Mutual Recognition Agreements for Professional Qualifications and Licensure in APEC: Experiences, Impediments and Opportunities

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APEC Group on Services

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Executive Summary

This project explores the broad trends that have characterised the development of mutual recognition agreements (MRAs) for professional qualifications, licensure, and registration in APEC economies. It was undertaken by the Australian APEC Study Centre and was funded by the Australian Government for the use and benefit of all APEC members.

Purpose

The study aims to support future work across APEC to further expand professional recognition, as articulated in APEC Services Competitiveness Roadmap (2016-2025) which calls for "supporting cross-border mobility for professionals, building on initiatives such as the APEC Architects and Engineers Registers to facilitate mutual recognition arrangements" (APEC, 2016). The APEC Services Competitiveness Roadmap Mid-term Review reinforced this aim in 2021, identifying as a priority that member economies engage in further "coordination on identifying and reducing regulatory heterogeneity that restrict services provision in order to improve interoperability among APEC economies, including … mobility of professional services, including mutual recognition arrangements" (APEC, 2021). This study supports this work by analysing the state of mutual recognition across APEC, addressing the following questions:

- What are the broad trends that have characterised the development of MRAs in APEC?
- How do we explain the uneven development of MRAs between APEC economies?
- How do we explain the very different patterns of development between professions, and in particular the experiences of engineering, architecture, nursing and dentistry?
- What are the major impediments to future development of MRAs in APEC?
- What are the opportunities for further stakeholder engagement to support the development of MRAs in APEC?

Approach

The study involved the first systematic analysis of data in the APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure (the Inventory), which was launched in 2021 and updated in the first half of 2023.[1] The Inventory identifies over 210 MRAs for professional qualifications and licencing that have been entered into by APEC economies. The key objective of the Inventory is to enhance transparency and improve access to information about MRAs in APEC for individual service providers, firms, industry and governments.

In addition, detailed investigation was undertaken in relation to four professions – engineers, architects, nurses, and dental practitioners – in order to better understand the different experience of MRA development in business services and healthcare services. Consultations with individuals and organisations were undertaken through semi-structured interviews, conducted individually and in small groups. The research participants were stakeholders from APEC member economies which have experience in implementation of MRAs within a regulatory authority, or individuals who have undertaken research and consulting work in qualifications recognition work across two or more APEC economies. The study also involved a review of literature on MRAs and desk-based research on current MRAs using publicly available sources.

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[1] https://aasc.knack.com/mra-inventory

Historical development and types of MRAs in APEC

The Inventory identifies over 210 MRAs that involve at least one APEC economy[2]. There were very few agreements prior to 1990, but since that time the number of new MRAs has more than doubled each decade. Fifteen agreements were initiated in the 1990s, 41 in the 2000s, and 97 in the 2010s.

Over 80 percent of these agreements are bilateral single-profession MRAs.[3] There are around 20 multilateral single-profession MRAs, including APEC Engineer and APEC Architect, five others initiated by the International Engineers Alliance, eight ASEAN-wide MRAs, and several others. There are also 13 comprehensive MRAs which have been negotiated between governments and cover all regulated professions. While few in number, comprehensive MRAs have the potential to be far more impactful than single-profession agreements. They include the Australia – New Zealand Trans-Tasman MRA, the Canada (Québec) agreements with France and Switzerland, Chile's bilateral MRAs with eight economies including Peru, and the 'Mexico Convention', which includes nine Latin American economies including Chile and Peru.

Uneven development of MRAs between APEC economies

One of the most striking insights provided by an analysis of the Inventory is the uneven participation in MRAs across APEC economies. While half of APEC's member economies have entered into 10 or fewer MRAs, there are five 'active economies', as we refer to them, that have each entered into 40 or more. These five active economies – Australia; Canada; Hong Kong, China; New Zealand and the United States – are now connected by many bilateral MRAs and have played a leading role in many multilateral initiatives. Unfortunately, the gulf between the active economies and others is getting wider. In the five years between 2018 and 2022 there were 40 new MRAs established – 39 of these involve at least one of these active economies, while only seven involve any other APEC member economies. The study points to three enabling characteristics shared by the most active economies:

1. They have a higher degree of regulatory alignment with each other
2. They have a history of actively recruiting skilled migrants, so have routinely needed to assess foreign qualifications
3. Governments in these economies have been supportive of competent authorities entering into MRAs

In contrast, during this five year period, around half of all APEC economies have not initiated any MRAs, in large part due to two common impediments. First, these economies are more likely to have systems of professional regulation that are less well aligned with those in other APEC economies. Second, in relation to migration, governments and professions in inactive economies are typically not seeking to recruit professionals from abroad, and therefore may see MRAs as leading only to an outflow of professionals.

The seven APEC economies that are members of ASEAN – Brunei Darussalam; Indonesia; Malaysia; The Philippines; Singapore; Thailand; and Viet Nam – are parties to the eight MRAs initiated by the bloc. These have played an important role in developing regional standards and supporting regulatory cooperation, but have had minimal impact on mobility.

While mobility is one valuable outcome of MRAs, they also facilitate engagement between regulators, resulting in greater alignment between educational and occupational licencing

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[2] The number of agreements in the Inventory is increasing as more existing MRAs are identified and new MRAs are developed.
[3] The few trilateral single-profession MRAs have also been included in this category.

standards. This is increasingly important for improving the quality of services for consumers and in growing trade, investment and educational flows, consistent with the aspirations of the APEC Services Competitiveness Roadmap. This report identifies an opportunity for APEC economies to:

⇒ Provide targeted support to MRA development to facilitate greater regulatory collaboration

Uneven development of MRAs between professions

APEC economies have entered into far more MRAs covering technical professions than other professions. In addition to the 13 comprehensive MRAs covering all regulated professions, there are 65 MRAs for engineers, 59 for accountants, 30 for spatial and quantity surveyors, 15 for architects, and 14 for actuaries. In stark contrast, there are only three single-profession MRAs for nurses and none for teachers, even though these are among the largest professions. One effect of the pattern of development to date is that there are far more agreements covering predominantly male professions than predominantly female professions. This is not due to a lack of interest in mobility among these professions. Where comprehensive agreements covering all profession are in place, the available utilisation data shows that the occupations that are the largest volume users of these agreements are healthcare and education professionals. This report identifies a key opportunity for APEC economies to:

⇒ Prioritise the development of MRAs for healthcare and education professions in order to expand opportunities, especially for women

MRAs for engineers

Engineering is by far the most advanced profession in terms of the number and membership of MRAs. There are seven multilateral agreements for engineers overseen by the International Engineering Alliance, including the ground-breaking Washington Accord, which provides for mutual recognition of signatories' accredited engineering degree programs, a key element in establishing a right to practice. It was established in 1989 by six members, including APEC economies Australia; Canada; New Zealand; and the United States, and now includes 23 signatories, 15 of which are APEC economies. The Washington Accord is arguably the most significant multilateral MRA developed by any profession.

This approach provides a model for development of international standards and mutual recognition that could readily be emulated by other professions. APEC economies have entered into 59 bilateral MRAs for engineers, all of which are between Washington signatories, and all involve at least one of four active economies – Australia; Canada; People's Republic of China; Hong Kong, China; and the United States. The APEC Engineer and ASEAN Engineer multilateral agreements have had little impact on mobility which was initially their primary purpose, but do appear to have become useful in providing an internationally-recognised marker of professional experience.

Opportunities for further developing mutual recognition for engineers include:

⇒ Support universal membership of the Washington Accord
⇒ Expand the number of economies participating in bilateral MRAs for engineers
⇒ Redesign the APEC Engineer, the International Professional Engineers Agreement and ASEAN MRA on Engineering Services to better support cross-border supply of services

MRAs for architects

The Inventory currently includes 28 MRAs that cover architects, including the 13 comprehensive MRAs, 12 bilateral MRAs for architects, and three multilateral agreements including the APEC Architect and ASEAN Architect MRAs. Notably, all of the bilateral MRAs specific to architects involve at least one of four active economies – Australia; Canada; New Zealand; and the United States – which are closely interlinked with a lattice of bilateral MRAs established between 2014 and 2016. A second set of economies – Hong Kong, China; Japan; Mexico; and Singapore – have each entered into MRAs with two of these active economies. The APEC Architect and ASEAN Architect multilateral MRAs have had little impact on mobility, which was initially their primary purpose, but do appear to have become useful in providing an internationally recognised marker of professional experience.

Opportunities for further developing mutual recognition for architects include:

⇒ Expand the number of economies participating in bilateral MRAs for architects
⇒ Redesign the APEC Architect and ASEAN Architect agreements to better support cross-border supply of services

MRAs for nurses

There are over 14 million nurses in APEC economies, 90 percent of whom are women. When regulatory conditions permit, nurses are highly mobile, as we can see from data on comprehensive MRAs. However, APEC economies have entered into only three MRAs for nurses. These are agreements between Canada – United States, Singapore – India, and an ASEAN multilateral agreement. As with the other professions examined, there is a high degree of alignment in professional standards for nurses between the economies that are active in MRAs, but there are significant differences among other economies. Recently, there has emerged a grouping that has the potential to create for the nursing profession what the Washington Accord achieved for engineering. The International Nurse Regulator Collaborative includes competent authorities from five APEC economies (Australia; Canada; New Zealand; Singapore; and the United States) and three European States (Ireland; Spain; and the United Kingdom).

Opportunities for facilitating mutual recognition for nurses include:

⇒ Develop bilateral MRAs for nurses
⇒ Provide targeted support to the International Nurse Regulator Collaborative
⇒ Support inclusive collaboration between nursing regulators

MRAs for dental practitioners

Like nursing and other healthcare professions, little progress has been made on achieving mutual recognition in the dentistry profession. In addition to the 13 comprehensive MRAs covering all regulated professions, there are just four bilateral MRAs for dental practitioners, all of which involve Canada, and one ASEAN multilateral agreement. There is quite a high degree of alignment between those economies that are most active in MRAs overall, suggesting that broad mutual recognition is feasible. In addition to Canada's MRAs with Australia; New Zealand; and the United States, quite a few economies already unilaterally recognise other economies' dental qualifications.

Opportunities for facilitating mutual recognition for dental practitioners include:

⇒ Build on established recognition practices for dental practitioners to develop new MRAs
⇒ Build capacity in dental education and licensing across APEC

Utilisation and impact of MRAs

There is a paucity of data on the impact of MRAs on professional mobility. Much could be learned by systematically collecting and analysing data from MRAs to understand experience and opportunities for particular professions or relationships. It is common for a range of stakeholders, including governments and employers, to support competent authorities to negotiate MRAs due to perceived positive impacts on competitiveness, trade, investment, migration, and educational flows. The streamlining of the recognition of professional qualifications and licensing processes through MRAs can result in significant savings in monetary cost and time for individual professionals and firms providing professional services. And yet it is difficult to find evidence to support such claims, as little research has been undertaken on these broader socio-economic impacts of existing MRAs or the benefits to professionals and firms. Research on such outcomes would enable stakeholders to make better-informed decisions about priorities and allow them to more confidently allocate resources to support investments in MRA development.

In some cases, it appears that an impediment to the adoption of MRAs is protectionism on the part of some professional bodies. While MRAs are entered into by competent authorities that have a responsibility to ensure appropriate standards for qualification and licensure, some professional associations argue falsely that MRAs will undermine domestic standards by forcing the automatic recognition of professionals from other economies. This argument is commonly heard in both active and inactive economies. The Inventory now provides the text of many MRAs, providing numerous examples of the ways in which domestic standards are able to be upheld while streamlining the recognition of professional qualifications and licensing processes. Better evidence about the impact of effective MRAs would aid in countering protectionist arguments.

