashi, 2013). While there is growing evidence that major disasters contribute to the development of CVDs, several studies from the area most seriously affected by the triple disaster showed only slight or no obvious increase in the risk of CVDs post-disaster (Toda et al., 2017). These experiences suggest that a strong universal health-care system supports robustness and resilience during public health emergencies in Japan.

As to the Fukushima Daiichi Nuclear Power Plant Accident, health threats have arisen in radiation-contaminated areas, and the cumulative dose from external and internal radiation exposure was a major public concern (Brumfiel and Cyranoski, 2011). Contrary to this belief, as a result of the natural weathering process and the success of strict control of food contamination, dosage levels attributed to the incident have been low enough such that the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and WHO concluded that the predicted risk of lifetime cancer is very low in the general population, except the most exposed infants and children.

7.2 Health status and risk factors

7.2.1 Health status

Life expectancy and healthy life expectancy in Japan were 79.9 years for men and 86.3 years for women, and 71.5 years for men and 76.3 years for women, respectively, in 2015; both statistics represented the highest in the world (Nomura et al., 2017). The top causes of death in 2005 and 2015 are shown in Table 7.2. Like many other high-income countries, according to the GBD study, NCDs are the leading cause of mortality and morbidity in Japan, while the burden of communicable diseases has decreased substantially over the past five decades. In 2015, the top three leading causes of death were cerebrovascular disease, ischaemic heart disease and lower respiratory tract infection. Though age-standardized rates of these diseases have shown a substantial decrease since 1990, the pace of decline in mortality has levelled off since 2005.

Table 7.2 Japan: Causes of death, both sexes, 2005 and 2015

Leading causes in 2005	Leading causes in 2015	Change in age-standardized death rate (%), 2005–2015
1 Cerebrovascular disease	1 Cerebrovascular disease	–19.3
2 Ischaemic heart disease	2 Ischaemic heart disease	–11.6
3 Lower respiratory infection	3 Lower respiratory infection	–6.5
4 Alzheimer's disease	4 Alzheimer's disease	3.7
5 Lung cancer	5 Lung cancer	–8.7
6 Stomach cancer	6 Stomach cancer	–5.9
7 Colorectal cancer	7 Colorectal cancer	–6.4
8 Liver cancer	8 Chronic kidney disease	–11.2
9 Self-harm	9 Liver cancer	4.1
10 Chronic kidney disease	10 COPD	–16.0
11 COPD	11 Pancreatic cancer	6.5
12 Pancreatic cancer	12 Self-harm	–2.3
13 Gallbladder cancer	13 Gallbladder cancer	5.1
14 Aortic aneurysm	14 Aortic aneurysm	2.1
15 Oesophageal cancer	15 Other cardiovascular disease	–8.7
16 Breast cancer	16 Interstitial lung disease	0.7
17 Other cardiovascular disease	17 Breast cancer	0.0
18 Cirrhosis hepatitis C	18 Oesophageal cancer	–14.4
19 Road injuries	19 Lymphoma	–6.6
20 Interstitial lung disease	20 Other neoplasms	–18.8

Key: COPD: chronic obstructive pulmonary disease; CVD: cardiovascular disease
Note: The ranking is based on the number of deaths from each cause
Source: Nomura et al., 2017

Because of prolonged life expectancy, the Japanese population now suffers from more chronic and age-related morbidity. Tables 7.3 and Fig. 7.1 show the causes of DALYs – a summary indicator of population health that combines mortality and morbidity – in 2015 in Japan. DALYs express equivalent years of healthy life lost due to states of poor health or disability, which explains the current status of population health in general rather than just in terms of mortality. Notably, a significant increase can be seen in Alzheimer disease, with an almost 50% increase in DALYs since 2005.

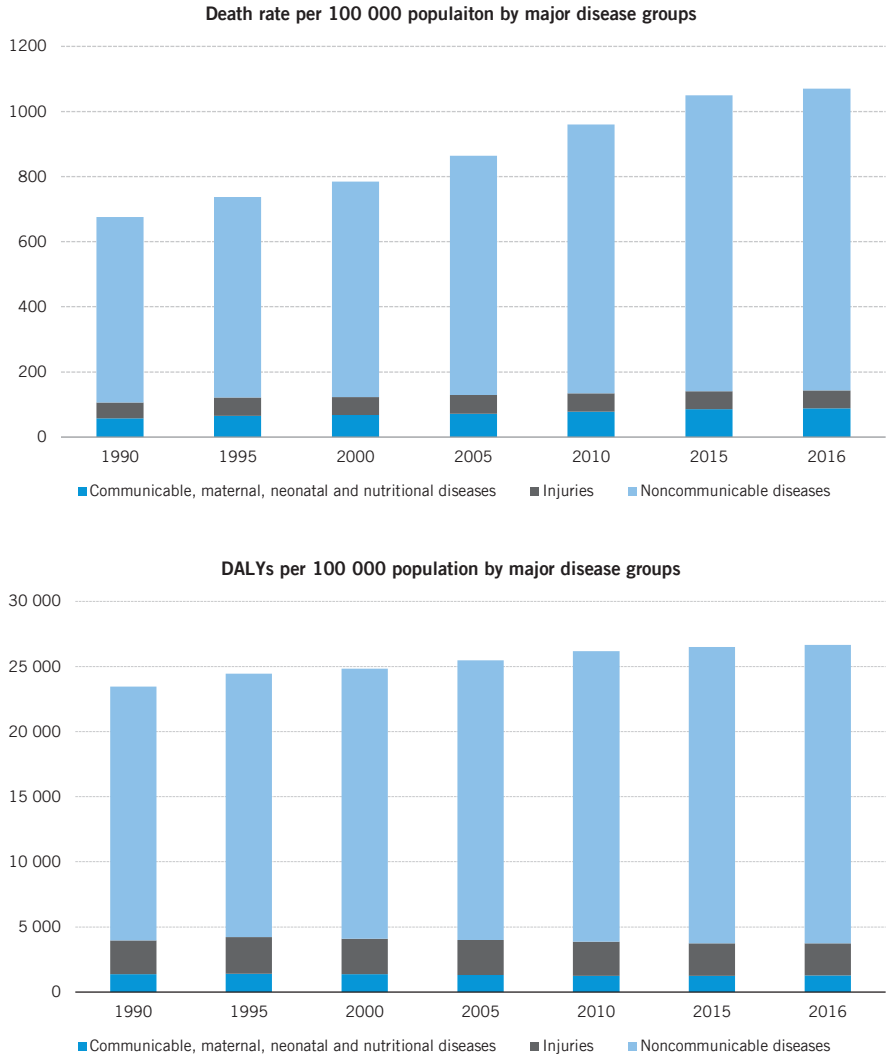
Table 7.3 Japan: Top ten causes of DALYs in 2015 and % change compared to 2005

Rank in 2015	Cause	Changes in number of DALYs (%), 2005–2015	Changes in age-standardized DALY rate (%), 2005–2015
1	Ischaemic heart disease	7.6	-14.5
2	Lower-back and neck pain	6.7	-0.1
3	Sense organ diseases	22.7	0.8
4	Cerebrovascular disease	-0.7	-21.4
5	Alzheimer's disease	49.6	3.3
6	Lower-respiratory infections	22.4	-10.8
7	Lung cancer	8.0	-11.1
8	Self-harm	-8.8	-5.3
9	Stomach cancer	-4.5	-20.6
10	Colorectal caner	11.4	-6.4

Note: The ranking is based on the number of disability-adjusted life years (DALYs) from each cause

Source: Nomura et al., 2017

Fig. 7.1 Japan: Deaths and DALYs per 100 000 population by major disease groups, 1990–2016



Source: Institute for Health Metrics and Evaluation, 2018

Regional disparities are a growing concern. Among the 47 prefectures, the gaps between the highest and the lowest life expectancy have increased from 2.5 years in 1990 to 3.1 years in 2015; similarly, the gaps have

expanded from 2.3 years to 2.7 years for healthy life expectancy during the same period (Nomura et al., 2017). Little is known about the possible causes of regional disparities. Nomura et al. reported that there were no significant correlations between the age-standardized mortality or DALYs in 2015 and per capita health expenditure and health workforce density. Moreover, known risk factors (such as behavioural risk factors) were also uniformly distributed across prefectures. These disparities may be attributed to socioeconomic factors to some degree; however, further research is needed.

7.2.2 Risk factors

According to the GBD study, 47.1% of total deaths in 2015 were attributable to the following: behavioural risk factors accounted for 33.7% of total deaths, metabolic risks factors for 24.5%, and environmental and occupational risks factors for 6.7%.

While the Japanese population has been enjoying one of the highest life expectancies in the world, the pace of decline in mortality has levelled off since 2005. Moreover, there is an urgent need to reduce the gap between life expectancy and healthy life expectancy, and measures are required to reduce most of the attributable risk factors for both deaths and DALYs. As most risk factors linked to deaths/DALYs are modifiable, a comprehensive package of preventive measures, including a healthy lifestyle, diets and increasing coverage with antihypertensive drugs should be encouraged to ameliorate the effect of these risk factors.

Tobacco

The prevalence of smoking in the Japanese male population has dropped from 53.1% in 1990 to 31.7% in 2016, while the rates among women were almost same from 9.4% in 1990 to 9.0% in 2016 (MHLW, 2016a). However, Japan has made limited progress in reducing tobacco consumption over the past few decades compared to other OECD countries. Looking ahead to the 2020 Olympic and Paralympic games in Tokyo, there has been a movement to regulate second-hand smoke in bars and restaurants (currently there is no restriction on second-hand smoke in these venues), but the LDP is strongly opposed to such policies. This opposition is at least in part due to Japan Tobacco – the world's third-largest tobacco company, which has

been a strong lobby on tobacco control policies in Japan. Japan Tobacco's strong connection with the government (i.e. the Minister of Finance is Japan Tobacco's biggest stockholder) makes it difficult to promote tobacco control measures in Japan.

Diabetes and hypertension

Diabetes and hypertension are the two major metabolic risk factors in Japan. The age-standardized prevalence of diabetes was 12.1% (16.3% for men and 9.3% for women) in 2016, which has been relatively stable in past decades (MHLW, 2016a). The prevalence of hypertension was 34.6% for men and 24.8% for women in 2016 (MHLW, 2016a). Salt intake is a major known cause for hypertension and, as such, lowering sodium intake has been strongly recommended. Thanks to public health programmes to promote reduction in salt intake over the past decades, the prevalence of hypertension has decreased since the 1980s. However, from 2000 onwards, there has been an increasing trend in the prevalence of hypertension among men aged 50–59 and 70–79 years; thus, further monitoring is needed for these age groups.

Body mass index (BMI)

The prevalence of obesity (BMI of 30 kg/m^2 or more) and overweight (BMI of 25 kg/m^2 or more) were only 4.5% for men and 3.3% for women in 2013, and 31.1% for men and 19.0% for women in 2016, respectively (MHLW, 2016a). The prevalence of overweight has been constant among women, while that among men has shown a constant increase from 11.9% in 1980 to 31.1% in 2016 (MHLW, 2016a). These prevalence rates are still much lower than those for other developed countries. In fact, BMIs among women of reproductive age in Japan tend to be low enough to be a cause for concern.

In conclusion, like many other developed countries, NCDs are major causes of death in Japan. Although Japan has attained favourable health outcomes such as the longest life expectancy in the world, the pace of improvement has slowed since 2005. As most risk factors linked to deaths/DALYs are modifiable, further scaling up of primary prevention and changes in lifestyle are needed.