A key opportunity for APEC to build broad-based support for the expansion of MRAs is to:

⇒ Undertake research on the utilisation and broader impact of MRAs

Acknowledgements

Glossary

Accreditation – the process of assessing and endorsing professional education, training, qualifications, development or experience as meeting the requirements for occupational licensing

Automatic recognition – recognition that is automatically granted based on the home qualifications of a professional who meets all the prerequisite standards and conditions specified in a mutual recognition agreement, without any additional accreditation or approval process being required

Bilateral MRA – a mutual recognition agreement between the competent authorities of two economies

Competent authority – an entity such as a professional institution, regulatory body or governmental agency that has been authorised by a regulation or policy to recognise, qualify, license or accredit a professional

Comprehensive MRA – a mutual recognition agreement between economies that covers all professional or regulated professions

Credential – a record issued to indicate that someone has been successfully accredited

Domestic regulation – the laws of an economy that regulate a profession by specifying the requirements and conditions under which someone can practice a profession or deliver professional services

Full recognition – recognition that allocates a foreign professional the right to practice or deliver professional services with only minimal additional requirements to be met

Inventory – The APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure[4]

Licensing – a shorthand term for occupational licensing

Licensure – see occupational licensing

Limited scope of practice – where an occupational licence is subject to specific restrictions, such as a limitation to a specific area of practice that is narrower than the normal scope of practice for the profession; the requirement to work under supervision; or the inability to approve projects

Multilateral MRA – a mutual recognition agreement between the competent authorities of more than two economies

Mutual recognition – the process through which the competent authorities of two or more economies recognise the qualifications, experience, licences, and / or credentials of each other's professionals

Mutual recognition agreement (MRA) – an agreement that documents the process through which the competent authorities of two or more economies recognise the qualifications, experience, licences, and / or credentials of each other's professionals

Occupation – a job, vocation or livelihood that someone engages in

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[4] https://aasc.knack.com/mra-inventory

Occupational licensing – a form of government regulation requiring a licence to practice an occupation within an economy

Partial recognition – recognition that provides credit for home-economy qualifications but requires additional testing, training or supervised work experience for full recognition

Profession – any occupation that someone may practice only when they obtain and maintain the required qualifications, licensing or credentials, providing for specific knowledge and skills which are often specified by domestic regulation or the policies of a competent authority and often includes post academic practical training as well as adherence to ethical standards

Professional – someone who has obtained and maintains the required qualifications, licensing or credentials that allows them to practice a profession

Professional body – an entity responsible for representing a profession and establishing and maintaining the practice and standards of a profession through regulation, policies, registration, licensing, accreditation and the monitoring of professionals, or responsible for any combination of these

Professional services – any services provided under a profession

Provisional licence – A licence that permits practice in a profession on a temporary basis

Qualifications – the education, training and vocational experience requirements that need to be met for someone to qualify to practice a profession

Recognition – the outcome of a recognition process through which a recognition authority recognises that a professional meets the recognition requirements specified by a mutual recognition agreement

Recognition process – the streamlined process specified by a mutual recognition agreement through which a professional can be recognised to practice

Regional MRA – a multilateral MRA comprising members from a particular region

Registration – the process of adding someone to a register of occupational licence-holders within an economy

Standards – the levels of education, training, vocational experience, and conduct that a professional must demonstrate and maintain to be able to practice

Temporary recognition – the process of granting a provisional licence or registration based on an assessment of foreign qualifications. This may include project specific licensing.

List of Acronyms

ADB	Asian Development Bank
AFEO	ASEAN Federation of Engineering Organisations
AHPRA	Australian Health Practitioner Regulation Agency
AJCCD	ASEAN Joint Coordinating Committee on Dental Practitioners
AJCCN	ASEAN Joint Coordinating Committee on Nursing
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CARICOM	The Caribbean Community
CGFNS	Assessment and validation of qualifications for healthcare professionals (US)
EU	European Union
IABEE	Indonesian Accreditation Board for Engineering Education
IEA	International Engineering Alliance
ILO	International Labour Organization
INRC	International Nurse Regulator Collaborative
JABEE	Japan Accreditation Board for Engineering Education
JICA	Japan International Cooperation Agency
MRA	Mutual recognition agreement or mutual recognition arrangement
NCARB	National Council of Architecture Registration Boards (US)
NCSBN	National Council of State Boards of Nursing (US)
PII	Persatuan Insinyur Indonesia / The Institution of Engineers Indonesia
PRBON	Professional Regulation Commission Board of Nursing, The Philippines
QRD	Qualifications Recognition Division, The Philippines
SPCNMOA	South Pacific Chief Nursing and Midwifery Officers Alliance
TAIEX	Technical Assistance and Information Exchange instrument of the European Commission
TTMRA	Trans-Tasman Mutual Recognition Arrangement
UN	United Nations
WHO	World Health Organization

1. Introduction

For decades, a wide range of organisations, government agencies and individuals has been working to facilitate mutual recognition of professional qualifications, licensing and registration (hereafter mutual recognition of professional qualifications) to support cross-border mobility for professionals and support services trade across APEC. Here we use the term "professional qualifications, licensing and registration" to refer to the wide range of regulatory practices related to professions, including but not limited to the:

- Accreditation of required education and training
- Granting of a licence to practice to individual professionals
- Provision of formal professional titles
- Granting of membership to privileged professional bodies
- Mandating of continuing professional development requirements
- Establishment and enforcement of professional and ethical standards

Mutual recognition agreements are a key mechanism by which competent authorities in different jurisdictions facilitate the movement of professionals and service providers across jurisdictional boundaries.

Until recently it has been impossible to assess progress in this endeavour due to the absence of comprehensive data on the number and type of mutual recognition agreements. This situation changed with the development in 2021 of the APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure (available at https://aasc.knack.com/mra-inventory). The Inventory now includes details of over 200 agreements that have been entered into by at least one APEC economy.

This study analyses the current state of mutual recognition across APEC, addressing the following questions:

- What are the broad trends that have characterised the development of MRAs in APEC?
- How do we explain the uneven development of MRAs between APEC economies?
- How do we explain the very different patterns of development between professions, and in particular the experiences of engineering, architecture, nursing and dentistry?
- What are the major impediments to future development of MRAs in APEC?
- What are the opportunities for further stakeholder engagement to support the development of MRAs in APEC?

The aim is to support future work across APEC to further expand professional recognition, as articulated in the Services Competitiveness Roadmap (2016-2025) which calls for "supporting cross-border mobility for professionals, building on initiatives such as the APEC Architects and Engineers Registers to facilitate mutual recognition arrangements" (APEC, 2016). Similarly, the APEC Connectivity Blueprint for 2015-2025 declared that "on people-to-people connectivity, much work needs to be done to ease existing barriers to interaction and mobility, and to develop joint endeavours that will support seamless flows of people" (APEC, 2014).

The APEC Services Competitiveness Roadmap Mid-term Review reinforced this in 2021, specifying a priority activity of "coordination on identifying and reducing regulatory heterogeneity that restrict services provision in order to improve interoperability among APEC economies, including … mobility of professional services, including mutual recognition arrangements". The same report noted that APEC has undertaken many activities to inform research and policy decisions in relation to the mutual recognition of professional standards,

including studies and workshops to "Improve the availability and accessibility of comparable data in specific professions; raise awareness on the achievements and best practices in various approaches to mutually recognise skills and job qualifications; and explore the feasibility of establishing a referencing framework for regional occupational standards." (Wirjo et al., 2021, pp. xii–xiii)

The current project builds upon such work, and more recent initiatives such as the development of the APEC Inventory and Community of Practice group for individuals in APEC economies involved in developing MRAs.

Approach

The first section of this report describes the key features of MRAs in APEC, considering the number of agreements, the degree of engagement of different economies, the extent of progress in different professions, and the availability of data on utilisation of MRAs. The following sections examine in greater detail four regulated professions – engineers, architects, nurses, and dental practitioners – which each have very different patterns of development. In each of these sections four distinct data sources were drawn upon – the Inventory, the research literature, interviews and a review of publicly available information on MRAs – which are outlined briefly below.

Analysis of Inventory data

The APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure, launched in 2021 and updated in 2023, is an online listing of MRAs for professional qualifications and licencing entered into by APEC economies. The key objective of the Inventory is to enhance transparency and improve access to information on the development of MRAs in APEC for individual service providers, firms, industry and governments.

The Inventory was developed by the Australian APEC Study Centre in collaboration with APEC economies. It includes all agreements related to professional practice, licensure or registration that have been entered into by at least one of APEC's 21 members. The Inventory therefore includes a diverse set of agreements that vary considerably in terms of the number of professions covered, the number of participating economies, their impact on licensure and their ease of use by professionals. The project was sponsored and funded by the Australian Government and co-sponsored by Peru and the United States. The Inventory is an effort to make more visible the range of MRAs that are in use across member economies.[5]

The Inventory excludes two types of MRAs. First, intra-economy MRAs within federal systems (the Australia; Canada; and the United States between states or provinces are not included in the Inventory, unless they also involve other APEC economies. Second, the Inventory does not include unilateral recognition of foreign qualifications by APEC economies where there is no international agreement in place. International agreements that relate to the recognition of educational qualifications are not included, but agreements relating to recognition of professional accreditation of education programs are included. For example, in the case of Latin America we do not include the 1974 Regional Convention on the Recognition of Studies,

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[5] An overview of the development of the Inventory, including key data, was published at the time of its launch (Ziguras, 2021). The report is available at https://www.apec.org/publications/2021/11/mutual-recognition-of-professional-qualifications-in-the-asia-pacific-lessons-from-the-inventory-of-mutual-recognition-agreements-in-apec

Diplomas and Degrees in Higher Education in Latin America and the Caribbean but do include the 1902 Mexico Convention on the Practice of Learned Professions.

The Inventory was updated in the first half of 2023. This involved contacting all of the competent authorities in APEC economies that have agreements in the Inventory with a request to review the Inventory for accuracy and completeness, along with an audit of all agreements by the team at the Australian APEC Study Centre. Throughout this report we draw on this updated Inventory data in order to describe key features of the development of MRAs in APEC, particularly related to the professions and economies involved and trends in MRA development over time.

Literature review

A literature review was undertaken of around 55 published items representing around 2,200 pages of material. A body of literature was already available from the earlier project in 2020-2021 when the Inventory was created. The items from the earlier project were reviewed for the current project. In addition, new items of literature were identified using tools such as Google Scholar and ResearchGate and using relevant search strings. Of the 55 items reviewed, around 25 were academic papers. The reference lists of these papers often provided useful links to additional published material. A further seven items reviewed were APEC reports, and another seven were published by bodies such as Association of Southeast Asian Nations (ASEAN), Asian Development Bank (ADB), International Labour Organization (ILO), or the World Health Organization (WHO). The remaining publications were government reports or items published by regulatory authorities or were conference papers or presentations. Insights from the literature review are integrated throughout this report.

Interviews

Semi-structured individual and group interviews were undertaken between March and May 2023 with 26 participants who have extensive experience with the development of MRAs in APEC, particularly in relation to the professions that are the focus of this study. Participants were recruited through the APEC MRA Community of Practice and the APEC Group on Services, were recommended by prior participants or were approached directly due to their work with MRAs being known to the researchers. For details of participants see Appendix 1.

Published information about existing MRAs

Published information about key MRAs in the four professions that are the focus of this study was also reviewed. While the volume and degree of detail varies considerably, competent authorities and governing bodies often publish short histories of the development of agreements, statements about the rationales for their development and sometimes utilisation statistics.

2. Features of MRAs for professional qualifications and licensure in APEC

The APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure permits, for the first time, the identification of the characteristics of MRAs that APEC economies have entered into. As of June 2023, APEC economies have entered into 217 MRAs.

Investigation of these characteristics reveals some key features of MRA development, drivers and impediments, including that:

- Most were established in the past decade
- Just two professions – engineers and architects – account for more than half of all MRAs
- Half of all APEC economies have each entered into 10 or fewer MRAs while five economies have entered into 40 or more

These features, drivers and impediments are further explored below.

2.1 Types of MRAs

Before considering the patterns in MRA development over time, and by economy and occupation, it should be noted that the Inventory groups together a very diverse set of agreements. This needs to be taken into account in any quantitative analysis.

First, they differ by coverage, with most agreements falling into one of three distinct categories, as noted below.

Bilateral single-profession MRAs

Most agreements in the Inventory are between two competent authorities that regulate the same profession. For example, the Hong Kong Institute of Engineers has entered into 23 bilateral agreements with counterparts in Australia; Canada; People's Republic of China; New Zealand; the United Kingdom; and Ireland.

Multilateral single-profession MRAs

There are fewer of these agreements in the Inventory but they are potentially more impactful since they allow for recognition between a wider range of economies. The earliest of these was the pathbreaking Washington Accord for engineers, which was initiated in 1989 by four APEC economies – Australia; Canada; New Zealand; and the United States – and has since expanded to 23 signatories, including most APEC economies. Another example is the MRA for language pathologists and audiologists that includes APEC economies Australia; Canada; New Zealand; and the United States in addition to Ireland and the United Kingdom.

Comprehensive MRAs

There are 13 MRAs that have been negotiated at a high level between governments covering all regulated professions in an effort to integrate their services sectors. The European Union has the world's most extensive comprehensive MRA, covering all regulated professions in all Member States. Twelve of these are bilateral, with the exception being one of the oldest agreements in the Inventory, the 'Mexico Convention' (1902) between nine Latin American economies including Chile and Peru. Chile has entered into nine bilateral comprehensive MRAs, with Brazil (1898 and 1978); Uruguay (1918); Colombia (1922); and Peru (1982);

Argentina (2013); the United Kingdom (2016); Ecuador (2017); and Spain (2017) (Cárdenas, 2019). The three other comprehensive MRAs are the Trans-Tasman Mutual Recognition Arrangement (1996) between Australia and New Zealand, and agreements reached by the Canadian province of Québec with France (2008) and Switzerland (2022).

Research on the EU and Trans-Tasman arrangements has found that the combination of deep economic integration and the high-level imposition of mutual recognition as an expectation creates strong incentives for regulators to seek to cooperate, build trust and reduce barriers, resulting in positive economic impacts and cost reductions (Cernat, n.d.; De Brito et al., 2016; Shah and Long, 2009).

2.2 Historical development of MRAs in APEC

The rate of development of MRAs has been increasing exponentially over recent decades. Only eight agreements currently in force are known to have commenced prior to 1990. Six of these were developed in Latin America over a century ago, beginning with the 1898 *Convention about the Exercise of Liberal Professions between the Government of Chile and the Government of Brazil*. Since that time the number of new MRAs put in place has more than doubled each decade, with 15 agreements initiated in the 1990s, 41 in the 2000s and 97 in the 2010s.

The Inventory notes the year in which each MRA initially came into effect, with data available for around 80 percent of agreements. Figure 1 shows the development of new agreements since 1990, with the orange columns showing the number of agreements initiated each year (right axis) and the blue line showing the cumulative number of agreements in force (left axis), for those whose year of commencement is known.

In the following sections the development of engineering and architecture agreements over time is examined in more detail, as bursts of activity by the most active competent authorities in those professions account for some of the trends evident in the aggregate data.

Figure 1. Development of MRAs since 1990 (where commencement data available)
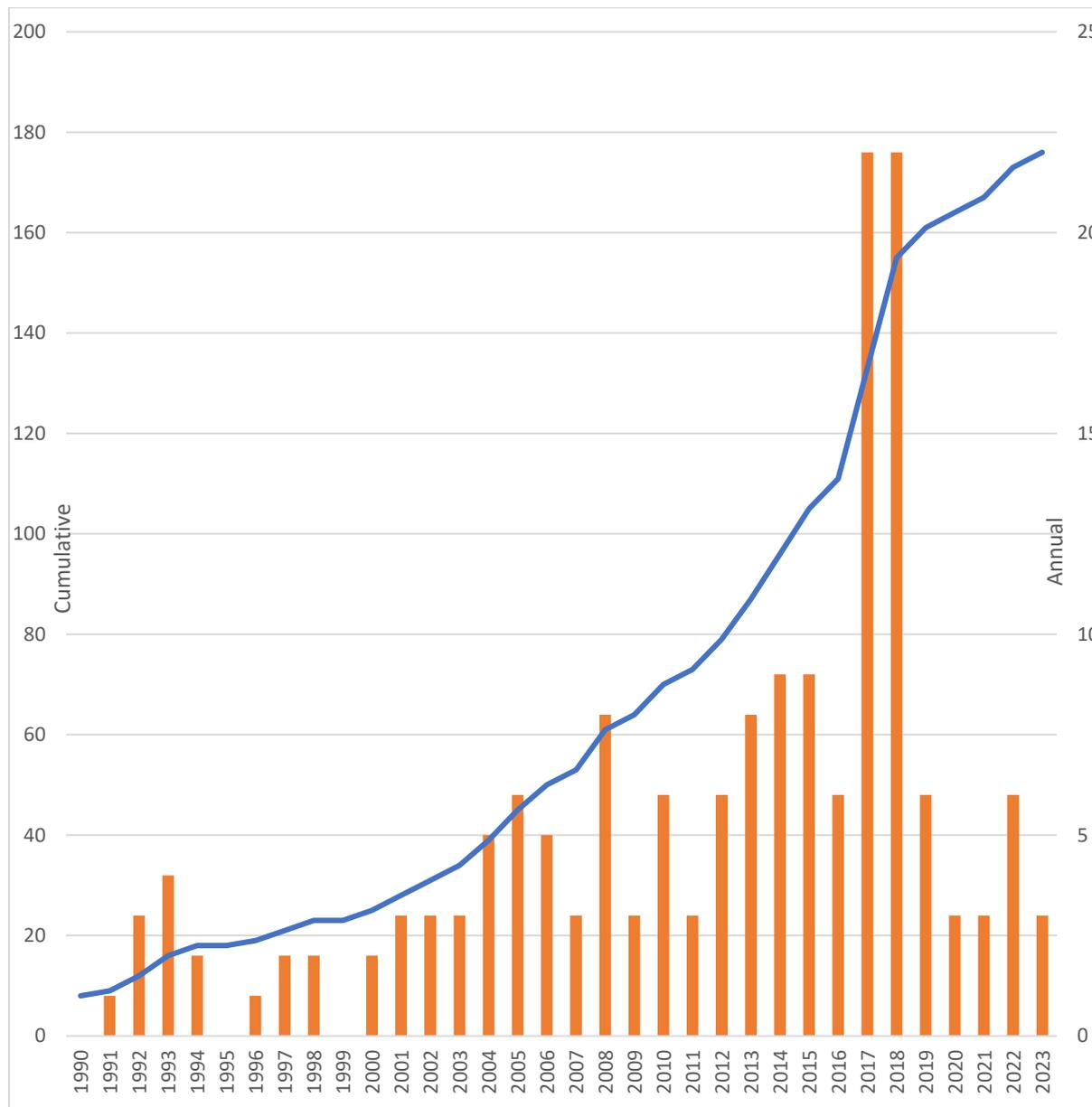
Data source: APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure, https://aasc.knack.com/mra-inventory, 18 August 2023

2.3 Differences between economies

The Inventory data reveals striking differences in the number of MRAs entered into by each economy, as illustrated in Figure 2 below. The enablers and impediments operating within APEC economies that contributed to this uneven development are explored below.

Figure 2. Number of agreements
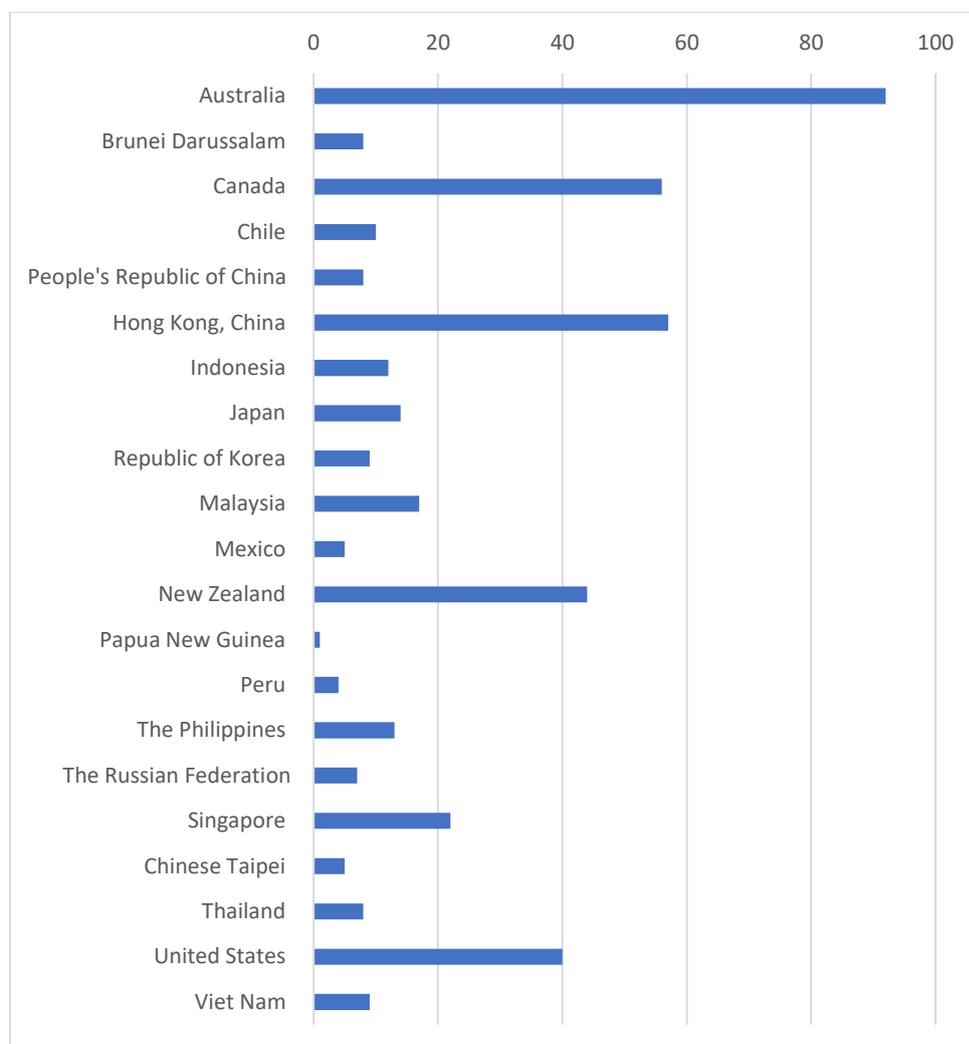
Data source: APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure, https://aasc.knack.com/mra-inventory, 18 August 2023[6]

Active economies

While half of APEC's 21 member economies have entered into 10 or fewer MRAs, there are five 'active economies', as we refer to them, that have each entered into 40 or more. These five active economies – Australia; Canada; Hong Kong, China; New Zealand; and the United States – are now connected by many bilateral MRAs and have played a leading role in many multilateral initiatives. This uneven development of MRAs is becoming more pronounced. In the five years between 1998 and 2022 there were 40 new MRAs established – 39 of these

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[6] There are three MRAs agreed between engineering professional bodies of Japan and the United States which provide partial recognition but which are not agreed through Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT).

involved at least one of these active economies, while only seven involved any other APEC member economies.[7]

There are three main enabling characteristics shared by the most active economies. First, they have a higher degree of regulatory alignment with each other. They all have common law systems (apart from the Canadian province of Québec) with similar approaches to professional regulation heavily influenced by shared British colonial legacies. In many cases, the earliest regulatory frameworks for each profession were borrowed from the United Kingdom (which has 47 MRAs with APEC economies, more than any other economy).