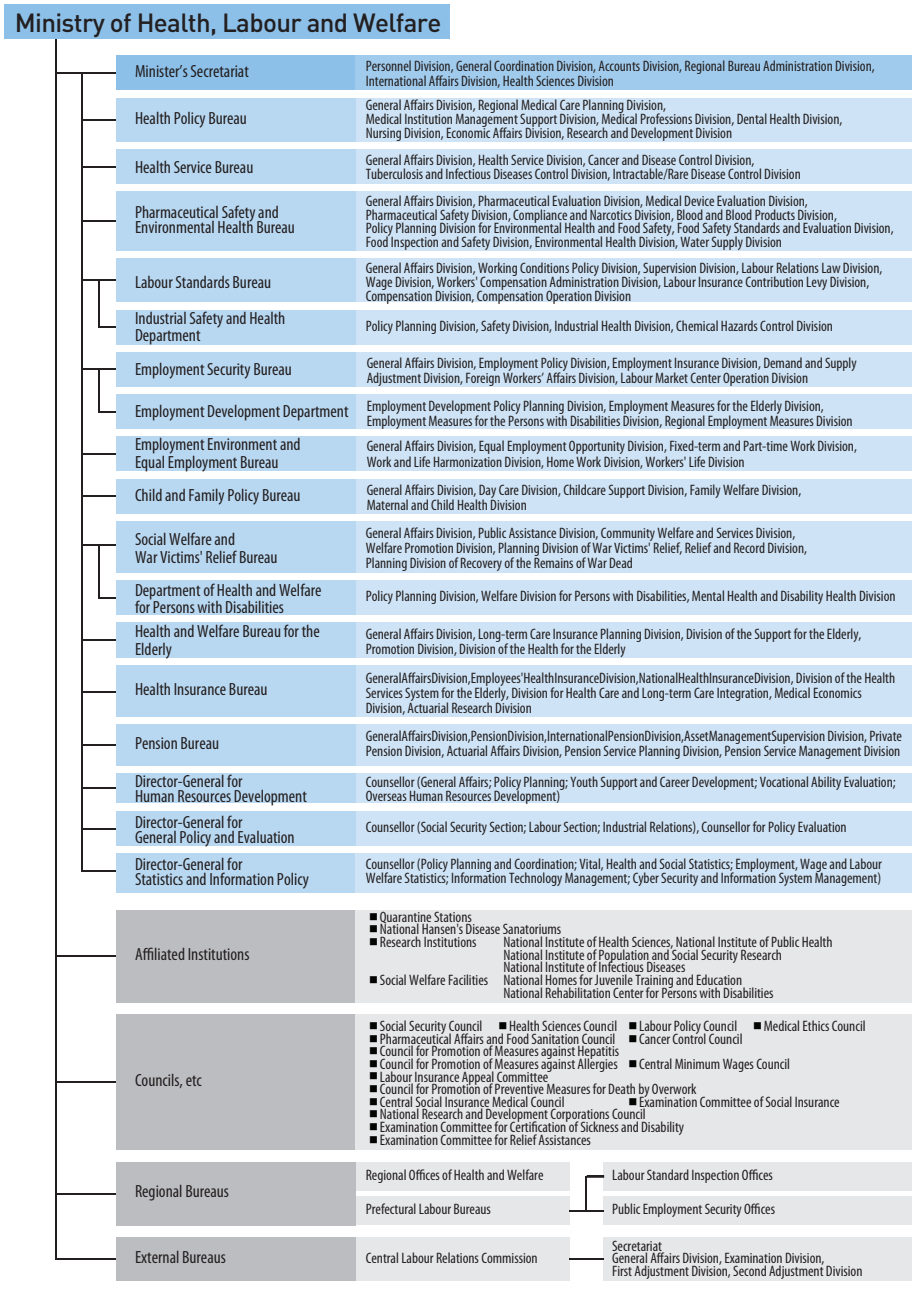
7.3 The health system

Japan's health-care system is characterized by the universal insurance scheme, where participants are free to choose health-care facilities and access high-quality care at a relatively low price. Medical care is provided at primary, secondary and tertiary health-care facilities, while public health services are provided at regional public health centres or community health centres.

7.3.1 Organization

The Ministry of Health, Labour and Welfare (MHLW) is the central leading organization in the Japanese health-care system. The MHLW actively collaborates and cooperates with various other bodies such as the Cabinet, Ministry of Finance, Ministry of Education, Culture, Sports, Science and Technology, Ministry of Agriculture, Forestry and Fisheries, Ministry of Economy, Trade and Industry, Japan Medical Association and Japanese Nursing Association.

Fig. 7.2 Japan: Organization chart of the Ministry of Health, Labour and Welfare



Source: MHLW, 2017b

Decentralization

Across the 47 prefectures in Japan, there are a total of 1718 municipalities (cities, towns and villages). Based on the regional context, each prefecture is required to create detailed "medical care plans", which aim to establish a system that provides necessary health-care services for local residents seamlessly from the acute phase to the long-term phase. Although prefectural governors are authorized to develop a medical care plan (MCP), it is commonly discussed in committees composed of representatives from local medical and dental associations, hospitals and relevant stakeholders.

Under the Community Health Act of 1947, all prefectures and high-population municipalities (population above 500 000) are required to establish a regional public health centre, which provides and coordinates a wide range of public health services, including care for mental disorders, rare diseases, communicable diseases and food poisoning. In addition, all municipalities, irrespective of their size, are also required to establish a community health centre which, in line with MHLW regulations and using the MCP framework, is in charge of community-based activities, including health promotion activities such as ANC clinics, immunization, health check-ups, counselling and screening for cancer.

7.3.2 Patient-centredness

Article 25 of the Japanese Constitution fundamentally supports patient rights in Japan by stating that "all people shall have the right to maintain the minimum standards of wholesome and cultured living. In all spheres of life, the State shall use its endeavours for the promotion and extension of social welfare and security, and of public health." Article 25 of the Constitution is the foundation of all health-care policies in Japan.

Patient organizations play a predominant role in patient advocacy. It is estimated that there are more than 3000 patient organizations in Japan, and they can participate as committee members during policy-setting meetings conducted by the MHLW. However, these patient organizations are relatively small and fragmented compared with those in the USA and the EU, which means that only a few patient organizations have significant clout over the policy-making process.

7.3.3 Financing

Earlier, Japan's health-care system was characterized as having a good quality of health-care services at a relatively low cost. However, mainly due to advanced technologies, the increasing prices of medicines and an ageing society, the current health expenditure has been climbing and is now ranked as the third highest among OECD countries. In 2017, approximately one third of the national budget was allocated to social security (health-care, pension, long-term care and welfare) (Ministry of Finance, 2017). The per capita health expenditure in Japan was US$ 4435.6 in 2015, which was slightly higher than the OECD average of US$ 4003.0 (OECD, 2018a). Table 7.4 shows the trends in health-care expenditure in Japan between 2000 and 2014: health expenditures paid by the public sector in Japan have been 80–85%, consistently sitting higher than the OECD average at around 70–75%, while OOP payments have been constantly low at around 14%.

Table 7.4 Japan: Trends in health-care expenditure, 2000–2014

Expenditure	2000	2005	2010	2014
Current health expenditure(% GDP)	7	8	9	11
Compulsory financing arrangement (% of CHE)	80	81	82	84
Voluntary financing arrangements(% of CHE)	20	19	18	16
Out-of-pocket payments (% of THE)	16	16	15	13

Key: GDP: gross domestic product; CHE: current health expenditure; THE: total health expenditure

Source: World Health Organization, 2018

Japan's health-care system is based on a social insurance system with tax subsidies and some amount of OOP payment, and it covers 100% of the population. All residents of Japan are required by law to enrol in a health insurance programme. For age 0–74 years, there are two main types of health insurance schemes in Japan – Employees' Health Insurance and National Health Insurance (NHI). Employees' Health Insurance covers government officials, employed workers and their dependents, while the NHI is designed for self-employed and unemployed people and is run by the municipal government (i.e. cities, towns and villages). Employees' Health Insurance is further divided into four major categories: Japan Health

Insurance Association (JHIA), Society-Managed Health Insurance (SMHI), Mutual Aid Societies (MAS) and Seaman's insurance. Those who are above 75 years of age are covered with the late-stage medical care for the elderly, which will be explained later this section.

Table 7.5 Japan: Summary of health insurance schemes

Name of insurance scheme	Target population	Number of insurers	Population coverage (%)*
National Health Insurance	Self-employed Unemployed Elderly	1716 municipal governments, 164 NHI societies**	28.3
Employees' health insurance			58.7
1 JHIA	Small- and medium- size companies	1	28.7
2 SMHI	Large-size companies	1409	23.0
3 MAS	Public servants	85	7.0
4 Seamen's insurance	Seamen	1	0.1
Late-stage medical care for the elderly	Elderly over 75 years of age	1716 municipal governments	13

Key: JHIA: Japan Health Insurance Association; SMHI: Society-Managed Health Insurance; MAS: Mutual Aid Societies

Notes: *Those who are aged 75 years and above are covered with an independent insurance scheme (called the late-stage medical care system for the elderly), and thus the sum of NHI and Employees' Health Insurance is not 100%.** In general, insurers of the NHI are the municipal government; however, some NHIs have grouped to create NHI societies to have a larger financial pool, and is now accounted for 164 societies.

Source: MHLW, 2016b

As shown in Table 7.5, Japan's health insurance system does not have a single pool, but rather insurers are divided into approximately 3000 organizations. Financial disparities between the NHI and Employees' Health Insurance have been of major concern in recent decades. In particular, with urbanization and an ageing society, the size of risk pools in the NHI has changed significantly and now many smaller municipalities face declining funding and increasing health expenditures. Moreover, although there are several cross-subsidy mechanisms among various insurance schemes, premium rates largely differ across municipalities. This fragmented insurer system remains a source of systemic inefficiency and premium inequities.

For OOP payments, the rate is set as follows: pre-elementary school[2] = 20% of total health-care cost; elementary school up to age 69 years = 30%; age 70–75 years = 20%; and age 75 years or above = 10%. Although the OOP payment rate of 30% for elementary school up to age 69 years is relatively high by international standards, there is a monthly and annual cap on OOP payments for individuals and households. Patients are required to pay 30% of health-care costs up to the cap every calendar month, but are required to pay only the cap amount plus 1% of total health-care costs if the cap is exceeded. The monthly cap for the household is set between US$ 312 and US$ 2228, based on income. Thanks to this cap payment system, the OOP payment as a percentage of THE in Japan has remained around 14%, which is constantly lower than the OECD average.

Late-stage medical care system for the elderly

To reduce the disparities between the NHI and Employees' Health Insurance, the government introduced a late-stage medical care system for the elderly in 2008, which separated the elderly aged 75 years and above from the exiting health insurance system. The late-stage elderly contribute premiums of approximately 10% of total expenditure, which is deducted from their pensions. The remaining funds for the late-stage medical care system for the elderly is financed by government subsidies (50%) and contributions by the working population (40%).

Another unique trait of the Japanese health financing system is the uniform fee schedule, where all prices for health-care procedures, medical devices and pharmaceuticals are determined by the MHLW and are covered under the national insurance system. Once every two years, the MHLW reviews the scope of coverage by the national insurance scheme and the reimbursement billing conditions for procedures, drugs and medical devices. All hospitals and clinics, including private care facilities, are required to comply with the nationally uniform fee schedule set by the MHLW.

[2] Elementary school in Japan starts at 6 years of age.

7.3.4 Physical and human resources

In Japan, there were 8442 hospitals, 101 529 clinics and 68 940 dental clinics in 2016 (MHLW, 2016c). Among them, privately owned hospitals numbered 6849 (81.1%), of which 5754 (68.2%) are owned by non-profit medical corporations, 240 (2.8%) solely owned by private individuals, and 855 (10.1%) owned by others, including non-profit public corporations, non-profit school corporations and private medical schools. Although privately owned, they are strictly regulated by the Central Government in terms of price-setting and provision of services (i.e. the prices of health-care procedures are set under the uniform fee schedule). The remaining 1593 hospitals are government- or prefecture-owned hospitals.

Compared with other OECD countries, inpatient care in Japan is characterized by longer-than-average hospital stays, with a larger number of inpatient beds per capita. Although the government has promoted a decrease in the total number of inpatient beds, Japan still had 13.2 hospital beds per 1000 population in 2015, which was significantly higher than the OECD average of 4.9 beds per 1000 persons (OECD, 2016). The average length of hospital stay in Japan for acute care was 16.5 days in 2015, which was also longer than the OECD average of 6.8 days (OECD, 2018b). Japanese hospitals are generally well equipped with high-technology devices, such as computed tomography (CT) and magnetic resonance imaging (MRI) scanners. The number of CT scanners per 1000 population is 0.101, compared with a mean of 0.024 in other OECD countries. The number of MRI scanners per 1000 population is 0.047, which is also higher than that of the OECD average of 0.014.

In 2014, Japan had a relatively small number of physicians (2.35 per 1000 persons) but more nurses (9.06 per 1000 persons) when compared to other OECD countries (OECD average density is 3.02 and 8.03, respectively) (OECD, 2016). Like other countries, the uneven distribution of the health workforce in terms of specialty (especially for physicians) and locations, inadequate training system, and task-shifting is a major concern.

7.3.5 Provision of services

The Japanese health-care system does not necessarily distinguish between primary and secondary care, and there is no gate-keeper system. Historically, Japan did not have a general practitioner system, and most physicians chose a specialty without any national accreditation (i.e. physicians could freely profess their specialty to be internal medicine, surgery, paediatrics, etc.). Patients often go to secondary health-care facilities even with mild symptoms, and secondary health-care services are accessed directly at an affordable cost (set at a standard rate regardless of specialty, location, public/private facilities under the fee schedule) without the need for a referral from a primary health-care facility. These secondary services can be provided locally at small clinics or treatment centres, or at outpatient departments of larger hospitals that would be considered tertiary-care centres in a gate-keeping system.

Although hospital outpatient services are available without a referral, the government introduced a referral system for the use of tertiary-care services through clinic services. Patients without referral letters from primary care clinics are now required to pay at least US$ 50 at the reception of large hospitals, such as university hospitals. However, the difference between primary and secondary health-care facilities remain vague. Some community-based clinics are often equipped with advanced technologies such as MRI machines, enabling the provision of hospital-level services at local clinics.

Management of NCDs

The Health Promotion Act was promulgated in 2002, requiring prefectural and municipal governments to develop health promotional plans and governments at all levels to monitor NCDs for effective health promotion (Ezoe et al., 2017). Under this Act, the MHLW promoted the "National Health Promotion Movement in the 21st century" (abbreviated as "Health Japan 21") as a goal-oriented health promotion measure for the prevention of NCDs (Sakurai, 2003). The fundamental goals of "Health Japan 21" are:

- to improve healthy life expectancy and reduce health inequalities;

- to prevent the onset and progression of NCDs;
- to maintain and improve functions necessary for a healthy social life;
- to create a social environment in which individual health is protected and healthy behaviours are supported; and
- to improve lifestyle-related factors affecting health, such as nutrition, physical activity and other risk factors.

As part of preventive measures against NCDs, three types of health check-ups target the general population in Japan: (i) general health check-ups; (ii) specific health check-ups and specific health guidance (SHCSHG); and (iii) cancer screening. All employers are required by the Industry Safety and Health Act to provide general health check-ups to all employees at the time of contract as well as once every year. It includes (i) past medical history and occupation; (ii) subjective and objective symptoms; (iii) height, weight, vision and hearing; (iv) chest X-ray; (v) blood pressure; (vi) anaemia (complete blood count); (vii) liver function; (viii) cholesterol; (ix) diabetes mellitus; (x) urine analysis; and (xi) ECG. All costs are paid by the employers; individual workers do not pay for check-ups.

In addition to general health check-ups, the MHLW introduced in 2008 a nationwide screening programme for NCDs, called SHCSHG. Under this programme, all insurers are mandated to conduct SHCSHG for enrollees aged 40–74 years. This programme expands on general health check-ups to include a wider range of items and, based on the results, specific health guidance is offered to the participants identified as having risk factors for NCDs. All costs are covered by insurers; individuals are not required to pay for SHCSHG.

In 1983, the Japanese Government started to subsidize stomach and uterine cancer screening, followed by screening for lung, colon and breast cancer. At that time, no other country provided publicly funded cancer screening. However, compared with other developed countries, the screening rates in 2013 remained low at 45.8%, 41.4% and 47.5% for stomach, colon and lung cancer screening for men, respectively (National Cancer Center, 2017; Tsuji, 2009).

Management of communicable diseases, including emerging diseases

The Infectious Disease Surveillance Center (IDSC) was established under the National Institute of Infectious Disease (NIID) with the purpose of surveilling all targeted infectious diseases, which are divided into five categories according to the urgency of notification and severity. Based on the Infectious Disease Control Law of 1995, the IDSC conducts nationwide surveillance of infectious diseases and, according to disease category, collects data on the detection of infectious disease both/either from prefectural public health institutions and/or sentinel clinics and hospitals across Japan.

Under the Preventative Immunization Law, Japan started routine immunization services in 1948. The vaccine schedule was periodically revised and the country now maintains a childhood vaccination programme that is broadly consistent with the WHO-recommended vaccination schedule. The routine immunization for children includes bacillus Calmette-Guerin (BCG), measles–rubella (MR), varicella, hepatitis B, DPT-IPV (diphtheria–tetanus–pertussis and inactivated polio vaccine), Japanese encephalitis, pneumococcal, *Haemophilus influenzae* type b (Hib) and human papillomavirus (HPV). In addition, influenza vaccine is also provided to the elderly and at-risk populations. The entire cost of all the aforementioned vaccinations is covered by tax subsidies.

Management of MCH

There were approximately 1 000 000 births in Japan in 2015. The IMR was 2.0 per 1000 live births while the MMR was 5.0 per 100 000 live births in 2015, both of which are among the lowest in the world (World Bank, 2018b).

The Maternal and Child Health Act, 1965 entitles babies to free, publicly funded preventive health services, including access to the MCH Handbook (growth notes and medical records from during the pregnancy until 6 years of age), continued guidance and consultation with public health nurses for all newborn babies (additionally, extensive counselling is provided for underweight babies less than 2500 g), multiple births, single-mother households, and cases of suspected of child abuse, mass screening for congenital metabolic diseases, and routine immunizations. Newborns are

also entitled to well-baby check-ups three times within the first 3 years of life (3–4 months, 18 months and 3 years of age), which are provided at no cost by the municipal government. Moreover, most municipalities provide free additional health check-ups for infants and children up to five times.

The "Healthy parents and children" scheme was launched in 2001 and has started its second iteration in 2015. The scheme aims to improve health standards of mothers and children and set specific targets and indicators. Most MCH projects conducted both by the central and local governments are in line with the "Healthy parents and children" scheme. Areas of priority include: (i) seamless provision of public health measures for pregnant women and infants; (ii) public health measures for school-age children, from adolescence to adulthood; and (iii) development of a community that is supportive to children and their family members. Currently, particular countermeasures against child abuse are being taken. The number of cases of child abuse has increased from 11 631 in 1999 to 88 931 in 2014. As of April 2017, 210 child welfare offices were in charge of prevention of and response to child abuse. In 2007, each municipal government was required to set up a regional council for children requiring aid, with the goal of early detection and response to cases of potential child abuse. Although several countermeasures have been introduced, the number of child abuse cases has continued to increase and further efforts are needed.

7.4 Performance of the health system

7.4.1 Effectiveness and quality

Empirical evidence is scarce regarding the quality of primary health-care services in Japan. Hashimoto et al. (2011) showed that, compared to the USA, effective coverage for control of hypertension and hyperlipidaemia was much less in Japan. Using an administrative dataset, Tanaka et al. (2016) also reported that clinical practices for control of diabetes, including screening for complications of diabetes, are of relatively poor quality in Japan compared to those of the USA and European countries. These concerns might be attributable to relatively low rates of compliance to guidelines, limited opportunities for training in general practice, and the

division between preventive and curative services in Japan (Hashimoto et al., 2011).

According to the OECD Health Statistics 2015, the quality of acute care services in hospitals in Japan showed poor performance for acute myocardial infarction (AMI). The death rate due to AMI in Japan was 12%, compared with the OECD average of 8.0%. However, according to the national databases that cover around 90% of acute care hospitals in Japan, the in-hospital mortality rate due to AMI was around 7.2%, suggesting that databases need to be refined for cross-country comparisons (Sakamoto et al., 2018).

Moreover, evaluation of performance is still limited for outpatient services and chronic-care inpatient services. These data are covered mainly by the national database, which was primarily intended to facilitate reimbursements under the unified fee control schedule. As this database was not intended for research purposes, crucial data needed to determine service efficacy are often missing.

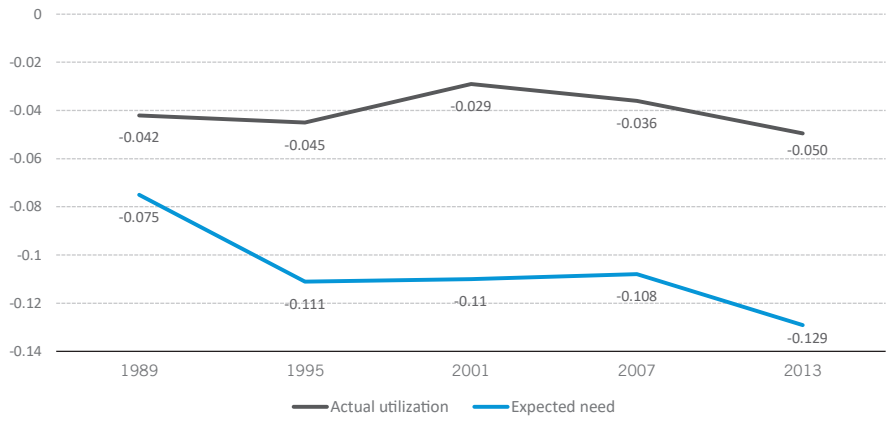
For data-driven, evidence-based policy-making, the government has slowly but steadily evolved its policy to make data available for open public use. However, the organizational infrastructure needed to improve the quality of data and to support wider use is lacking.

7.4.2 Accessibility

Watanabe and Hashimoto (2012), using methodology originally proposed by Wagstaff et al. (1991), measured horizontal inequality – in accessing a health-care facility by using cross-sectional, nationally representative household surveys. Horizontal inequality is calculated as the difference between two types of concentration indices – acute health-care visits over a household's income level and expected health-care needs based on demographic and clinical conditions. By using the dataset from the Comprehensive Survey of People's Living Condition, they calculated horizontal inequality in Japan and the results are presented in Fig. 7.3. The horizontal inequality (gaps between two indices) was negative, indicating that people with a lower household income were likely to withdraw health-care use despite their health care needs. This gap was at its largest in

2001, though it jumped back to approximately –0.05 in 2007 (Sakamoto et al., 2018).

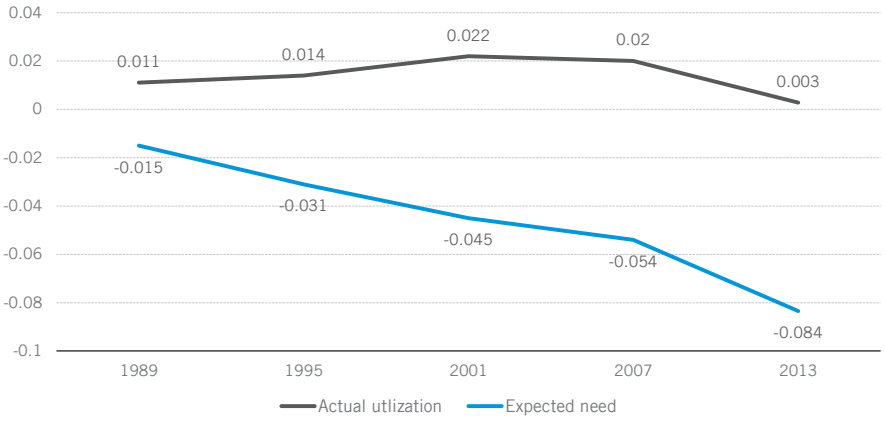
Fig. 7.3 Japan: Horizontal equity in access to health care (concentration indices over household income), age 20+ years, 1989–2013



Notes: Actual utilization: concentration indices for actual health-care use; expected need: concentration indices for expected health-care needs (estimated health status)
Source: Sakamoto et al., 2018

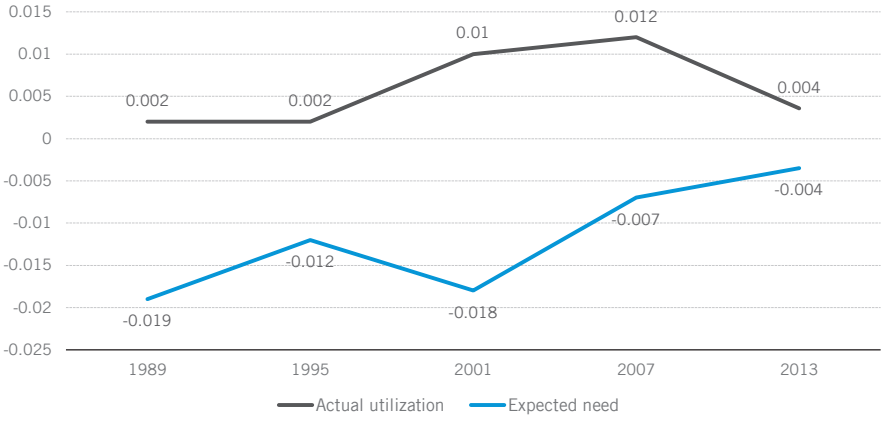
Fig. 7.4 and 7.5 show horizontal inequality in access to health care for two age groups (20–64 years and 65 years and above, respectively). Compared with the younger group, horizontal inequality has been low in people aged 65 years and above, presumably due to the reduced co-payment rate, which contributes to equalizing health-care utilization regardless of income levels among the elderly. However, a further decline in horizontal inequality is seen in 2013 among the older age group, which may be an early sign of the declining household capacity to pay for health-care costs due to economic stagnation. Further monitoring is required to assess this trend (Sakamoto et al., 2018).