Second, those economies have a history of actively recruiting skilled migrants, so have routinely needed to assess foreign qualifications. Australia; Canada; New Zealand; and the United States have long had high immigration levels, while Hong Kong, China; and Singapore have also been relatively open to foreign skilled workers.

Third, governments in these economies have been supportive of competent authorities entering into MRAs through various means, including funding regulatory capacity building projects with key partner economies, supporting collaboration between regulators and including mutual recognition expectations in economic partnership agreements.

Over time, professional organisations and regulators in these economies have collaborated more with each other than with other economies, and the Inventory reveals a dense web of MRAs between them. Together these economies have brokered key multilateral deals that have established shared norms that have later been adopted by other economies. For example, the pathbreaking Washington Accord in engineering was initiated by Australia; Canada; New Zealand; and the United States in the late 1980s (IEA, 2014). More recently, a similar grouping has developed in nursing, the International Nurse Regulator Collaborative (INRC), formed in 2011 by regulators from the same four economies along with Singapore; Spain; the United Kingdom; and Ireland (Roots, 2023).

The Inventory data cited above, which reveals that the bulk of new MRA development work taking place in APEC is with the economies that are already most connected, poses a serious challenge to aspirations for more broad-based regional integration.

ASEAN

The seven APEC economies that are members of ASEAN – Brunei Darussalam; Indonesia; Malaysia; The Philippines; Singapore; Thailand; and Viet Nam – are parties to the eight MRAs initiated by the bloc:

- Engineering Services, 2005
- Nursing Services, 2006
- Surveying, 2007
- Architectural Services, 2007
- Dental Practitioners, 2008
- Medical Practitioners, 2008
- Tourism Services, 2012
- Accountancy Services, 2014

Several detailed studies of the impact of these agreements have been undertaken, finding that the ASEAN MRAs have done little to increase professional mobility in practice, mainly because they do not reduce the complexity of the professional recognition processes in the destination economies (Mendoza et al., 2017; Mendoza and Sugiyarto, 2017; Papademetriou et al., 2016). Implementation of the MRAs has been slow going. An Asian Development Bank status report

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[7] Significantly, in addition to new agreements, some existing multilateral agreements have increased their membership. For example, Mexico and Indonesia joined the Washington Accord covering engineers during this period, as discussed below.

found that it had taken Singapore and Malaysia ten years to operationalise the 2005 Engineering Services MRA, but by 2017 only seven engineers had registered, none of whom were yet working in their intended destination economy (Mendoza and Sugiyarto, 2017).

However, despite not having an appreciable impact on mobility, these eight MRAs have provided a forum for engagement between professional associations, government agencies and competent authorities from across ASEAN. These have in some cases led to harmonised educational and professional standards for Member States. For example, the ASEAN Tourism MRA covers a set of occupations that are not typically regulated in ASEAN Member States, so it has little direct impact on professional mobility. However, by establishing consistent occupational categories, educational standards and professional competencies, it aims to support the professionalisation of the tourism industry and the quality of tourism education across the region (ASEAN Secretariat, 2016).

Impediments to MRA development in inactive economies

Around half of APEC economies have not initiated any MRAs in the past five years. There are two common impediments to MRA development in these economies that are explored in the case studies that follow.

First, these economies are more likely to have systems of professional regulation that are less developed and not well aligned with those in other APEC economies. For example, Chile and Peru have systems of professional 'titles for life' that are awarded to those who have completed an accredited tertiary qualification. The absence of a registration process, continuing professional development requirements and professional standards poses a major impediment to entering into MRAs (Shepherd, 2019). It is notable that the focus of ASEAN MRAs has been on reaching consensus on regulatory principles that will support the development of economy-wide systems, rather than aiming to facilitate international mobility.

Second, in relation to migration, governments in inactive economies are typically not seeking to recruit professionals from abroad, and therefore may see MRAs as leading only to an outflow of professionals. As the case studies below illustrate, while there appears to be little concern about brain drain among technical professions such as engineers, actuaries, architects and accountants, there is a high level of concern in relation to health professionals, especially those who are trained at public expense.

Nevertheless, there is interest in entering into MRAs in these economies. Consistent with the aspirations of the APEC Services Competitiveness Roadmap, governments in many APEC economies are driven by a desire to enhance the competitiveness of service industries, to become more integrated into global supply chains and to promote foreign investment in industries dependent on highly skilled professionals. This generates support for aligning professional regulation in technical professions that are more likely to be employed by internationally-oriented businesses – especially engineers and accountants – as is borne out by the data presented in the next section.

2.4 Differences between professions

A large majority of agreements, some 80 percent cover just five professions – engineers, accountants, surveyors, actuaries, and architects. Around one in three MRAs covers engineers, with nearly all economies having engineering agreements in place. This is testament to decades of collaboration between engineering accreditation and licensing bodies. Four APEC economies – Australia; Canada; New Zealand; and the United States –

were foundation members of the 1989 Washington Accord, with Hong Kong, China; Japan; Malaysia; Singapore; and Chinese Taipei joining in the following decade (IEA, 2014), and Indonesia and Mexico joining in 2022. This and other multilateral agreements have resulted in a harmonisation of standards, and in turn a large number of more comprehensive bilateral agreements have been developed to streamline recognition of engineers moving between these systems.

The other prominent professions in the Inventory represent key technical roles in financial services (accountants and actuaries) and building and construction services (architects and surveyors). It is notable how few agreements cover the health sector, despite the significant international mobility of health professionals, especially nurses.

It is important to note there are some professions in the Inventory that are covered by the 'whole of economy' agreements that cover all regulated professions but are not included in any profession-specific MRA, including chiropractors, legal practitioners, and plumbers.

Figure 3. APEC MRAs by profession, n=217
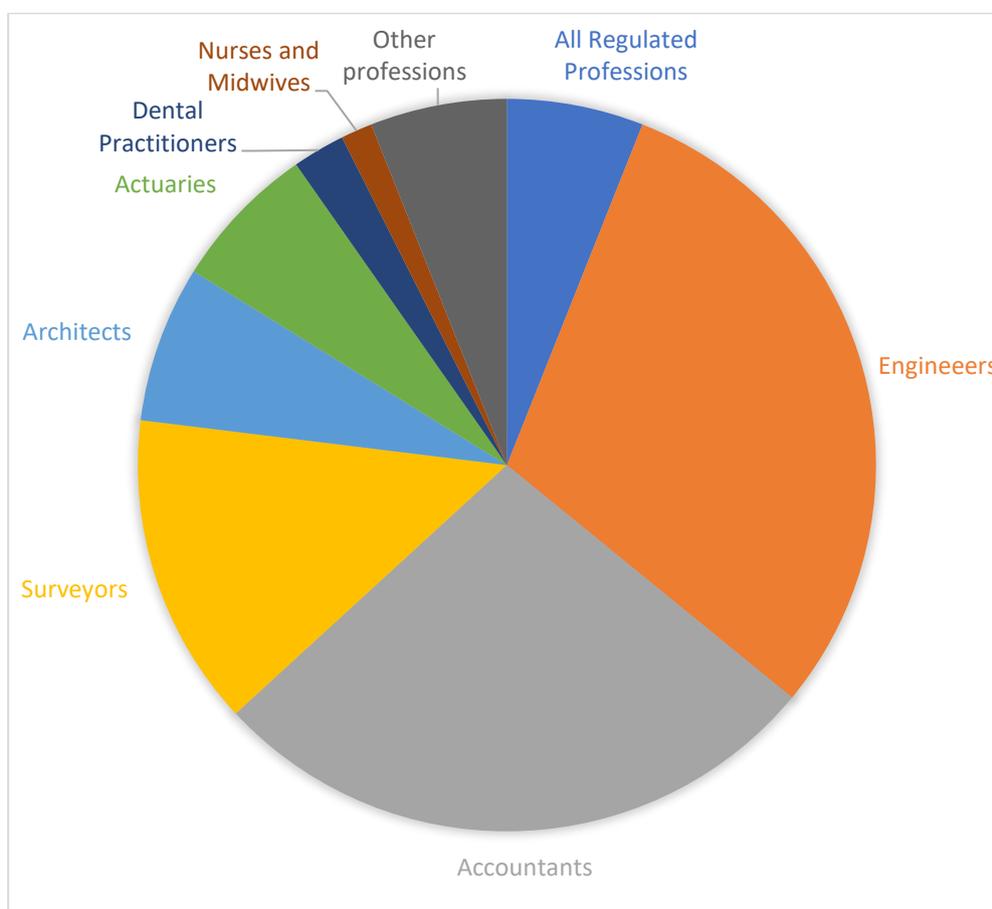
Data source: APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure, https://aasc.knack.com/mra-inventory, 18 August 2023[8]

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[8] There are three MRAs agreed between engineering professional bodies of Japan and the United States which provide partial recognition but which are not agreed through Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT).

One factor that impacts the number of MRAs in each profession is whether it is regulated by APEC economies, since MRAs typically are only used for professions that require some type of licence to practice. There is no definitive listing of regulated professions in APEC economies. However, research on European economies and the United States shows that the number of regulated professions varies significantly from jurisdiction to jurisdiction. For example, within Europe, the number of regulated professions ranges from 47 in Estonia to 404 in the Czech Republic (Nordås, 2016, p. 1854). In some federal systems similar disparities exist between sub-economy jurisdictions. For example, Massachusetts regulates almost three times as many professions as Rhode Island (Edlin & Haw, 2014, p. 1103).

In recent decades the number of regulated professions has been increasing in most economies. Edlin and Haw (2014) estimate that the proportion of the United States workforce in regulated professions increased from around five percent in the 1950s to around a third by the 2010s. A similar trend is very likely evident across APEC economies, although without comparable data for other economies the degree and rate of change across APEC is unknown.

Technical and healthcare professions and gender

Interviewees suggested that the role of the professionals in the supply chain is key to understanding why some professions face more impediments to MRA development than others. Technical professionals working in business services, such as engineers, actuaries, architects and accountants, who are predominantly men, typically involve professionals working in large multidisciplinary teams and providing services to other professionals within firms. Healthcare professionals, by contrast, who are predominantly women, are often providing services in an individual capacity directly to patients. For this reason, the development of MRAs in healthcare professions has been subject to far greater resistance on the part of competent authorities expressing concern about cultural fit and public safety.

Four of the five professions with the most MRAs in place have a predominantly male workforce, as illustrated in Figure 4 below. There are far more agreements covering predominantly male professions than predominantly female professions. This becomes particularly stark when comparing two large and mobile professions – engineering, with 66 profession-specific MRAs and nursing with just three. It is sometimes argued that female professions are less internationally mobile because they traditionally bear the majority of caring responsibilities, and therefore there is less demand for MRAs in those professions in which women predominate. However, as illustrated in the following section, where comprehensive agreements covering all profession are in place, the available utilisation data shows that the occupations that are the largest volume users of these agreements are healthcare and education professionals, who are predominantly women.