Fig. 7.4 Japan: Horizontal equity in access to health care (concentration indices over household income), age 20–64 years, 1989–2013



Notes: Actual utilization: concentration indices for actual health-care use; expected need: concentration indices for expected health-care needs (estimated health status)
Source: Calculated by Hashimoto from MHLW, 2016d

Fig. 7.5 Japan: Horizontal equity in access to health care (concentration indices over household income), age 65+ years, 1989–2013



Notes: Actual utilization: concentration indices for actual health-care use; expected need: concentration indices for expected health-care needs (estimated health status)
Source: Calculated by Hashimoto from MHLW, 2016d

It is worth noting that the Japanese health-care system does not adequately address the cultural needs of ethnic minorities, especially with respect to language barriers and religious backgrounds. Some efforts are being made in this direction as part of the preparations for the 2020 Tokyo Olympic and Paralympic games, foreseeing that there will be many foreign patients at that time. However, systematic and empirical evidence is scarce, making it difficult to assess the magnitude and severity of this problem.

7.4.3 Resilience

The likelihood of rising expenditure poses risks to fiscal sustainability. The ageing population and increases in the prices of medicines and medical devices have been pushing the total health-care expenditure, which has put a significant burden on the health-care system in Japan. To tackle this challenge, in 2008, the government (both the ruling party and the opposition party) agreed to pass the "Comprehensive Reform of Social Security and Tax", a joint reform of the social security and taxation system that should improve fiscal sustainability for the health and long-term care system in Japan. It originally planned to raise the consumption tax, with any additional funds from it being channelled for social security costs, including health and long-term care. Though the current Abe Cabinet originally planned to increase the consumption tax rate to 10% in October 2015, it has been postponed to September 2019, which has delayed social security and taxation reform. An increase in the consumption tax being a big political issue, the future progress of reform remains unclear.

Integrated community care system (ICCS)

A majority of the elderly wish to stay in their homes during the very end of their lives. However, because of the increase in the number of unmarried people, single-person households and parent–child separated households, more elderly persons are living alone. Consequently, it is difficult to provide arrangements for them to die at home (78.4% die at health-care facilities). In response to this, the government promoted an Integrated Community Care System (ICCS) in 2006. This system aims to provide appropriate living arrangements, social care and daily life support services within the community as well as integrate prevention, medical services and long-term care for the elderly.

Twelve years since its adoption in 2006, the ICCS continues to be the central core policy of health and long-term care in Japan. However, several challenges remain: how to encourage local stakeholders to participate in the community discussion, how to channelize diverse interests to evolve a consensus on efficient allocation of resources, and how to meet bureaucratic demands both at the central and local government levels.

7.5 Conclusions

Thanks to the overall efficiency of its health system and parallel advances in technology, Japan has for many years enjoyed increased life expectancy, decreased maternal and infant mortality, and a reduced burden of communicable diseases. However, the Japanese health-care system faces several challenges, including an ageing society, increasing health-care expenditure, economic stagnation and increasing inequity, all of which place a heavy burden on the current health-care system.

Fundamentally, what Japan needs is a health-care paradigm shift. Such a shift in Japan's approach to health care has already been proposed in *Japan vision: health care 2035*, a report drafted by young Japanese leaders in health care under the leadership of the then minister Yasuhisa Shiozaki. The goal of *Japan vision: health care 2035* is to build a sustainable health-care system that delivers better health outcomes through care that is responsive and equitable to all members of society, and that contributes to prosperity in Japan and the world. Bearing in mind these transformations by 2035, fundamental reforms that focus on outcomes, quality, efficiency, care and integrated approaches across sectors will be necessary to maintain a low-cost, equitable health system in the future (Miyata et al., 2015).

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Progress towards universal health coverage in Myanmar: a national and subnational assessment

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Summary

Background Attainment of universal health coverage is a global health priority. The Myanmar Government has committed to attainment of universal health coverage by 2030, but progress so far has not been assessed. We aimed to estimate national and subnational health service coverage and financial risk protection.

Methods We used nationally representative data from the Myanmar Demographic and Health Survey (2016) and the Integrated Household Living Condition Assessment (2010) to examine 26 health service indicators and explored the incidence of catastrophic health payment and impoverishment caused by out-of-pocket payments. We used logistic regression models of inequalities in, and risk factors for, indicators of universal health coverage.

Findings Nationally, the coverage of health service indicators ranged from 18·4% (95% CI 14·9–21·9) to 96·2% (95·9–96·5). Coverage of most health services indicators was below the universal health coverage target of 80%. 14·6% (95% CI 13·9–15·3) of households that used health services faced catastrophic health-care payments. 2·0% (95% CI 1·7–2·3) of non-poor households became poor because of out-of-pocket payments for health. Health service coverage and financial risk protection varied substantially by region. Although the richest quintiles had better access to health services than the poorest quintiles, they also had a higher incidence of financial catastrophe as a result of payments for health care. Of the indicators included in the study, coverage of adequate sanitation, no indoor use of solid fuels, at least four antenatal care visits, postnatal care for mothers, skilled birth attendance, and institutional delivery were the most inequitable by wealth quintile.

Interpretation Attainment of universal health coverage in Myanmar in the immediate future will be very challenging as a result of the low health service coverage, high financial risk, and inequalities in access to care. Health service coverage and financial risk protection for vulnerable, disadvantaged populations should be prioritised.

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Introduction

Universal health coverage (UHC) is a global health priority, and a core element of the Sustainable Development Goals (SDGs) adopted by the UN in September, 2015.[1] Goal 3 sets an ambitious agenda to "ensure healthy lives and promote wellbeing for all at all ages". The aim of UHC is to ensure that all people can access good-quality health services without incurring financial hardship.[1,2] WHO and the World Bank's target for UHC is at least 80% coverage of essential health services and 100% coverage of financial protection in the whole population.[2] To measure progress towards UHC, WHO developed a framework that consists of three dimensions: essential health service coverage, financial risk protection, and population coverage (equity).[3]

Like many WHO member countries,[4,5] the Myanmar Government has committed to achieving UHC by 2030.[6] The Ministry of Health and Sports launched the 5-year National Health Plan (2017–21) in December, 2016. The major goals are to ensure access to a basic essential package of health services (EPHS) for the whole population by 2020, and to increase financial risk protection.[6] The Myanmar health system is a pluralistic mix of public and private systems in terms of both financing and service provision.[7] After the transition to a civilian government in March, 2011, investments in the health sector have increased. The Myanmar Government increased the budget allocation for health to 3·4% of total government expenditure in the 2014–15 fiscal year, a substantial improvement from the 1% allocated in 2010–11.[7] However, this allocation remains the lowest in the Asia-Pacific region.[7,8] External funding, mostly in the form of official development assistance channelled through governmental and not-for-profit organisations, is also a source of finance.[9] Official development assistance funded 21·8% of total expenditure on health as of 2014. Public spending on health has increased from 0·2% of the gross domestic product (GDP) in 2009, to 1% in 2014.[8,10] However, despite this substantial increase in health investment, public spending on health in Myanmar is lower than that in all other countries of the Association of Southeast Asian Nations. Because of an

Research in context

Evidence before this study

We searched PubMed, CINHAL, Google Scholar, and Web of Science with the terms "universal health coverage", "health system", "progress", "catastrophic", "out-of-pocket", "impoverish", "equity", and "Myanmar" for original research articles published in English up to May 5, 2018. We sought to assess progress towards universal health coverage (UHC) in Myanmar. We did not identify any studies that measured health service coverage or financial risk protection nationally or subnationally in Myanmar or that showed substantial disparities across regions or in socioeconomic conditions. In previous studies, financial risk from illness was assessed, but indicators of equity or health service coverage were not. A cross-sectional study of inequity in access to services was done in northeastern Myanmar, but was not representative of the entire country. We identified no studies that provided national and subnational assessments of UHC indicators.

Added value of this study

To our knowledge, this study, which was based on the latest available nationwide survey data, is the first comprehensive assessment of UHC in Myanmar. We followed WHO's framework for measurement of progress towards UHC, and assessed health service coverage and financial risk protection, together with equity assessments, both nationally and subnationally. Our results showed that coverage for most health indicators is below the 80% UHC target. Roughly 15% of households who utilised the health service incurred catastrophic health-care payments (at the threshold of 40% of non-food expenditure). 2% of non-poor households become poor (ie, fell below the national poverty line) as a result of out-of-pocket payments. The richest households had better access to health services but were also at higher risk of financial catastrophe than the poorest households. Health service coverage and the incidence of catastrophic health payments varied substantially by region.

Implications of all the available evidence

Our results should inform evidence-based decision making by policy makers working towards UHC in Myanmar by 2030. To achieve the goals of UHC in the immediate future is impossible because of low health service coverage, high financial risk due to out-of-pocket payments, and the inequality gap.

absence of health insurance and cost-sharing policies, out-of-pocket payments are the main source of health financing in Myanmar.[6,7] Alongside increases in health-sector investment, out-of-pocket health expenditure as a proportion of total health expenditure decreased from 79% in 2011, to 51% in 2014. However, the proportion of health expenditure that out-of-pocket payments comprise in Myanmar is still one of the highest in the region.[8,10]

Other key challenges in Myanmar's health system include the insufficient health workforce, limitations in decentralisation of health services, and a lack of infrastructure.[7,11] The health worker density in 2016 was 15 per 10 000 population, 61% lower than the southeast Asian regional estimate.[12] Despite the introduction of health-sector decentralisation, financial and human resources are still centrally managed.[7] Only 0·6 hospital beds are available per 1000 population, the second lowest availability in the southeast Asian region.[7] Additionally, inequality in access to health services and financial risk protection as a result of geographical, ethnic, and socioeconomic differences is a major concern in Myanmar.[13]

The path to UHC differs between all countries on the basis of variations in demographic and socioeconomic characteristics. Thus, measurement of progress is both necessary and informative. This study provides a baseline measurement of UHC in Myanmar both nationally and subnationally, against which subsequent measurements can be compared to monitor progress. In view of the current situation, understanding of progress towards UHC at a subnational level assessment is very important for identification of states or regions that are failing to meet targets for health service coverage and financial risk protection.

Methods

Data sources

We used data from two nationally representative surveys to assess progress towards UHC in Myanmar. To assess indicators of health service coverage, we used the 2015–16 Demographic and Health Survey. The survey had a stratified two-stage sample design. Data from the survey consisted of 13 260 households from 4000 primary sampling units collected nationally, for urban and rural areas, and for each of the seven states and eight regions of Myanmar. The overall response rate was 98%. Details of sampling methods and questionnaires were described in the Myanmar Demographic and Health Survey report.[14]

Data from the Integrated Household Living Condition Assessment 2009–2010 were used for estimation of indicators of financial risk protection associated with out-of-pocket health-care payments. The survey had a stratified multistage design, and provided data for key dimensions of living conditions and wellbeing. The survey was done in two rounds 6 months apart between December, 2009, and May, 2010. In our study, we used data from both rounds. 18 660 households were selected, and the overall response rate was 99%. The Integrated Household Living Condition Assessment was based on data from household questionnaires, which provide information about household living conditions that is needed for assessments of financial risk. Details of the

study design can be found in the Integrated Household Living Condition Assessment report.[15]

Indicators

In accordance with WHO and World Bank recommendations,[2] health service coverage, financial risk protection, and inequalities for UHC indicators were measured. We included both prevention and treatment indicators (appendix pp 2–3) in the assessment of health services, in line with WHO recommendations.[16] The 22 prevention indicators that were considered for inclusion were improved water; adequate sanitation; no indoor use of solid fuels; family planning needs satisfied; at least one antenatal care visit; at least four antenatal care visits; BCG immunisation; three doses of diphtheria, tetanus, and pertussis (DTP3) immunisation; three doses of polio immunisation; measles immunisation; full immunisation; vitamin A supplementation; care seeking for pneumonia; care seeking for fever; care seeking for diarrhoea; exclusive breastfeeding; postnatal care for mothers; postnatal care for neonates; no use of tobacco among women; non-overweight or obese; use of insecticide-treated bednets by children younger than 5 years; and use of insecticide-treated bednets by pregnant women. The four treatment indicators considered for inclusion were skilled birth attendance, oral rehydration therapy for childhood diarrhoea, institutional delivery, and acute respiratory infection treatment for childhood pneumonia.

Two indicators—incidence of catastrophic health payments and impoverishment—were used to assess financial hardship dimensions in the UHC framework.[2,17] A household's expenditure on health care was defined as catastrophic if it exceeded some proportion of total household expenditure, non-food expenditure, or capacity to pay.[17] Consistent with the methods of a previous study,[10] we used a threshold of 40% of non-food expenditure. Health expenditure was judged to be impoverishing when a non-poor household became poor after out-of-pocket payment for health-service utilisation.[2,17] We estimated impoverishment on the basis of the national food poverty line directly from the Integrated Household Living Condition Assessment survey.[15] A full explanation of the estimation of catastrophic payments and impoverishment are in the appendix (pp 6–8).

Statistical analysis

Similar to previous studies,[18,19] we estimated mean prevention, mean treatment coverage, and composite coverage indices. The composite prevention index was based on all prevention indicators and the composite treatment index was based on the four treatment indicators. For the composite coverage index, we used a weighted mean of eight interventions (family planning needs satisfied, skilled birth attendance, antenatal care with skilled provider, DTP3, measles immunisation, BCG immunisation, oral rehydration therapy for children with diarrhoea, and care seeking for pneumonia) from four specialties (family planning, maternity care, child immunisation, and case management). They were calculated by random-effects meta-analyses. Coverage of indicators was estimated as a proportion, taking into account the sampling weight. Detailed calculation procedures for these indices are in the appendix (pp 5–6).

See Online for appendix

Consistent with the methods used in a previous study,[20] we assessed both the absolute and relative measures of inequality with the slope index of inequality, relative index of inequality, and concentration index to summarise wealth-quintile-specific inequalities in indicators of health service coverage and financial risk protection. At a national level, we measured both absolute and relative inequality in health. However, for subnational assessments of inequality, we used the slope index of inequality, which provided the

	National (95% CI)	Urban (95% CI)	Rural (95% CI)
Prevention indicators			
Improved water sources	80·3% (79·6–81·0)	89·3% (88·2–90·3)	77·1% (76·2–77·9)
Adequate sanitation	59·4% (58·5–60·3)	76·9% (75·4–78·3)	51·6% (50·6–52·6)
No indoor use of solid fuels	51·2% (50·3–52·1)	76·3% (74·8–77·7)	48·9% (47·8–49·9)
Family planning needs satisfied	75·9% (74·8–77·1)	81·9% (79·9–83·8)	73·7% (72·3–75·1)
At least one antenatal care visit	80·1% (78·8–81·4)	93·7% (92·1–95·4)	75·9% (74·3–77·5)
At least four antenatal care visits	55·5% (53·8–57·1)	83·1% (80·5–85·6)	47·0% (45·2–48·9)
BCG immunisation	87·8% (85·6–90·0)	91·8% (88·2–95·5)	86·4% (83·7–89·1)
DTP3 immunisation	62·7% (59·4–65·9)	75·2% (69·5–81·0)	58·3% (54·4–62·1)
Three doses of polio immunisation	67·2% (64·1–70·4)	76·0% (70·4–81·7)	64·2% (60·4–67·9)
Measles immunisation	77·1% (74·2–79·9)	81·7% (76·5–86·8)	75·5% (72·1–78·8)
Full immunisation	55·2% (51·8–58·5)	67·5% (61·2–73·7)	50·9% (47·0–54·8)
Vitamin A supplementation	54·8% (53·2–56·4)	53·6% (50·2–57·0)	55·1% (53·3–56·9)
Care seeking for pneumonia	58·6% (50·0–67·1)	76·9% (60·3–93·5)	53·6% (43·8–63·4)
Care seeking for fever	57·0% (53·2–60·8)	59·8% (51·9–67·7)	56·2% (51·8–60·5)
Care seeking for diarrhoea	53·8% (49·0–58·5)	48·7% (37·3–60·1)	54·9% (49·6–60·1)
Exclusive breastfeeding	51·2% (46·3–56·2)	51·8% (41·8–61·7)	51·1% (45·4–56·8)
Postnatal care for mother	58·3% (55·9–60·6)	77·7% (73·7–81·7)	51·8% (49·0–54·5)
Postnatal care for neonate	27·6% (25·4–29·7)	32·0% (27·5–36·5)	26·1% (23·7–28·5)
Does not use tobacco	96·2% (95·9–96·5)	98·8% (98·5–99·1)	95·1% (94·7–95·6)
Not overweight or obese	75·3% (74·6–76·1)	66·9% (65·4–68·5)	78·8% (77·9–79·6)
Use of ITN (children <5 years old)	18·6% (17·5–19·7)	8·3% (6·6–10·0)	21·5% (20·2–22·9)
Use of ITN (pregnant women)	18·4% (14·9–21·9)	10·4% (4·5–16·4)	20·7% (16·5–24·9)
Treatment indicators			
Acute respiratory infection treatment for pneumonia	43·3% (34·8–51·9)	53·8% (34·2–73·5)	40·5% (30·9–50·1)
Oral rehydration therapy	55·8% (51·1–60·6)	62·5% (51·5–73·5)	54·4% (49·1–59·6)
Institutional delivery	37·1% (35·6–38·5)	70·1% (67·2–73·0)	27·6% (26·1–29·1)
Skilled birth attendance	60·2% (58·7–61·6)	87·8% (85·8–89·9)	52·3% (50·6–54·0)
Composite indices			
Composite coverage index	71·2% (69·9–72·5)	74·4% (68·7–80·1)	69·1% (62·9–75·2)
Composite prevention index	58·7% (47·9–69·1)	67·6% (53·5–80·2)	55·9% (45·7–65·9)
Composite treatment index	49·2% (34·3–64·2)	70·8% (54·9–84·5)	43·5% (27·4–60·4)

DTP3=three doses of diphtheria, tetanus, and pertussis immunisation. ITN=insecticide-treated net.

Table 1: **Coverage of health services nationally and in urban and rural areas in Myanmar, 2016**

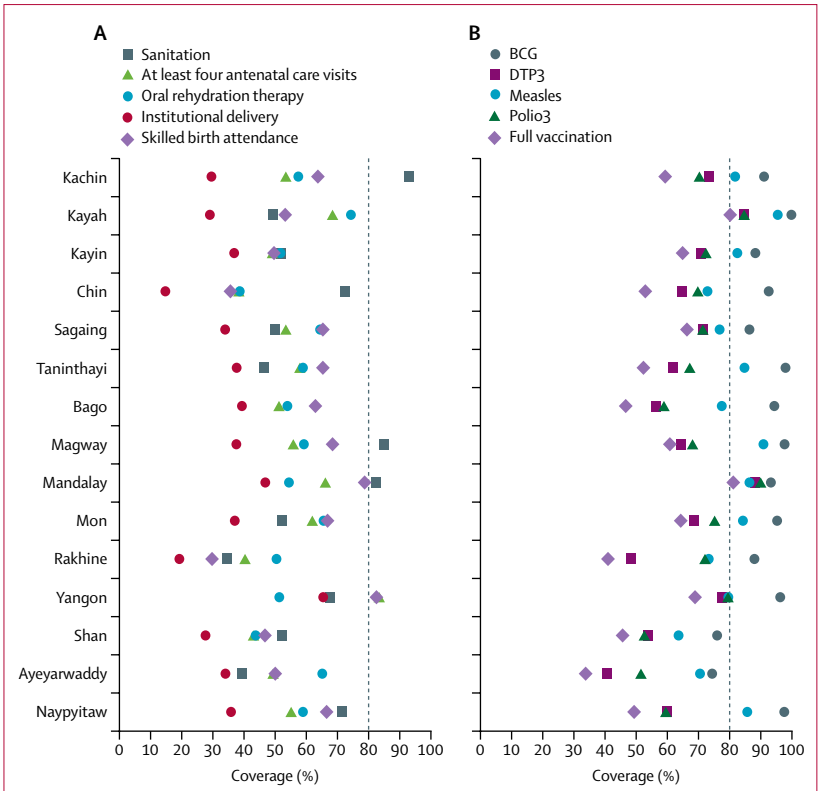

Figure 1: **Essential health service coverage (A), and immunisation coverage (B) in Myanmar, 2016**
The dashed line represents WHO and the World Bank's target for universal health coverage of at least 80% coverage of essential health services. DTP3=three doses of diphtheria, tetanus, and pertussis immunisation. Polio3=three doses of polio immunisation.

	Incidence of catastrophic health expenditure (95% CI)			Slope index of inequality (95% CI)
	Overall	Poorest quintile	Richest quintile	
National	14·6% (13·9 to 15·3)	11·0% (9·7 to 12·3)	21·5% (19·5 to 23·4)	12·3 (10·0 to 14·7)
Kachin	14·9% (11·6 to 18·3)	9·3% (0·8 to 17·8)	16·9% (10·4 to 23·3)	8·7 (–2·3 to 19·6)
Kayah	14·7% (8·3 to 2·1)	N/A	16·2% (0·8 to 31·6)	N/A*
Kayin	20·6% (12·9 to 28·2)	12·3% (3·0 to 38·7)	14·5% (3·8 to 6·8)	–14·6 (–28·8 to –0·3)
Chin	24·5% (17·2 to 31·9)	20·8% (3·9 to 12·7)	20·7% (2·3 to 39·1)	16·3 (2·0 to 30·6)
Sagaing	12·7% (10·6 to 14·7)	8·8% (5·1 to 12·5)	17·9% (12·8 to 23·0)	10·0 (3·9 to 16·0)
Taninthayi	20·4% (16·9 to 23·9)	17·0% (8·8 to 25·1)	26·5% (20·4 to 32·6)	11·1 (1·2 to 21·0)
Bago	16·1% (14·0 to 18·2)	11·1% (6·7 to 15·4)	26·4% (20·7 to 32·0)	16·2 (9·5 to 22·9)
Magway	13·7% (11·7 to 15·7)	9·7% (6·6 to 12·8)	27·9% (20·2 to 35·6)	16·1 (9·0 to 23·2)
Mandalay	9·9% (8·4 to 11·4)	6·8% (4·6 to 8·9)	13·3% (9·5 to 17·1)	7·3 (3·8 to 10·8)
Mon	16·4% (13·4 to 19·4)	16·3% (1·8 to 30·8)	20·3% (14·7 to 25·9)	12·9 (6·6 to 19·2)
Rakhine	13·2% (10·1 to 16·3)	11·9% (7·7 to 16·0)	31·4% (16·8 to 46·0)	7·7 (–1·2 to 16·7)
Yangon	17·2% (14·6 to 19·8)	18·3% (10·8 to 25·9)	24·3% (19·6 to 29·0)	18·5 (7·5 to 29·5)
Shan	8·0% (6·0 to 10·1)	4·0% (1·4 to 6·7)	16·9% (7·6 to 26·3)	12·1 (5·7 to 18·4)
Ayeyarwaddy	18·3% (16·3 to 20·2)	13·5% (10·5 to 16·4)	27·4% (18·5 to 36·2)	17·7 (9·6 to 25·7)

Catastrophic health expenditure was defined on the basis of a threshold of 40% of non-food expenditure. N/A=not applicable. *Could not estimate slope index of inequality because of the small sample size for catastrophic health expenditure.

Table 2: **Incidence of catastrophic health-care payment and inequality nationally and subnationally in Myanmar, 2010**

magnitude of inequality.[20] We used a logistic regression model to compute these indices, taking into consideration the whole population distribution of wealth.[21] Detailed estimation procedures are in the appendix (p 8).

We used a series of multilevel logistic regression models to identify potential risk factors for selected indicators of health service coverage and financial hardship. In the risk-factor analysis, we selected six indicators with the greatest inequalities in indicators of health service coverage (as shown by the highest slope indices of equality). The key confounding factors adjusted for in the model were the age, sex, and education level of the head of the household, household size, households with chronic illness, and residence (urban or rural). Because of their effects on health, we included socioeconomic and demographic characteristics as confounding factors in our multilevel analysis.[22–25] The full list of key confounding factors for each analysis with detailed estimation procedures is in the appendix (pp 8–10). All analyses were performed in Stata (version 14.1).

Role of the funding source

The study funders had no role in study design; data collection, analysis, or interpretation; or writing of the report. The corresponding author had full access to all study data and had final responsibility for the decision to submit for publication.