Figure 4. Number of APEC MRAs and gender balance
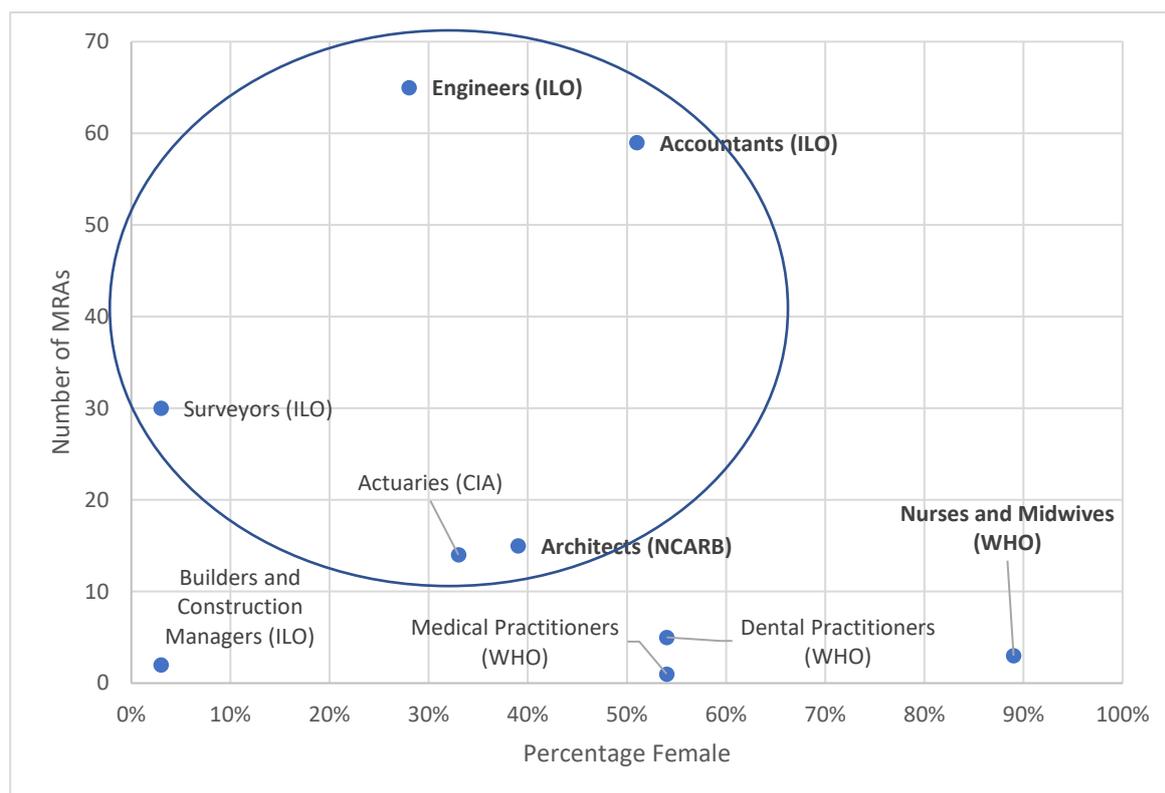
Data sources: APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure, https://aasc.knack.com/mra-inventory, 18 August 2023; World Health Organization (WHO, 2023); International Labour Organization (ILOSTAT, 2020); Canadian Institute of Actuaries (2022); National Council of Architectural Registration Boards (USA) (Nicholson, 2020).

One way to improve women's access to international professional mobility would be to focus on expanding mutual recognition within healthcare professions. This demands concerted effort on the part of governments to overcome resistance by competent authorities. Even in Australia, which has entered into more MRAs than any other APEC economy, successive government reviews have repeatedly drawn attention to the arduous and complex registration processes imposed on internationally qualified health professionals, calling for integration and streamlining of disjointed application and assessment processes, with little success (Cooper et al., 2020b, 2020a). Reflecting on the lack of progress, Cooper, et al. (2020b) argue that, "changing mindsets of organisations and people involved in the operationalisation of assessment models is as important as a change to the [government] policy or regulatory practice" (p.7).

Another review is underway in Australia at the time of writing. In late 2022 the Federal government initiated:

> "An independently-led, rapid review of the regulatory settings relating to health practitioner registration and qualification recognition for overseas trained health professionals and international students who have studied in Australia. These regulatory settings will be compared to those for Australian trained health professionals to ensure that unreasonable additional requirements or standards are not being applied to overseas trained professionals." (DHAC, 2022, p. 1)

Later in the report, the experiences of nursing and dentistry are examined in detail in an effort to better understand the significant impediments to mutual recognition in health professions.

2.5 Utilisation of MRAs

A recurring question in relation to MRAs is whether the number of individuals benefiting from them justifies the allocation of significant resources usually required for their development. The Inventory does not include data on rates of utilisation, and this project did not set out to examine this point directly, but in the course of this research several data sets on rates of utilisation have come to light, suggesting that a future quantitative study focusing on this question could be feasible. Several types of data that are currently collected, and which could inform the design of such a study, are set out below. While many competent authorities collect data on MRA utilisation, this is rarely publicly available.

The most complete publicly available data on usage of MRAs is compiled by the European Commission (EC), which oversees the world's most comprehensive set of mutual recognition arrangements. The EC publishes data on the number of professionals qualified in European Union Member States, European Economic Area economies and Switzerland who obtain recognition in another of those States to practice there on a permanent basis (European Commission, 2023). Figure 5 below provides a breakdown by profession of the 246,108 recognition decisions resulting from MRAs over the past five years.

Figure 5. MRA Decisions in Europe, 2018 – 2022
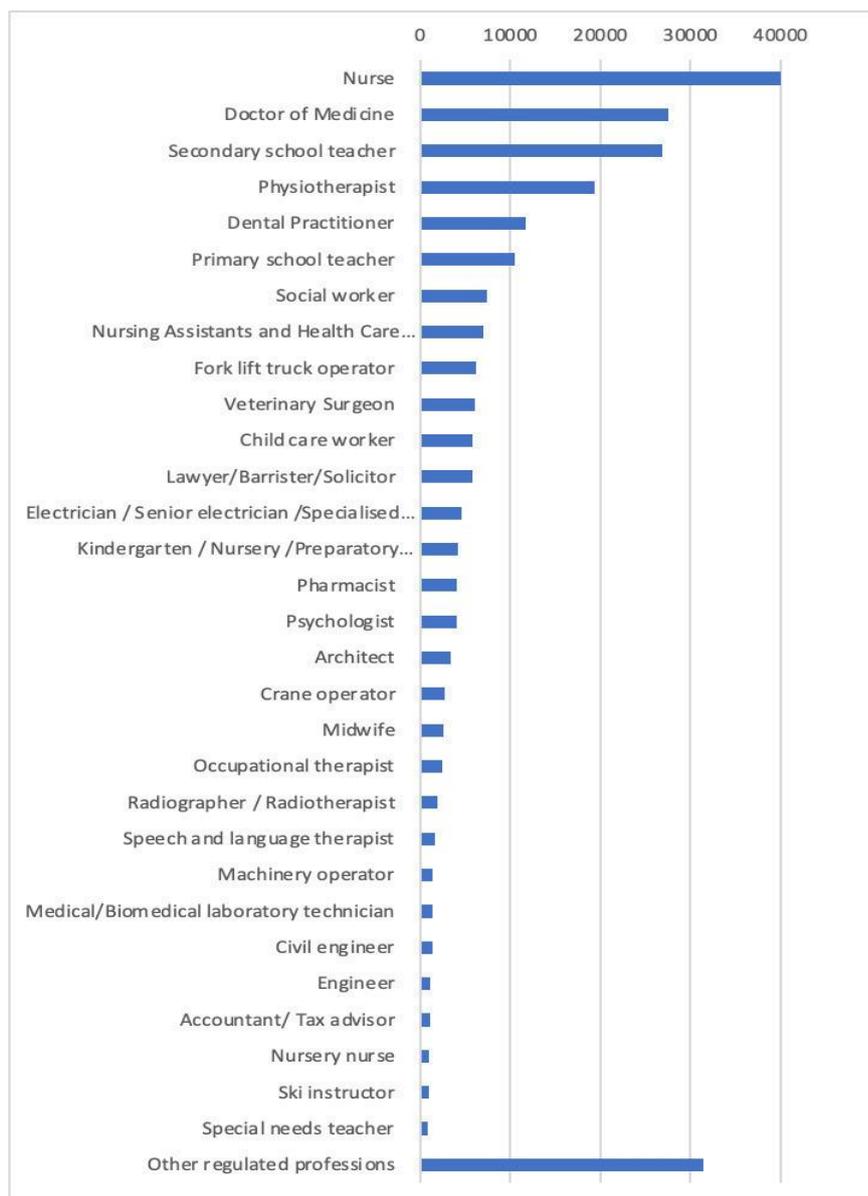
Data source: European Commission (2023)

It is striking that the professionals benefiting most often from this comprehensive MRA are predominantly in the health and education sectors, which are very poorly served by profession-specific MRAs, as will be discussed below.

The Australian Healthcare Practitioner Registration Agency (AHPRA) collects data on the number of New Zealand registered healthcare professionals applying for registration in Australia using the Trans-Tasman MRA (TTMRA), a very similar comprehensive government to government agreement covering all regulated professions. Table 1 below shows AHPRA data that was made public in a submission to the most recent regulatory review of the TTMRA in 2015. It details the number of individuals over a period of nearly five years, with the two healthcare professions that are the focus of this report in bold. Other than medical practitioners, who are not included in the AHPRA data as they are regulated by another body, the similarity with the EU dataset is striking.

Table 1. New Zealand registered healthcare practitioners applying for registration in Australia, July 2010 – February 2015

Rank	Profession	Applications
1	Nurse	1,842
2	Physiotherapist	121
4	Midwife	105
3	Dental Practitioner	88
5	Medical Radiation Practitioner	43
6	Psychologist	26
7	Occupational Therapist	26
8	Pharmacist	20
9	Podiatrist	7
10	Chiropractor	6
11	Optometrist	6
12	Osteopath	3
Total		**2,293**

Data source: Fletcher and Shinkfield (2015)

While comprehensive MRAs like these above are typically overseen by government agencies that may publish such data, bilateral MRAs are overseen by a large number of competent authorities, which typically collect but do not publish data on utilisation. For example, Engineers Australia shared unpublished data for this study showing that in the past five years 775 engineers from APEC economies used their bilateral MRAs to attain membership of Engineers Australia, with the largest numbers from Canada; Hong Kong, China; and New Zealand. Similarly, the United States National Council of Architectural Registration Boards (NCARB) does not routinely publish MRA utilisation data but recently presented data on its three MRAs, shown in Table 2 below.

Table 2. Architects certified through MRAs by the US National Council of Architectural Registration Boards

Agreement	Period	Individuals
USA – Australia – New Zealand	2014 – 2022	51
USA – Canada	2017 - 2022	129
USA – Canada – Mexico	2019 - 2022	3

Data source: NCARB presentation to First Senior Officials' Meeting and Related Meetings (SOM1), Palm Springs, California, 14-18 February 2023

2.6 Regulatory collaboration, MRAs and competitiveness

While a primary objective in developing MRAs is to facilitate international mobility of professionals, it is important to also consider the role they play in standard setting through international collaboration between regulators. The establishment of a MRA is usually preceded by extensive information sharing and collaboration between competent authorities, which often extends for several years. These relationships often persist with regular contact over years, including consultation regarding developments in the profession and changes to licensing standards. Irrespective of any impact on mobility, this work is important in developing and benchmarking educational and professional standards. Over time, such refinements contribute to the improvement of quality of professional services and competitiveness.

Development of shared standards

MRAs, both bilateral and multilateral, often emerge from ongoing regulatory collaboration. MRAs can therefore be seen as a sign of having reached a level of maturity in achieving regulatory alignment, and function as a tangible codification of those agreed principles. Even when MRAs fail to facilitate greater professional mobility across jurisdictions, they provide a valuable step in this broader process of sharing knowledge and achieving greater alignment (Nakamura and Tetlow, 2017).

In each profession one can see the development over time of a set of principles underpinning licensure that are shared across jurisdictions. As the practices of competent authorities converge around these agreed principles, mutual recognition becomes possible. While the methods employed by competent authorities may vary, a degree of equivalence is required in relation to the role of the competent authority in:

- **Setting standards** for education, training, and practice that are required for individuals to obtain and maintain a licence to practice
- **Ensuring competence** of individuals through education, training, examination, and continuing education
- **Disciplining** professionals who violate ethical standards or engage in unsafe or unprofessional behaviour

Where professions have been able to reach agreement on key principles, this has been the result of extensive purposeful collaboration between a set of like-minded jurisdictions with a commitment to harmonisation, within a structured setting that focuses discussion and provides mechanisms for differences to be resolved, and driven by a small group of actors who play a coordinating role.