Results

National coverage of most prevention and treatment indicators was roughly 50–80% (table 1). The composite coverage index was 71·2% (95% CI 69·9–72·5), the composite prevention index was 58·7% (47·9–69·1), and the composite treatment index was 49·2% (34·3–64·2; table 1). The lowest national coverage indicators were for use of insecticide-treated bednets by both pregnant women and children younger than 5 years, followed by postnatal care for neonates and institutional delivery (table 1). Non-use of tobacco by women, BCG immunisation, and improved water sources had the highest coverage (table 1).

Coverage of indicators varied by state and region (figure 1). National coverage of adequate sanitation was 59·4% (95% CI 58·5–60·3; table 1), which ranged from 34·4% (95% CI 30·9–38·0) in Rakhine to 92·8% (95% CI 90·1–95·4) in Kachin (figure 1A). Coverage of institutional delivery was low across all states and regions (figure 1A, table 1). Coverage of immunisation varied substantially: although nationally the BCG coverage target of 80% was reached, in Shan (76%) and Ayeyarwaddy (75%) it was not (figure 1B). Full immunisation coverage reached the 80% target in Mandalay and Kayah only (figure 1B).

At the national level, 14·6% (95% CI 13·9–15·3) of households incurred catastrophic health payments (table 2), and 2·0% (1·7–2·3) of non-poor households became poor as a result of health-care costs. The overall

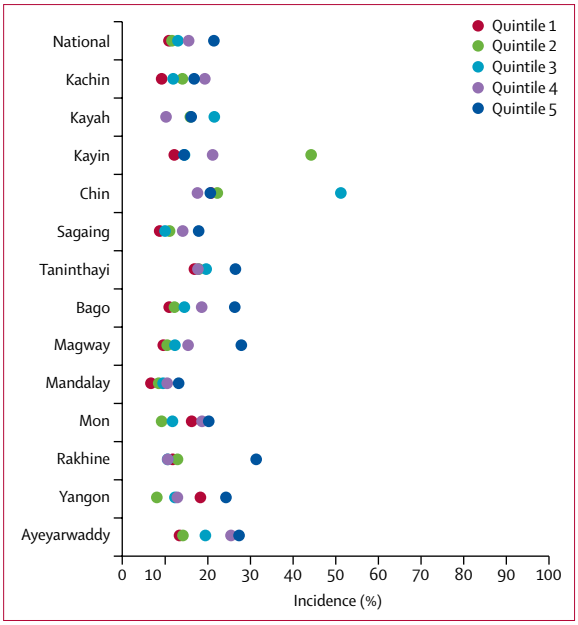

Figure 2: **Quintile-specific incidence of catastrophic payments for health care in Myanmar, 2010**
Quintile 1 is the poorest and quintile 5 is the richest.

incidence of catastrophic health care payment was highest in Chin (24·5% [95% CI 17·2–31·9]), followed by Kayin (20·6% [12·9–28·2]) and Taninthayi (20·4% [16·9–23·9]; table 2). Wealthier people faced more financial catastrophe than poorer people in all states and regions except for Chin and Kayin (figure 2). Substantial inequality in the frequency of catastrophic payment was evident in Yangon, Ayeyarwaddy, and Chin, where the incidences of catastrophic payment among the wealthiest households was 18·5 (95% CI 7·5–29·5) percentage points higher, 17·6 (9·6–25·7) percentage points higher, and 16·3 (2·0–30·6) percentage points higher, respectively than those in the poorest households (figure 2, table 2). By contrast, in Kayin, the incidence of catastrophic health payments was 14·6 (95% CI –28·8 to –0·3) percentage points lower among the richest households than the poorest households.

The most inequitable prevention and treatment indicators were adequate sanitation, no indoor use of solid fuel, at least four antenatal care visits, postnatal care for mothers, presence of a skilled birth attendant during delivery, and institutional delivery (table 3). Notable differences in inequality of coverage for skilled birth attendance, institutional delivery, adequate sanitation, and full immunisation were noted across all states and regions (appendix pp 14–15).

Multilevel models showed that access to perinatal care services increased with increased levels of education (either mothers or their partners) and older age (appendix p 16). Women with some higher education were five times more likely to have at least four antenatal care visits, and seven times more likely to have an institutional delivery than were those with no education (appendix p 16). Women with a partner with higher education were at least five times more likely to have access to perinatal services than were those whose partners did not have any education (appendix p 16). Irrespective of sex, households headed by someone with higher education were nearly twice as likely to have access to adequate sanitation facilities and not to use solid fuels indoors as those headed by someone with no education (appendix p 17).

In terms of financial risk, households containing a person with a chronic illness were 5·95 times more likely, households containing a person or older than 65 years were 1·79 times more likely, and those headed by women were 1·23 times more likely to incur catastrophic health payments than their counterparts

	Coverage (95% CI)		Slope index of inequality (95% CI)
	Poorest quintile	Richest quintile	
Prevention indicators			
Improved water sources	66·0% (64·2 to 67·9)	87·1% (85·7 to 88·4)	31·0 (24·2 to 37·9)
Adequate sanitation	27·7% (26·0 to 29·5)	89·3% (88·1 to 90·5)	67·8 (63·6 to 72·0)
No indoor use of solid fuels	31·6% (29·8 to 33·4)	86·6% (85·2 to 87·9)	61·1 (56·2 to 66·0)
Family planning needs satisfied	70·1% (67·4 to 72·9)	81·8% (79·5 to 84·1)	12·8 (7·1 to 18·5)
At least one antenatal care visit	66·7% (63·8 to 69·7)	97·3% (95·9 to 98·7)	38·4 (31·2 to 45·6)
At least four antenatal care visits	35·2% (32·2 to 38·2)	88·2% (85·6 to 90·9)	58·3 (51·4 to 65·1)
BCG immunisation	86·1% (81·7 to 90·5)	97·8% (95·5 to 100)	18·2 (7·9 to 28·5)
DTP3 immunisation	49·8% (43·5 to 56·2)	84·4% (78·4 to 90·4)	44·1 (32·0 to 56·1)
Three doses of polio immunisation	57·1% (50·8 to 63·4)	85·4% (79·6 to 91·2)	38·3 (25·9 to 50·6)
Measles immunisation	75·1% (69·6 to 80·6)	92·0% (87·5 to 96·4)	24·3 (11·8 to 36·8)
Full immunisation	41·9% (35·6 to 48·2)	77·1% (70·2 to 84·0)	45·5 (32·9 to 58·0)
Vitamin A supplementation	49·4% (46·5 to 52·4)	54·8% (50·5 to 59·1)	12·6 (0·3 to 22·0)
Care seeking for pneumonia	46·1% (31·9 to 60·2)	81·2% (56·9 to 100)	38·1 (11·5 to 64·8)
Care seeking for fever	46·5% (39·9 to 53·2)	75·3% (65·8 to 84·9)	30·5 (15·0 to 46·1)
Care seeking for diarrhoea	69·6% (41·5 to 57·7)	60·7% (45·9 to 75·4)	13·9 (–5·0 to 32·8)
Exclusive breastfeeding	52·2% (42·5 to 61·9)	61·8% (50·4 to 73·2)	13·2 (–6·6 to 33·1)
Postnatal care for mother	37·8% (33·2 to 42·3)	87·7% (83·8 to 91·7)	55·5 (46·8 to 64·1)
Postnatal care for neonate	20·2% (16·5 to 23·9)	33·4% (27·8 to 39·0)	18·5 (9·1 to 27·9)
Does not use tobacco	89·7% (88·5 to 91)	99·4% (99·1 to 99·7)	11·6 (0·9 to 14·1)
Not overweight or obese	85·5% (84·0 to 87·0)	65·5% (63·7 to 67·3)	–23·5(–27·3 to –19·8)
Use of ITN (children <5 years old)	23·8% (21·5 to 26·1)	10·1% (7·8 to 12·4)	–17·0 (–24·1 to –9·9)
Use of ITN (pregnant women)	20·7% (14·0 to 27·4)	8·5% (2·4 to 14·6)	–15·6 (–29·3 to –2·0)
Treatment indicators			
Acute respiratory infection treatment for pneumonia	38·0% (24·3 to 51·8)	53·0% (21·9 to 84·0)	12·6 (–18·5 to 43·6)
Oral rehydration therapy	54·4% (46·4 to 62·5)	66·4% (52·1 to 80·7)	8·2 (–11 to 28·1)
Institutional delivery	16·8% (14·7 to 18·8)	82·5% (79·5 to 85·5)	65·3 (58·9 to 71·7)
Skilled birth attendance	36·3% (33·7 to 39·0)	97·0% (95·6 to 98·4)	67·4 (61·5 to 73·4)
Composite indices			
Composite coverage index	57·9% (55·7 to 60·2)	84·5% (82·2 to 86·7)	33·1 (25·7 to 40·5)
Composite prevention index	49·0% (38·5 to 59·5)	60·7% (54·9 to 66·3)	29·1 (10·0 to 48·3)
Composite treatment index	35·5% (20·2 to 52·4)	53·4% (40·6 to 66·0)	46·0 (20·2 to 71·8)

DTP3=three doses of diphtheria, tetanus, and pertussis immunisation. ITN=insecticide-treated net.

Table 3: **Quintile-specific inequalities in access to health services in Myanmar, 2016**

	Catastrophic payment adjusted OR (95 %CI)	Impoverishment adjusted OR (95% CI)
Sex of head of household		
Male	1	1
Female	1·23 (1·10–1·37)	1·51 (0·50–4·56)
Age of head of household, years		
≤24	1	1
25–34	0·98 (0·54–1·78)	1·01 (0·34–4·00)
≥35	0·92 (0·52–1·63)	0·98 (0·76–1·28)
Education of head of household		
No education	1	1
Primary	0·87 (0·74–1·01)	1·16 (0·84–1·62)
Secondary	0·69 (0·59–0·81)	0·78 (0·37–1·65)
Higher	0·48 (0·38–0·61)	1·47 (1·14–1·89)
Household member older than 65 years		
No	1	1
Yes	1·79 (1·55–2·08)	0·96 (0·92–1·01)
Household member with chronic disease		
No	1	1
Yes	5·95 (5·21–6·79)	3·44 (2·64–4·49)
Number of household members	0·89 (0·87–0·92)	1·30 (0·97–1·75)
Wealth quintile		
1 (poorest)	1	N/A
2	1·27 (1·08–1·49)	N/A
3	1·58 (1·38–1·81)	N/A
4	1·91 (1·63–2·23)	N/A
5 (richest)	2·86 (2·42–3·38)	N/A
Place of residence		
Urban	1	1
Rural	0·96 (0·86–1·07)	1·04 (0·78–1·40)
Variance (covariance)		
Level 2 (cluster)	0·14 (0·04)	0·14 (0·14)
Level 3 (states)	0·24 (0·04)	0·06 (0·13)

ORs are adjusted for regions. OR=odds ratio. N/A=not applicable.

Table 4: **Multilevel logistic regression of financial risk indicators in Myanmar, 2010**

(table 4). The risk of impoverishment was 3·44 times higher among households containing a person with a chronic illness than among those without a person with a chronic illness (table 4). Risk of impoverishment was roughly 1·5 times higher for female-headed households than for male-headed households and for households headed by someone with higher education than for those headed by someone with no education (table 4).

Discussion

To our knowledge, this study is the first attempt to assess systematically progress towards UHC in Myanmar both nationally and subnationally, as measured with a wide range of indicators of health service coverage and financial risk protection. Our findings suggest that overall coverage of essential health services is far from the 80% target by 2030. Coverage varied widely across states and regions. Many households faced catastrophic and impoverishing health expenditure. Furthermore, we noted substantial wealth-based inequality in both coverage of health services and catastrophic health payments across all states and regions.

In our study, coverage of most health service indicators was lower than 60%, both nationally and subnationally (table 1). These findings are similar to those from countries such as Afghanistan, Bangladesh, Nepal, and India.[26,27] There are many barriers to access to health services, which are mainly the result of poor availability of good-quality health services, large distances to health facilities, and long waiting times at overcrowded facilities with restricted opening hours.[2] The most important barrier in many Asia-Pacific countries, including Myanmar, is high user fees and direct out-of-pocket payment for health services,[28] which is especially likely to deter poor populations from attempting to access care.[28] Another obvious reason for poor service coverage in Myanmar is low investment in health care. Only 3% of the total government budget is allocated to health care, and allocations between regions and states are not proportionate to health needs.[13] Civil conflicts and the remoteness of some regions also contribute to poor coverage.[7,13]

The lowest coverage noted was for maternal, neonatal, and child health indicators, such as postnatal care for neonates and institutional delivery. Low coverage of maternal, neonatal, and child health indicators has also been reported in India, Afghanistan, and Bangladesh.[19,23,27] A previous study[29] suggested that the shortage of human resources in the health sector, especially in hard-to-reach or remote areas, was strongly linked to slow progress towards increased coverage of maternal, neonatal, and child health indicators in Myanmar. Maternal and child health promoters (community volunteers in rural areas who are part of community initiatives to provide a connection between mothers and health-care providers[30]) and auxiliary midwives in Myanmar probably cannot adequately address poor access to maternal, neonatal, and child health services, especially in remote areas.[29] Furthermore, financial constraints and transportation difficulties are common barriers to accessing delivery care in health-care facilities.[31] The Ministry of Health and Sports introduced the Maternal and Child Health Voucher Scheme, a financial incentive for the use of maternal and child health services, in 2013.[32] However, motivation to use the voucher is low, especially among pregnant women living in remote areas and those living far from health facilities.[32] Similarly, in Bangladesh, use of maternal health services remains low despite the introduction of a cash benefits system in the form of a maternal health voucher scheme because of the insufficient availability of health facilities.[33] Our findings suggest that a maternal, neonatal, and child health coverage gap still exists, and 80% coverage is unlikely to be reached by 2030 without focused efforts to expand services and increase coverage.

BCG immunisation was the only immunisation coverage indicator that reached the 80% target nationally—a finding that policy makers should be aware of. Only two states and regions (Mandalay and Kayah) achieved 80% coverage in all vaccinations. No vaccinations had more than 80% coverage in Ayeyarwaddy or Shan (figure 2). The Expanded Program on Immunization in Myanmar is supported by WHO, UNICEF, and Gavi, the Vaccine Alliance.[7] According to Myanmar's Gavi co-financing status,[34] and because of the country's transition from low-income to lower-middle-income status, the immunisation programme should in theory be 100% domestically financed in the very near future. Fully self-financing an immunisation programme is likely to be a challenge for the Ministry of Health and Sports, mainly because current budget allocations to the health sector are not sufficient to cover all vaccination services. Furthermore, there is also no separate financing mechanism for the health sector apart from official development assistance and the government budget allocation to the health sector. Barriers associated with low immunisation uptake should be identified, so that appropriate interventions can be implemented to increase coverage.

Availability of health services was greatest among the wealthiest quintile in this study, consistent with findings from Bangladesh, India, Nepal, Pakistan, and many other low-income and middle-income countries.[19,26,35] The most substantial inequalities between the richest and poorest quintiles were in coverage of at least four antenatal care visits, postnatal care for mothers, institutional delivery, skilled birth attendance, adequate sanitation, and no indoor use of solid fuel. The coverage of some health indicators such as at least four antenatal care visits, skilled birth attendance, and institutional delivery was substantially higher in urban than in rural populations. This wide inequality exists despite the introduction of trained community health workers and auxiliary midwife programmes in 2010, which were intended to fill the gap in primary care services, especially in 1444 hard-to-reach or remote areas.[9] Barriers to the effective implementation of these programmes include heavy workloads, geographical and transportation barriers, inadequate supervision and training, and inadequate replenishment of auxiliary midwife kits.[29] Despite efforts to increase the health workforce, the attrition rate is as high as 15–20% for community health workers and 5–10% for auxiliary midwives.[7] The reasons for low retention of the health workforce, especially in remote areas, need to be assessed and addressed effectively. In addition to inadequate and inequitable distribution of the health workforce, a study of baseline health-system assessments in hard-to-reach villages showed that lack of infrastructure, essential medicines, medical equipment, and insufficient financing restricted the delivery of primary health-care services.[36] Policies to support, fund, and provide technical supervision to these programmes need to be strengthened to achieve desired outcomes.

Along with wealth-based inequality, our study also showed that socioeconomic characteristics such as secondary or higher education and living in urban areas were associated with increased coverage of health services. Subnational analysis of indicators of health service coverage showed that coverage was notably low in Rakhine, Chin, and Shan, which are remote, conflicted regions whose populations comprise mostly ethnic groups. Disparities in health and health care will persist unless Myanmar addresses the lack of access to health services in vulnerable populations. For example, Rohingya populations in Rakhine cannot access proper nutrition, obstetric care, or maternal and child health care.[37] In Chile, gender, ethnic, and age-related inequality in access to care, and the adequacy and quality of care all remain to be addressed even after the introduction of the Explicit Health Guarantees Regime (known as AUGE).[24] AUGE covers 69 health conditions for free through both the public and private systems.[24] Turkey has successfully increased equity in health-service use and financing through the Health Transformation Program, which has raised access to, and use of, key health services for all citizens but especially the poorest populations.[38] Thus, a strong commitment to scaling up health coverage in remote areas, areas with ethnic populations, and regions of conflict, while ensuring that services are accessibly by the most marginalised and poorest populations, should be a priority for national policy and decision making in Myanmar.

Roughly 15% of households in Myanmar incurred financial catastrophe, and 2% of non-poor households were impoverished as a result of out-of-pocket health payments. Households in the richest quintiles were more likely to incur catastrophic health expenditure than those in the poorest quintiles. These findings are consistent with those in other south Asian countries, such as Bangladesh, Nepal, and India.[19,39] A possible explanation for the lower frequency of catastrophic payment among poor populations might be that poor households refrain from seeking health care because of their limited ability to pay. Decisions to seek care are likely to involve a trade-off with income needed for daily expenditure for such households. Furthermore, wealthy households are more likely to use both outpatient and inpatient services than poor households,[10,25] and thus are more likely to face catastrophic health expenditure when paying for the services they have used. Additionally, our multilevel analysis showed that households with members older than 65 years or members with chronic illnesses were more likely to experience financial catastrophe or impoverishment as a result of health expenditure. Studies in India[40] and China[22] showed that financing chronic diseases contributed to high out-of-pocket payments, and pushed households into poverty.

The absence of prepayment or health insurance systems, high dependency on out-of-pocket payments,

and low spending on health (as a proportion of gross domestic product) contribute to financial catastrophe and impoverishment in low-income and lower-middle-income countries.[41] All these factors need to be urgently addressed in Myanmar. In Mexico between 2000 and 2010, a national protection programme known as Seguro Popular, which is financed through general taxation, reduced the incidence of catastrophic health expenditure from 3·1% to 2·0%, and of impoverishment because of health expenditure from 3·3% to 0·8%.[42] Furthermore, the introduction of health insurance mechanisms, such as government-funded insurance schemes in China,[43] social health insurance financed by income tax in Thailand and Vietnam,[44] and voluntary insurance schemes such as micro health insurance in Pakistan,[45] can protect against catastrophic health payments. Policy makers need to develop appropriate risk-pooling mechanisms for health insurance to protect households from financial risk from health payments, with an emphasis on improving access to health services among poor households.

Health service coverage and incidence of financial catastrophe varied across states and regions in our study. Kachin, Kayin, Chin, Rakhine, and Ayeyarwaddy, which are in the north and northwest of Myanmar, generally had less than 50% coverage in essential health services indicators such as skilled birth attendance, institutional delivery, and at least four antenatal care visits. The incidence of financial catastrophe was highest in Chin, followed by Kayin, Taninthayi, and Ayeyarwaddy (table 2). An absence of accessible health facilities, insufficient health workforce, and insufficient health budget allocation were the major causes of this regional inequity.[7,10] Efforts should be made to prioritise the provision of cost-effective health services on the basis of states' specific needs. States and regions in Myanmar have very few autonomous source of revenue, and very little individual accountability.[10] However, decentralisation in Myanmar began with the adoption of the 2008 Constitution. The fiscal decentralisation process has been in progress since the transition to a civilian government in 2011.[46] Thus, although primary responsibility would remain with the central government, subnational governments choosing to prioritise the expansion of health services and to raise revenues in the form of taxes could be a way to address inequality.

A strength of our study was that we used a wide range of metrics to estimate the coverage of prevention and treatment indicators. Ours is the first study in which national and subnational progress towards UHC was assessed on the basis of all three dimensions of the UHC framework. We used nationally representative surveys with high response rates as our data source, and did sensitivity analysis to assess the association between inequality in health indicators and exposure variables. However, our study has some limitations. First, indicators related to services for non-communicable diseases and two major communicable diseases (HIV and tuberculosis) were not included. The burden of non-communicable diseases is increasing in Myanmar, and the burden of communicable diseases—especially tuberculosis and HIV—remains substantial, but very few data are available. Second, we did not take into account transportation costs to receive health services, and other opportunity costs. As a result, the incidence of catastrophic payment might be higher than our results suggest. Finally, the data for indicators of health service coverage and those for indicators of financial risk protection were not from the same year and thus could not be compared.

Attainment of UHC in Myanmar in the immediate future will be very challenging in view of low coverage of health services, high financial risk because of out-of-pocket payments, and large inequalities. There is a need to prioritise health service coverage and financial risk protection for poor populations in Myanmar. Our estimates of components of UHC indicators could help to guide health policy makers with important decisions and strategy planning to achieve these goals.

Contributors

SMH, MMR, and KS conceived the study. SMH managed the data and did the statistical analysis in consultation with MMR. MMR, MSR, and KTS checked for consistency of the analysis. SMH wrote the first draft of the Article, which was edited for consistency by MP, HS, and SN, and critically revised for important intellectual content by MMR and KS. All authors have reviewed and approved the final Article.

Declaration of interests

We declare no competing interests.

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Global Health Diplomacy Workshop

3 – 5 December, 2018

Department of Global Health Policy, University of Tokyo, Tokyo, Japan

Institute for Global Health Policy Research, Bureau of International Health Cooperation, National Center for Global Health and Medicine, Tokyo, Japan

Human Resource Strategy Center for Global Health, National Center for Global Health and Medicine, Tokyo, Japan

1) Objectives

Global health, defined as issues that directly or indirectly affect health that can transcend national boundaries, needs a pooling of experience and knowledge and a two-way flow between developed and developing countries. Global health is a global political engagement at the intersection of health, diplomacy and global collective action.

In May 2016, Japan hosted the first G7 Summit since the adoption of the Sustainable Development Goals and the end of the Ebola crisis in west Africa in 2014—Japan requires a group of experts in global health diplomacy consisting of stakeholders with diverse expertise to move the global health agenda forward. The G7, along with the World Health Assembly (WHA), could once again advance the global health agenda and strengthen health systems at global and national levels by identifying joint actions that contribute to the development of comprehensive cooperation in global health.

This workshop aims to:

1. Develop and strengthen the capacity of the next generation of leaders in global health diplomacy with a special focus on the changing landscape and context in global health and practical applications to health diplomacy at major meetings such as the WHA, G7 and G20
2. Strengthen a network and partnership in collaboration with key stakeholders both within and outside Japan; and
3. Build capacity to prepare effectively for WHA and board meeting of international organizations.

2) Target participants

1. Young and middle career professionals who will attend upcoming or future WHA or any other board meeting of international organizations. They are expected to be well prepared for the board meetings of WHO and other international organizations, as well as to be actively

participate into the meetings through its preparatory process.

2. Young and middle career professionals who are in charge of global health policy at each organization). They are expected to well translate global health policy into their respective activities at regional, national and community level.