This work of regulatory collaboration often proceeds for many years, and involves a series of incremental steps. For example, in relation to higher education qualifications, UNESCO has provided a setting in which regional actors were able to forge regional recognition conventions over several decades – including in Europe (1979 and 1997), Asia Pacific (1983 and 2011), Africa (1981 and 2014), Latin America (1974 and 2019), and Arab States (1978 and 2022) (UNESCO, 2023). This work allowed for the development of the *Global Convention on the Recognition of Qualifications concerning Higher Education*[9], which entered into force in March 2023.

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[9] The UNESCO *Global Convention* is designed to facilitate international academic mobility and promote the right of individuals to have their higher education qualifications evaluated through a fair, transparent and non-discriminatory manner.

In relation to professional qualifications and licensure, such regulatory collaboration has proceeded very differently in each profession. This is illustrated by the four case studies that follow, where the key features of regulatory cooperation in relation to engineers, architects, nurses, and dental practitioner, are described, including the settings in which collaboration takes place, the key actors, and the degree of progress that has been reached. We conclude each of the case studies by suggesting opportunities for competent authorities, professional associations, and government agencies to support this process in each profession.

Capacity building assistance

Those competent authorities that are able to be at the forefront of regulatory collaboration and become the early adopters of MRAs are typically well-resourced and are encouraged by their government in various ways. Many other competent authorities that are less well-resourced require extensive support to be able to participate in such collaboration.

Such capacity building assistance is often provided in order to support competent authorities to accede to international agreements that are already in place, where membership promises tangible benefits. A prominent example is the European Commission's Technical Assistance and Information Exchange (TAIEX) instrument which was created in 1996 to support regulators to work towards alignment with EU rules. It was developed initially to aid Central and Eastern Europe economies in their EU accession, and later expanded to encompass Cyprus; Malta; Turkey; and the Western Balkans, and more recently to an even wider range of economies in which increased alignment with Europe may support economic development (European Commission, 2021).

In APEC there have been many bilateral partnerships focused on the supporting the development of professional regulatory systems. For example, universities and professional associations from Australia; Canada; and Republic of Korea have played an important role in the development of nursing in Viet Nam (Fujita et al., 2019). The assistance provided by Japan to Indonesia to become a signatory to the Washington Accord on engineering qualifications in 2022 is discussed below.

To assist competent authorities across APEC with the development of MRAs, a Toolkit[10] has recently been developed as a practical resource (Howorth, 2023). This practical resource provides non-prescriptive guidance to all actors involved in the development and implementation of MRAs in an effort to accelerate the development and implementation of agreements.

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[10] The Mutual Recognition Agreements Toolkit is available at
https://www.apec.org/publications/2023/10/mutual-recognition-agreements-toolkit

2.7 Opportunities

The above analysis suggests there are several opportunities for stakeholders that are seeking to expand the development of MRAs across APEC.

Provide targeted support to MRAs development to facilitate greater regulatory collaboration

MRAs often play an important role in supporting the development of professional standards, and their alignment across participating economies. This study reveals two ways in which this has occurred, with each of the professions discussed below providing examples. First, a group of economies have agreed on common standards and pioneered MRAs between them. This is evident in ASEAN and in the Washington Accord for engineers, for example. Second, motivated economies seek to align with these common standards. Viet Nam, for example, has developed nursing standards to align with ASEAN, and Indonesia has become a signatory to the Washington Accord. Governments and/or the competent authorities can assist both these stages in chosen professions, but doing so requires an understanding of which economies are best placed to participate given the degree of maturity of that profession. For many of the economies that have been least active in MRA development to date, targeted investment over several years can be highly effective in cases where international standards are well-developed and the benefits of alignment can be demonstrated.

Prioritise the development of MRAs for healthcare professions in order to expand opportunities for women

Data from the EU and TTMRA shows that where comprehensive MRAs are in place, healthcare professionals, and nurses in particular, are major beneficiaries. Such comprehensive agreements therefore significantly expand mobility opportunities for women. And yet there are very few such agreements between APEC economies, only those between Australia and New Zealand, and between Chile and Peru. There are also very few profession-specific MRAs in the healthcare sector. Focusing efforts on developing mutual recognition for these professions has the potential to make a major contribution to promoting gender equity.

Undertake research on utilisation and broader impact of MRAs

Competent authorities sometimes express reluctance to develop new MRAs due to a perception that utilisation will be low or one-directional, and therefore not in the interests of both parties. Such judgements are often made on the basis of very limited utilisation data. In this study, the limited available data on comprehensive MRAs presented above, and on multilateral MRAs presented in the sections below has been highly illuminating. Much could be learned by systematically collecting and analysing data from such agreements and bilateral MRAs to better understand the experience and opportunities for particular professions or relationships.

It is common for a range of stakeholders, including governments and employers, to push for MRAs due to perceived positive impacts on competitiveness, trade, investment, migration, and educational flows. However, it is often difficult to produce evidence to support such claims, as little research has been undertaken on the broader impacts of existing MRAs. Research on such outcomes would enable stakeholders to make better-informed decisions about priorities and allow them to more confidently allocate resources to support investments in MRA development.

3. Mutual Recognition Agreements for engineers in APEC

The engineering profession has embraced the concept of global labour mobility with enthusiasm, and has led the way in developing MRAs since the 1980s. Engineers typically work in large multidisciplinary teams working to produce intermediate outputs that are then used by other professionals within interconnected organisations. It is very common for teams to be culturally diverse and increasingly work across borders. There is little evidence of protectionism or concern about brain drain in relation to engineers reported in this study, in contrast with the health professions that were also considered.

3.1 Engineering MRAs in APEC

Engineering is the profession represented most strongly in the Inventory, with 65 agreements specific to engineers, involving 19 APEC economies.

Table 3. Coverage of MRAs for engineers

Economy	Bilateral MRA partners	Washington Accord, year joined	APEC Engineer, year joined	ASEAN Engineer
Australia	Canada; Hong Kong, China; Indonesia; Ireland; Japan; Republic of Korea; Malaysia; New Zealand; Singapore; South Africa; Sri Lanka; United Kingdom; United States	1989	2000	
Brunei Darussalam				✓
Canada	Australia; France; Hong Kong, China; Ireland; Mexico; Switzerland (Québec only); United States	1989	2000	
Chile	Argentina; Bolivia; Brazil; Colombia; Costa Rica; Ecuador; El Salvador; Guatemala; Honduras; Nicaragua; Peru; Spain; United Kingdom; Uruguay	Provisional 2018		
People's Republic of China	Hong Kong, China	2016		
Hong Kong, China	Australia; Canada; People's Republic of China; Ireland; New Zealand; United Kingdom	1995	2000	
Indonesia	Australia	2022	2001	✓
Japan	Australia; United States[11]	2005	2000	
Republic of Korea	Australia; United States	2007	2000	
Malaysia	Australia	2009	2000	✓
Mexico	Canada; United States	2022		
New Zealand	Australia; Hong Kong, China; Ireland; United Kingdom; United States	1989	2000	
Papua New Guinea			Provisional 2020	
Peru	Bolivia; Chile; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua		2018	
The Philippines		Provisional 2016	2003	✓
Russia		2012	2010	
Singapore	Australia	2006	Conditional 2022	✓
Chinese Taipei		2007	2005	
Thailand		Provisional 2019	Conditional 2020	✓
United States	Australia; Canada; Japan[12]; Republic of Korea; Mexico; The Bahamas	1989	2001	
Viet Nam				✓

Data source: APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure, International Engineering Alliance, ASEAN MRA on Engineering Services

[11] There are three MRAs agreed between engineering professional bodies of Japan and the United States which provide partial recognition but which are not agreed through Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT).

[12] There are three MRAs agreed between engineering professional bodies of Japan and the United States which provide partial recognition but which are not agreed through Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT).

Bilateral MRAs for engineers

As Table 4 shows, some APEC economies have been very active in establishing bilateral MRAs for engineers with other APEC economies. Australia has engineering MRAs in place with nine other APEC economies, the United States has MRAs with five, and Canada and Hong Kong, China have MRAs with four others. In fact, all of the bilateral engineering MRAs in APEC involve at least one of those four economies.

Washington Accord

The Washington Accord, established in 1989, is arguably the most significant multilateral MRA developed by any profession. The Accord's 23 signatories, including 15 in APEC economies, are bodies responsible for accreditation of engineering educational qualifications that have accepted a common set of standards and agreed to recognise each other's accredited engineering programs. Mutual recognition on this scale has not been achieved in any other profession.

The International Engineering Alliance (IEA) was established in 2007 to oversee the Washington Accord and similar multilateral MRAs for educational qualifications for engineering technologists (Sydney Accord, 2001), and for engineering technicians (Dublin Accord, 2002). The Accord was initiated by six organisations, including four from APEC economies – Engineers Australia, Engineers Canada, Engineers Ireland, Engineering New Zealand, the United Kingdom Engineering Council, and the United States Accreditation Board for Engineering and Technology. Over time other economies have become signatories, after a period of provisional membership which in many cases involved being mentored by established signatories as they developed their systems to achieve alignment with Accord requirements (IEA, 2014).

Indonesia and Mexico are the most recent new signatories to the Washington Accord, acceding in 2022. The Japan International Cooperation Agency (JICA) provided support to the Japan Accreditation Board for Engineering Education (JABEE), which had become a signatory in 2005, to work with Indonesian partners. This led to the establishment of the Indonesian Accreditation Board for Engineering Education (IABEE), providing an opportunity for quality engineering programs to obtain international recognition.

Indonesia's entry to the Washington Accord has signalled the beginning of a new chapter in its relationship with other engineering bodies. For example, as early as 2019 during discussions on the Indonesia-Australia Comprehensive Economic Partnership Agreement, the two economies committed to enter into recognition arrangements for engineers within 12 month of Indonesia receiving provisional status.[13] The Institution of Engineers Indonesia (PII) and Engineers Australia signed Indonesia's first MRA for engineers in June 2023.

Interviewees pointed to reputational benefits of Washington Accord membership for economies. One reflected that, "It is a stamp of quality, it shows that your country [sic] is in line with global standards for a profession." Another commented that Accord membership is "beneficial not only for mobility but also for upholding international standards, those standards provide more confidence that the best standards are being applied, for example building standards." When asked why Japan decided to support Indonesia's accession to the

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[13] Exchange of letters between Australia and Indonesia, https://www.dfat.gov.au/sites/default/files/iacepa-side-letter-mutual-recognition-professional-engineers.pdf

Washington Accord, Indonesian participants explained that they believed that this was less because Japan sought to recruit Indonesian engineers to move to Japan, and more due to the scale of Japanese investment in Indonesia, which would be aided by the increased confidence in the quality of the local engineering profession.

APEC Engineer

The APEC Engineer Agreement was established in 2000 and is also governed by the IEA, which also oversees a parallel arrangement, the International Professional Engineers Agreement. The latter applies the same standards but is open to members beyond APEC. Competent authorities that are members of these agreements are responsible for assessing the competencies of engineers, who are then listed on the relevant Register. Eligibility involves:

- Membership in one of the member competent authorities
- The possession of a recognised educational qualification
- A minimum period of seven years practical experience since graduation, including a minimum period of two years in responsible charge of significant engineering work

The engineers who meet the criteria in participating APEC economies are able to use the title APEC Engineer as a marker of professional experience. Each participating economy manages the process for assessing eligibility of members and adding them to the register.

A very high proportion of all APEC Engineers have been registered by Engineers Australia (see Table 4 below), which has incorporated the APEC Engineer assessment into its National Engineering Register. Other professional bodies have not streamlined the process to the same extent, and in many economies an arduous application process and the payment of significant fees is required.

Table 4. Number of registered APEC Engineers

Economy	Number of Registered APEC Engineers
Australia	18092
USA	814
Canada	550
Malaysia	342
Chinese Taipei	213
The Philippines	133
Japan	106*
Indonesia	78
Peru	58
Singapore	39
Russia	33
Hong Kong, China	15*
Republic of Korea	NA
New Zealand	NA

Data source: Registered APEC Engineers, https://www.ieagreements.org/agreements/apec/registered-apec-engineers/; Philippines Technological Council, https://ptc.org.ph/apec-engineer-list/, accessed 17 August 2023

* Does not include professionals who have declined to have their details made public (IEA, 2023)

Similar agreements were subsequently established for technologists (International Engineering Technologists Agreement, 2001) and technicians (Agreement for International Engineering Technicians, 2015). This approach, with very similar eligibility criteria, has been emulated in the APEC Architect initiative and ASEAN MRAs for engineers and architects.

As noted below, each of these agreements appear to have had limited impact on opportunities for international mobility. The 2022 International Engineering Alliance Workshops, held in Ireland, included a session seeking to understand why the IEA agreements had not been more effecting in supporting mobility. Nevertheless, they have proven popular to professionals across the region seeking to demonstrate international standards of competence. The IEA notes that, "This is of particular benefit to engineering firms that are providing services to other APEC economies but it also adds value to individuals who may wish, at some stage, to work in these economies." (IEA, 2023)There is some discussion now about how these agreements might be rethought to better serve as an internationally recognised badge supporting cross-border practice, as one association representative reflected:

> "We are living in a digital world and people don't have to move physically to contribute to projects. There are different ways of being mobile. APEC Engineer doesn't fully account for this as it was designed a long time ago."

The APEC Engineer agreement has facilitated mobility in specific cases where it has been integrated into a bilateral MRA. For example, MRAs between Australia and Republic of Korea (since 2015), Japan (since 2003) and Indonesia (since 2023) recognise APEC Engineers registered by one economy as meeting the requirements for licensing in the other.

ASEAN Engineer

Seven APEC economies are members of the ASEAN engineer initiative – Brunei Darussalam; Indonesia; Malaysia; The Philippines; Singapore; Thailand; and Viet Nam. This was developed in the late 1990s by the ASEAN Federation of Engineering Organisations (AFEO), and like APEC Engineer was based on the 1997 International Professional Engineers Agreement. It operates in an almost identical manner to the IEA agreements, but with a different membership.

Eligible applicants are listed in the ASEAN Chartered Professional Engineer Register, which currently includes 6,501 members.[14] They can then apply to another ASEAN Member State to become a Registered Foreign Professional Engineer, which entails a limited scope of practice, subject to the requirement that they work, "in collaboration with one or more Professional Engineer of the Host Country [sic]."

At the time of writing there were only 24 engineers with that status – 13 in Cambodia, nine in Malaysia, and one in Singapore and Indonesia. Nevertheless, this is an increase since 2015 when there were only six Registered Foreign Professional Engineers (Neo, 2019).

Curiously, there is also a competing register with a very similar name. The ASEAN Engineering Register, which is also maintained by the AFEO, includes 9,050 members.[15]

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[14] http://www.acpecc.org
[15] https://aer.afeo.org/

3.2 Impediments to engineering MRAs

Beyond the usual concerns about the resourcing required to develop international agreements, there are no apparent impediments to MRAs for engineers. Unlike some other professions, brain drain does not appear to be a concern in relation to the international mobility of engineers, with one interviewee commenting that, "Engineering is a truly global profession." A representative of the Indonesian engineering accreditation body explained that there was no concern about outmigration of engineers as a result of the economy becoming a signatory to the Washington Accord, saying, "We're not worried. Many will come back after their experience abroad." Interviewees commonly saw this lack of concern as being due to the collaborative and team-based nature of professional practice in technical professions. One scholar observed that, "Where the skills are embodied in the individual, for example doctors, there is concern about brain drain. But where there is more a value chain way of thinking, where a group of professionals is put together to achieve an outcome, this is less of an issue." This explanation is commonly put forward to account for the success of mutual recognition for engineers relative to other fields.

3.3 Opportunities for future development of MRAs for engineers

In engineering, where there exists quite well-developed international professional standards that have been embedded into many types of agreements, the major challenge is to strive for inclusiveness on the one hand, and greater effectiveness on the other. Three key opportunities are identified for action across APEC.

Expand the number of economies participating in bilateral MRAs for engineers

Four APEC economies have led the development of bilateral MRAs for engineers – Australia; Canada; Hong Kong, China; and the United States; – and the Inventory shows that all existing bilateral agreements involve one of these four. There is an opportunity to develop agreements beyond these most active economies.

There is a second set of economies that are members of the Washington Accord and have entered into bilateral agreements with at least one of these four most active economies, but who are not yet more broadly connected. These include People's Republic of China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; and Singapore. There is an opportunity to build on their experience in developing MRAs with the four most active economies to develop bilateral arrangements beyond this small group.

There is a third set of economies, which are signatories to the Washington Accord but have not yet entered into any bilateral agreements for engineers. This group includes Chinese Taipei and Russia. There are opportunities for these economies to take advantage of their existing alignment to strengthen bilateral partnerships.

Support universal membership of the Washington Accord

Being a signatory to the Washington Accord is a significant step, signifying that engineering accreditation processes are aligned with international standards. This has benefits for enhancing professional mobility, for improving the competitiveness of services especially in construction, infrastructure and manufacturing, and for attracting and reaping the employment benefits of foreign investment. All of the bilateral agreements for engineers are between economies that are Washington Accord signatories.

With the accession of Indonesia and Mexico in 2022, there are now only six APEC economies that are not full signatories – Brunei Darussalam; Chile; Thailand; Papua New Guinea; the Philippines; and Viet Nam. Targeted assistance to engineering bodies in these economies, of the kind provided by Japan to Indonesia described above, has the potential to bring all APEC economies into a single mutual recognition framework for engineers. This is an achievement that is within reach, and which could provide a model for medium-term planning for regulatory cooperation in other professions.

Redesign the APEC Engineer, the International Professional Engineers Agreement and ASEAN MRA on Engineering Services to better support cross-border supply of services

The APEC Engineer Agreement, the International Professional Engineers Agreement and the ASEAN MRA on Engineering Services are based on very similar principles and have significant overlap in membership. While well intentioned, the purpose, effectiveness and utilisation of these agreements is now very unclear. They have had little impact on mobility despite this being a central stated objective of each. There is no clear guidance to potential employers on the eligibility rules for inclusion on each register. While there is a publicly available register for APEC Engineers, it does not include details for all participating economies. There is no publicly available register for the International Professional Engineers Agreement, and there are two competing registers of ASEAN engineers with different eligibility requirements and membership lists.

There does appear to be interest in an international register of experienced licensed professionals, but further investment by APEC economies in the existing registers in their current form seems unlikely to realise the potential of this model. Given the global nature of the profession, and the almost universal acceptance of the Washington Accord among APEC economies, a strong case could be made for simplifying by replacing these with one agreement with agreed eligibility that identifies experienced licensed professionals with qualifications recognised under the Washington Accord. Compared with the current confusing situation, a well-promoted single model would achieve much more recognition and impact among engineers, professional bodies and governments.

4. Mutual Recognition Agreements for architects in APEC

Like engineering, the profession of architecture is global, dynamic and strongly encouraging of the concept of cross-border labour mobility. Three interviewees with knowledge of the profession provided insights into architectural practices in the digital age, reporting that there were no perceived concerns about brain drain and little evidence of protectionism among regulatory authorities.

Interviewees emphasised that the current state of the architecture profession involves multidisciplinary teams bringing special categories of expertise to complex projects, often across international boundaries. A comparison was made with large engineering projects that also typically work in this way, often in large teams which include both engineers and architects. The impact of digital technologies on the profession has been significant. This is discussed in the section on APEC Architect.

4.1 Architecture MRAs in APEC

The Inventory currently includes 28 MRAs that cover architects, including 13 comprehensive MRAs, 12 bilateral MRAs for architects, and three multilateral agreements including the APEC Architect and ASEAN Architect MRAs. As is the case in engineering, four APEC economies have led the development of bilateral MRAs for architects – in this case Australia; Canada; New Zealand; and the United States. All existing bilateral agreements in the Inventory involve at least one of these four most active economies. And all five new MRAs initiated since 2018 by APEC economies have involved only these four:

- Canada – Europe, 2018
- Australian – New Zealand (landscape architects), 2018
- Québec, Canada – Switzerland (comprehensive MRA), 2022
- Australia – New Zealand – United Kingdom, 2023
- United States – United Kingdom, 2023

A second set of economies – Hong Kong, China; Japan; Mexico; and Singapore – have each entered into MRAs with two of these active economies. Chile and Peru are parties to comprehensive MRAs with many Latin American partners. While most of these agreements cover all types of architecture, in some economies landscape architecture is regulated by a different competent authority, so may be treated separately.

Table 5. Coverage of MRAs for architects

Economy	MRA partners	APEC Architect	ASEAN Architect
Australia	Canada; Hong Kong, China (landscape only); Japan; New Zealand; Singapore; United Kingdom; United States	✓	
Brunei Darussalam		✓	✓
Canada	Australia; Europe; France (Québec only); Mexico; New Zealand; United States; Switzerland (Québec only)	✓	
Chile	Argentina; Bolivia; Brazil; Colombia; Costa Rica; Ecuador; El Salvador; Guatemala; Honduras; Nicaragua; Peru; Spain; United Kingdom; Uruguay		
People's Republic of China		✓	
Hong Kong, China	Australia (landscape only); New Zealand (landscape only)	✓	
Indonesia		✓	✓
Japan	Australia; New Zealand	✓	
Republic of Korea		✓	
Malaysia		✓	✓
Mexico	Canada; United States	✓	
New Zealand	Australia; Hong Kong, China (landscape only); Japan; Singapore; United Kingdom; United States	✓	
Papua New Guinea			
Peru	Bolivia; Chile; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua		
The Philippines		✓	✓
Russia			
Singapore	Australia; New Zealand	✓	✓
Chinese Taipei		✓	
Thailand		✓	✓
United States	Australia; Canada; Mexico; New Zealand; United Kingdom	✓	
Viet Nam		✓	✓

Data source: APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure, APEC Architect, ASEAN Architect

APEC Architect

The APEC Architect project was initiated in 2005 to establish a mechanism to facilitate the mobility of architects between APEC economies. The number of participating APEC economies recently increased from 14 to 17 with the accession of Brunei Darussalam; Indonesia; and Viet Nam in 2023. Like the APEC Engineer, the agreement established a Register of APEC Architects who have met common criteria. To be eligible, architects must

be registered in their home economy, have been in professional practice for at least seven years and have specified forms of professional experience.

At the outset, it was envisaged that registration as an APEC Architect would define a level of competence that would satisfy registration requirements in other participating economies, with minimal further assessment. This has not eventuated, since there is no indication that registration as an APEC Architect leads to recognition for practice in any other participating economy, except where there are bilateral or trilateral APEC Architect MRAs in place. There are four APEC Architect MRAs that provide a transparent pathway to recognition to Registered APEC Architects from participating economies:

- Australia – Japan (2008)
- New Zealand – Japan (2009)
- Australia – New Zealand – Singapore (2010)
- Australia – New Zealand – Canada (2015)

Even with these agreements in place, it was not until 2014 that the first Japanese and Singaporean APEC Architects received registration in Australia (Bleby, 2014).

In the absence of any tangible benefit in relation to foreign recognition for most participating economies, it appears that the APEC Architect Register functions as an indicator of professional status rather than as a facilitator of mobility. The number of APEC Architects listed on the register from each participating economy does not bear any relationship to the MRAs that are in place.