3) Resource persons

Prof. Kenji Shibuya, Professor and Chair, Department of Global Health Policy (GHP), Graduate School of Medicine, The University of Tokyo

Director, Institute for Global Health and Policy Research (iGHP), National Center for Global Health and Medicine (NCGM)

Prof. Hiroki Nakatani, Professor to Global Initiatives, Keio University, Japan

Director, Human Resource Strategy Center for Global Health, National Center for Global Health and Medicine (NCGM)

Board Chair, Global Health Innovation Technology Fund (GHIT)

Dr. Suwit Wibulpolprasert, Vice Chair, International Health Policy Program Foundation, Health Intervention and Technology Assessment Foundation, Thailand

Prof. Churnrurtai Kanchanachitra, Professor, Institute for Population and Social Research, Mahidol University, Thailand

Dr. Warisa Panichkriangkrai, International Health Policy Program, Ministry of Public Health, Thailand

Mr. Charlie Garnjana-Goonchorn, Ministry of Foreign Affairs, Thailand

Dr. Kun Tang, Department of Global Health, Peking University School of Public Health, China

Dr. Hiroyuki Hori, Ministry of Health, Larbour and Welfare (MHLW), Japan

Mr. Hideaki Nishizawa, Ministry of Health, Labour and Welfare (MHLW), Japan

Ms. Emiko Nishimura, Japan International Cooperation Agency (JICA), Japan

4) Tentative Agenda

Day	Topic	Description	Speakers/Responsible persons
Day 1 (Monday, 3 December) **Understanding changing contexts and political landscape in global health governance [MC : Lee]**			
9.00 – 9.20	Session 1 Self-introduction	▪ Ice breaking session ▪ Self-Introduction	Lee (iGHP), Sakamoto (GHP)
9.20 – 9.40	Session 2 Course overview	▪ Overview of the course: background, objectives, expected outcomes, activities ▪ Sharing objectives: Why do we need a capacity-building mechanism for global health diplomacy? ▪ Learning from good and bad practices (Global, Thailand, Japan, etc.) ▪ Why does Japan/Thailand/China invest in GH? What are their comparative advantages?	Lee (iGHP)
9.40 – 10.40	Session 3 Global Health issues and understand key GH players	• Learning from case story on Global Health (10min) • Assign group work (5min) • Group work 1 (6-7 participants/group) [45 mins] Participant will ○ Study documents on assigned agenda ○ Discuss topics: ✧ Why this is a global health issue? ✧ Who are main stakeholders / actors (member states and non-member states) for that issue?	iGHP/GHP and all resource persons Main moderator including case story – Sakamoto (GHP)
10.40 – 11.00		Coffee Break	

Day	Topic	Description	Speakers/Responsible persons
11.00 – 12.00	Session 4 About WHO/WHA	▪ WHO and WHA ○ WHO governance structure and changing role of WHO in global health landscape ○ Crucial role of secretariat ○ Inside story about WHA (Behind the door discussions, etc.) ▪ Wrap-up and Q&A	Prof. Hiroki Nakatani
12.00 – 13.00		Lunch - informal lunch session: participants are divided into small groups and have lunch together with resource person (causal Q&A session among other participants and resource person)	
13.00 – 13.30	Session 3. Cont	Session 3. Cont • Group presentation (5min each, total 25 mins) • Floor discussion and wrap-up the session	iGHP/GHP and all resource persons Main moderator including case story – Sakamoto (GHP)
13.30 – 13.40	Session 5 Assignment #0	Assignment #0: Lee K., Smith R (2011), "Global health diplomacy: A conceptual review," Global Health Governance, 5(1)	Sakamoto (GHP)
13.40 – 14.40	Session 6 Landscape and evolution of global health	▪ Global Health Landscape ○ Definition, evolution of "global health architecture" ○ Who is who in GH? (GO/development agencies: e.g, JICA/International organizations/private sector/foundations/academia/ ○ Changing landscape: the role and contribution of global health diplomacy in global health policy development	Prof. Shibuya

Day	Topic	Description	Speakers/Responsible persons
14.40 – 15.00		Coffee Break	
15.00 – 16.00	Session 7 Global Health Diplomacy	• What is Global Health Diplomacy? ○ Role of Japan in global health (G7, G20) (20min) ○ Role of Thailand in global health (20 min) ○ Role of China in global health (20min)	MHLW (Japan) /Thailand/China Moderator - Lee
16.00 – 16.45	Session 8 Assignment #1	Assignment #1: First swimming (3 participants per group: 8 to 9 groups, 2 to 3 groups assigned on the same agenda) to draft an intervention on (Free position): ▪ Cancer prevention and control in the context of an integrated approach (WHA70.31) (TBA)	iGHP/GHP and all resource person as group advisors Moderator – Sakamoto (GHP)
16.45 – 16.55	Session 9 Closure of the day	▪ Wrap up, Q&A	iGHP/GHP and all resource persons Moderator – Sakamoto (GHP)
18.00 –	Networking	Networking Party [OPTIONAL] ○ Casual Networking Party near Toshi center hotel ○ It cost additional 5000 JPY	

Day 2 (Tuesday, 4 December): Experiencing "real" health diplomacy at WHA [MC: Sato]			
9.00 – 9.10	Session 10 Debriefing	Debriefing by lucky participant	Ishizuka (iGHP)
9.10 – 10.10	Session 11 Mocked up (assignment #1)	Mocked up assignment #1: making interventions ▪ Presentation by each group (30min) ▪ Presentation by resource person (5 min presentation and comments from all resource persons + movie) ○ What is an intervention? ○ Interventions: DO and DON'T ○ How to make a good intervention?	iGHP/GHP and all resource persons Main moderator – Lee (iGHP)
10.10 – 10.40	Session 12 WHA document system	Hands on session ▪ WHA's structure, rules and process in detail ▪ Archiving WHO website and documents	Lee (GHP)
10.40 – 11.00		Coffee Break	
11.00 – 12.00	Session 13 Assignment #2	Assignment #2 (Paired work) to study documents and prepare interventions on: past WHA agenda on Human resource for health (one group will be assigned to be specific country's representative) (TBA)	iGHP/GHP and all resource persons Moderator – Sakamoto (GHP)
12.00 – 13.00		Lunch - informal lunch session: participants are divided into small groups and have lunch together with resource person (causal Q&A session among other participants and resource person)	
13.00 – 14.00	Session 14 (cont) Mocked up (assignment #2)	Mocked up for assignment #2: making interventions ● Making interventions (3min * 15 pairs) ● Feedback for intervention	iGHP/GHP and all resource persons moderator – Sakamoto (GHP)

		● Wrap up	
14.00 – 14.45	Session 15 WHA as a learning process	Pane discussion ▪ Global Health Career 4 speakers to share experiences from WHA or other global health platforms ▪ Q&A	Panellists: Thailand, China, JICA, Moderator – Sakamoto (iGHP)
14.45 – 15.05		Coffee break	
15.05 – 16.00	Session 16 Forming national position	Forming national position ● Presentation (15 min * 3 countries) ● Q&A session (10 min)	Thailand China Japan Moderator – Ishizuka (iGHP)
16.00 – 16.50	Session 17 Career workshop	Career workshop - Present status of staffing and understanding post advertisements - How to write CV and Essay - Competency base interview	Prof. Hiroki Nakatani
16.50 – 17.00	Session 18 Closure of the day	• Wrap up, Q&A	iGHP/GHP and all resource persons moderator – Ishizuka (iGHP)

Day 3 (5 December): Experiencing "real" health diplomacy at WHA [MC: Sakamoto]			
9.00 – 9.10	Session 18 Debriefing	Debriefing by lucky participant	Sakamoto (GHP)
9.10 – 9.40	Session 19 Negotiation	Negotiation in Global Health: the Principles	Dr. Charlie
9.40 – 11.00	Session 20 Negotiation practice	Negotiation in Global Health the Real practice [+healthy break] • Brief overview of the agenda • Group work (6 groups) [50 mins] - Each group will have 5 – 6 participants and each participant will be assigned as a member state with clear position and country- specific context - Each group will negotiate for their position • Summary of the negotiation and lessons learned from each group [3 min per group, 20 mins] • Conclusion & wrap up by Dr. Charlie [10min]	Dr. Charlie and all resource persons
11.00 – 12.00	Session 21 Course summary	▪ Ground final comment ▪ Summary of the course ▪ Feedback from participants	Prof. Shibuya (Tokyo Univ) iGHP/GHP and all resource persons moderator – Lee (iGHP)

IV 章
研究成果の刊行に関する一覧表

研究成果の刊行に関する一覧表

（2018年4月1日～2019年3月31日迄）

書籍

著者氏名	論文 タイトル名	書　籍　名	出版社名	出版地	出版年
Sakamoto H， Ghaznavi C, Shibuya K,		Resilient and people-centred health systems: Progress, challenges and future directions in Asia	World Health Organization, Regional Office for South-East Asia	New Delhi	2018

雑誌

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Sakamoto H, Ezoe S, Hara K, Hinoshita E, Sekitani Y, Abe K, Inada H, Kato T, Komada K, Miyakawa M, Yamaya H, Yamamoto N, Abe SK, Shibuya K	Japan's contribution to making global health architecture a top political agenda by leveraging the G7 presidency	Journal of Global Health	8(2)		2018
Han SM, Rahman MM, Rahman SM, Swe KT, Palmer M et al	Progress towards universal health coverage in Myanmar: a national and subnational assessment	The Lancet Global Health	6(9)	e989-e997	2018

2019年　5月　13日

厚生労働大臣
（国立医薬品食品衛生研究所長）　殿
（国立保健医療科学院長）

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（氏名・フリガナ）　渋谷健司　シブヤケンジ

4．倫理審査の状況

	該当性の有無	左記で該当がある場合のみ記入（※1）		
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2019 年 5 月 13 日

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（氏名・フリガナ）　明石　秀親　　アカシ ヒデチカ

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所属研究機関長　職　名　理事長

氏　名　中釜　斉

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（留意事項）　・該当する□にチェックを入れること。
・分担研究者の所属する機関の長も作成すること。

2019年　4月　　1日

厚生労働大臣　殿

機関名　国立研究開発法人国立がん研究センター

所属研究機関長　職　名　理事長

氏　名　中釜　斉

次の職員の平成30年度厚生労働科学研究費の調査研究における、倫理審査状況及び利益相反等の管理については以下のとおりです。

1．研究事業名　地球規模保健課題解決推進のための行政施策に関する研究事業

2．研究課題名　わが国の世界保健総会等における効果的なプレゼンスの確立に関する研究

3．研究者名　（所属部局・職名）がん統計・総合解析研究部　研究員

（氏名・フリガナ）齋藤　英子・サイトウ　エイコ

4．倫理審査の状況

	該当性の有無		左記で該当がある場合のみ記入（※1）		
	有	無	審査済み	審査した機関	未審査（※2）
ヒトゲノム・遺伝子解析研究に関する倫理指針	□	■	□		□
遺伝子治療等臨床研究に関する指針	□	■	□		□
人を対象とする医学系研究に関する倫理指針（※3）	□	■	□		□
厚生労働省の所管する実施機関における動物実験等の実施に関する基本指針	□	■	□		□
その他、該当する倫理指針があれば記入すること（指針の名称：　　）	□	■	□		□

（※1）当該研究者が当該研究を実施するに当たり遵守すべき倫理指針に関する倫理委員会の審査が済んでいる場合は、「審査済み」にチェックし一部若しくは全部の審査が完了していない場合は、「未審査」にチェックすること。

その他（特記事項）

（※2）未審査に場合は、その理由を記載すること。
（※3）廃止前の「疫学研究に関する倫理指針」や「臨床研究に関する倫理指針」に準拠する場合は、当該項目に記入すること。

5．厚生労働分野の研究活動における不正行為への対応について

研究倫理教育の受講状況	受講 ■　未受講 □

6．利益相反の管理

当研究機関におけるＣＯＩの管理に関する規定の策定	有 ■　無 □（無の場合はその理由：　　）
当研究機関におけるＣＯＩ委員会設置の有無	有 ■　無 □（無の場合は委託先機関：　　）
当研究に係るＣＯＩについての報告・審査の有無	有 ■　無 □（無の場合はその理由：　　）
当研究に係るＣＯＩについての指導・管理の有無	有 □　無 ■（有の場合はその内容：　　）

（留意事項）　・該当する□にチェックを入れること。
・分担研究者の所属する機関の長も作成すること。

2019年　5月　13日

厚生労働大臣
（国立医薬品食品衛生研究所長）　殿
（国立保健医療科学院長）

機関名　　国立大学法人東京大学
所属研究機関長　職　名　　総長
氏　名　　五神　真　　印

次の職員の平成30年度厚生労働科学研究費の調査研究における、倫理審査状況及び利益相反等の管理については以下のとおりです。

1．研究事業名　　地球規模保健課題解決推進のための行政施策に関する研究事業

2．研究課題名　　我が国の世界保健総会等における効果的なプレゼンスの確立に関する研究

3．研究者名　（所属部局・職名）　東京大学大学院医学系研究科・客員研究員

（氏名・フリガナ）　米岡大輔　ヨネオカダイスケ

4．倫理審査の状況

	該当性の有無	左記で該当がある場合のみ記入（※1）		
	有　無	審査済み	審査した機関	未審査（※2）
ヒトゲノム・遺伝子解析研究に関する倫理指針	□　■	□		□
遺伝子治療等臨床研究に関する指針	□　■	□		□
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その他、該当する倫理指針があれば記入すること（指針の名称：　　）	□　■	□		□

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