Table 6. Number of APEC Architects in Participating Economies

APEC economies	Number of APEC Architects
Australia	32
Brunei Darussalam	Joined in 2023
Canada	3
People's Republic of China	127
Hong Kong, China	51
Indonesia	Joined in 2023
Japan	275
Republic of Korea	148
Malaysia	16
Mexico	56
New Zealand	12
The Philippines	64
Singapore	76
Chinese Taipei	106
Thailand	0
United States	46
Viet Nam	Joined in 2023
Total	**1012**

Data source: APEC Architects, https://www.apecarchitects.org/

ASEAN Mutual Recognition Arrangement on Architectural Services

This agreement came into effect in 2007, two years after the APEC Architect Project and with a similar approach. This involves a three-step process, requiring a registered architect to apply in their home economy for registration as an ASEAN Architect, then have that status conferred by a meeting of the ASEAN Architect Council, and then apply to the host economy for the right to practice as a Registered Foreign Architect (Mendoza et al., 2016, p. 5). To be eligible to be an ASEAN Architect, one must have completed an accredited architectural degree of at least five years duration, be currently licensed, and have at least ten years of continuous practice of architecture including at least two years in charge of significant architectural works.

Like APEC Architect, this program has proven attractive as a means of obtaining a status as an experienced professional in one's home economy, as shown in Table 7. However, it has failed as a means of promoting recognition and mobility. Neo (2019) reports that as of October 2015 no ASEAN Architects had obtained a registration as a Registered Foreign Architect. While no data on Registered Foreign Architect number is published by the ASEAN Architect Council, the Singapore Board of Architects currently lists 54 on its *Register of foreign architect collaborators*.

Table 7. Number of registered ASEAN Architects

APEC economies	Number of ASEAN Architects
Brunei Darussalam	19
Indonesia	185
Malaysia	49
The Philippines	143
Singapore	132
Thailand	29
Viet Nam	41
Other ASEAN members	71
Total	**669**

Data Source: ASEAN Architect Council, https://aseanarchitectcouncil.net/search-aac

Some economies may in practice provide some access to APEC Architect and ASEAN Architect, but this is not stated clearly by competent authorities. For example, the Singapore Board of Architects has a provision for foreign architects to apply for a temporary licence to collaborate on a specific project with a locally registered architect. APEC Architect registration is optional and may be taken into account, but ASEAN Architect registration is not mentioned.[16] Meanwhile, many competent authorities' websites actively encourage local architects to apply for APEC Architect and ASEAN Architect status.

Canberra Accord on Architectural Education

One curiosity in the Inventory is the 2008 Canberra Accord, the purpose of which was to recognise the substantial equivalence of the parties' accreditation systems for architectural education. However, the status of this agreement is unclear, since many of the original signatories to the agreement were not accrediting authorities and were not able to ratify or implement the agreement. Furthermore, the listing of signatories on various websites is inconsistent.

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[16] See https://www.boa.gov.sg/register/application-forms/

4.2 Impediments to architecture MRAs

Lack of two-way mobility

Concern about brain drain does not appear to be an impediment to architecture MRAs. As one interviewee put it, "We don't see concerns about this in architecture. Architects are strongly encouraging of mobility, it's expected that you will work and live in another country [sic]." It is notable that the barriers to international recognition in the APEC Architect and ASEAN Architect initiatives are imposed not by the home economies, who actually encourage architects to apply for the titles. The barriers are imposed by destination economies, who are reluctant to recognise these titles for the purposes of registration. Competent authorities in high-income economies will need persuading that MRAs with low- and middle-income economies will result in mutual benefits. As one competent authority explained, "It must be a two-way street and that's what I'm concerned about … architects coming here, but few architects going there, so it's hard for me to justify that to our board."

Cumbersome processes for establishing agreements

Competent authorities expend significant time and resources in the development of MRAs, even when systems are very closely aligned. One competent authority for architects explained that discussions on a recently signed MRA took six years even though it was, "actually incredibly easy because we're so similar with our education and with our registration provisions for architects". Earlier discussions with another economy was more involved and took even longer, "They also wanted to see our architecture schools and we wanted to see their architecture schools so that costs money to fly around. There's a different cultural expectation too in that there's expected to be a huge amount of entertaining which is really expensive for us." Negotiations broke down in the end due to disagreements about how to treat accelerated university programs that are completed in shorter timeframes than the usual five-year duration. Clearly, there is a need to make MRA development processes more efficient and to ensure that the MRA results in real engagement between economies.

4.3 Opportunities for future development of MRAs for architects

There are similar patterns of development of MRAs for architects as for engineers, with bilateral agreements concentrated among a small number of economies and some more inclusive multilateral agreements. However, architecture has not attained the same degree of agreement on professional standards. The major challenge for APEC in the development of MRAs for architects is to strive for inclusiveness in bilateral MRAs on the one hand, and greater effectiveness in multilateral agreements on the other. Two main opportunities are identified for action.

Expand the number of economies participating in bilateral MRAs for architects

There is an opportunity to develop agreements beyond the most active economies – Australia; Canada; New Zealand; and the United States. There is a second set of economies that have entered into bilateral agreements for architects with at least one of these four most active economies, but who are not yet more broadly connected. These include Hong Kong, China; Japan; Mexico; and Singapore. There is an opportunity for these economies to build on their experience in developing MRAs with the four most active economies, in order to develop a broader array of bilateral linkages.

New agreements between less active economies may be supported by governments in the context of broader economic integration initiatives such as free trade agreements. For example, there has been some early consideration of the architecture profession during free trade agreement talks between Australia and India and there are reports that Singapore is negotiating an architecture MRA with India under the auspices of its 2005 FTA (Seth, 2015). Promisingly, the Philippines is in discussions with the People's Republic of China and Canada with a view to establishing new bilateral MRAs for architects.

Redesign the APEC Architect and ASEAN Architect agreements to better support cross-border supply of services

The APEC Architect and ASEAN Architect have not been effective in facilitating physical mobility, but appear to be more effective in supporting cross-border supply. They could be optimised to strengthen this role. With the digital transformation of architecture, cross-border collaboration is increasingly common, and often involves teams with diverse sets of technical skills. As one interviewee based in a Southeast Asian economy explained, "The digital work environment allows you to bypass the regulatory environment of the country [sic] you are working in. Only the signing-off of large architecture projects needs to be done by someone located in the country [sic]." The trend has been accelerated by the rapid adoption of remote work and the increased acceptance of more broadly distributed teams. An Australia-based interviewee noted that, "There is substantial outsourcing in architecture to China, Viet Nam, and Malaysia, especially for documentation. Outsourcing of documentation is often occurring in countries [sic] with which Australia doesn't have an MRA."

This may explain, in part, why architects pursue APEC Architect and ASEAN Architect titles despite their lack of utility for international registration. Internationally-recognised badges of competence are increasing in importance, while the importance of registration in the economy in which the project is located is decreasing. The APEC Architect and ASEAN Architect initiatives appear to be in need of renewal. They are clearly not meeting their original objective of facilitating mobility through mutual recognition, but they do seem to have some utility as an international credential in themselves. It is perhaps time to revisit these agreements to reorient them more clearly around new digital ways of working and to meet contemporary needs.

5. Mutual Recognition Agreements for nurses in APEC

Nursing is a large and mobile workforce. The World Health Organization (WHO) (2020) estimates that there are around 28 million qualified nurses globally, making up approximately 59 percent of the global health workforce. The same WHO data shows that within APEC there are over 14 million nurses, as detailed in Table 8, 89.7 percent of whom are women. (WHO, 2020, p. xvii)

Globally, around one in eight nurses work in an economy other than where they were born or trained (WHO, 2020, p. xvi). Since the 1950s scholars have highlighted the barriers to recognition that mobile nurses face and have long called for the of streamlined registration processes (Roots, 2023). And yet to date little progress has been made in implementing MRAs for nurses in APEC. Where economy-wide MRAs covering all regulated professions have been implemented, including in Europe and between Australia and New Zealand, nurses have utilised these agreements more than any other profession, as the data presented above in Section 2.5 illustrates.

Table 8. Nurses in APEC

APEC economies	Number of nurses	Percentage female	Nursing and midwifery personnel per 10,000 population
Australia	357,674	88.1	148.2
Brunei Darussalam	2,613	80.6	67.1
Canada	391,847	90.6	102.7
Chile	73,684	85.1	46.0
People's Republic of China	4,708,717	98	33.0
Hong Kong, China	NA	NA	NA
Indonesia	244,690	74.7	11.2
Japan	1,526,740	92.5	124.5
Republic of Korea	433,993	NA	85.3
Malaysia	111,324	95.3	33.9
Mexico	372,464	84.9	29.6
New Zealand	55,802	90.7	114.3
Papua New Guinea	5087	76.9	5.1
Peru	67,076	88.6	26.1
The Philippines	475,995	24.6	47.6
Russia	860,869	NA	62.4
Singapore	35,636	89.2	61.8
Chinese Taipei	NA	NA	NA
Thailand	219,473	94.8	30.8
United States	4,188,638	88.0	124.7
Viet Nam	106,654	76.7	14.5

Data source: WHO Global Health Observatory (2023), (most recent year available)

5.1 MRAs for nurses in APEC

In the Inventory, MRAs covering nurses and midwives are grouped together, as they are sometimes regulated by the same competent authority. In this paper, nursing and midwifery are recognised as separate professions, with the focus on nursing. However, much of the analysis is relevant to both professions.

The APEC Inventory includes several MRAs relating to the profession of nursing. These include the comprehensive MRAs in place between Australia and New Zealand, the Canadian province of Québec and France and Switzerland, and the longstanding agreements that Chile and Peru have entered into with several other Latin American economies. However, in stark contrast with technical professions, there are only two bilateral MRAs specific to nurses, established between the United States and Canada, and between Singapore and India. Lastly, ASEAN members of APEC have entered into the ASEAN MRA on nursing services. The key features of each are described below.

Table 9. Coverage of MRAs for nurses

Economy	MRA Partners	ASEAN MRA
Australia	New Zealand	
Brunei Darussalam		✓
Canada	France (Québec only); Switzerland (Québec only), United States	
Chile	Argentina; Bolivia; Brazil; Colombia; Costa Rica; Ecuador; El Salvador; Guatemala; Honduras; Nicaragua; Peru; Spain; United Kingdom; Uruguay	
People's Republic of China		
Hong Kong, China		
Indonesia		✓
Japan		
Republic of Korea		
Malaysia		✓
Mexico		
New Zealand	Australia	
Papua New Guinea		
Peru	Bolivia; Chile; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua	
The Philippines		✓
Russia		
Singapore	India	✓
Chinese Taipei		
Thailand		✓
United States	Canada	
Viet Nam		✓

Data source: APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure

Nurses in comprehensive MRAs

Comprehensive MRAs that apply to all regulated professions allow for relatively straightforward recognition for nurses. As previously noted, nurses are active users of the Trans-Tasman MRA, accounting for fully 80 percent of all the New Zealand licensed health professional seeking registration in Australia (Fletcher and Shinkfield, 2015). Nurses are also the most active users of the world's largest comprehensive MRA within the EU. These comprehensive MRAs are effective because they mandate that licencing bodies on both sides automatically recognise those qualified on the other side, except where additional requirements can be demonstrated to be essential. This compulsion is apparent to nursing regulators, as one interviewee explained, "It gives us no choice, we must register them, providing they are a fit and proper person."

Nursing is covered by a range of comprehensive MRAs entered into by Chile and Peru, including the 'Mexico Convention' (1909) between nine Latin American economies including Chile and Peru, and bilateral agreements that Chile entered into with Brazil (1898 and 1978);

Uruguay (1918); Colombia (1922); and Peru (1982). While there is limited publicly available information regarding the effects of these agreements, and there is considerable variation between them, it appears that these provide a streamlined pathway for nurses, allowing them to bypass otherwise onerous requirements overseen by universities (Cárdenas, 2019).

Bilateral MRAs for nurses

There are only two bilateral MRAs for nurses. First, there is the Mutual Recognition Agreement on Accreditation between the Canadian Association of Schools of Nursing and the Commission on Collegiate Nursing Education. This is a very short agreement. Signed in 2017, it states that while the forms of nursing accreditation in the United States and Canada differ, "each party fully recognises the credibility of the accreditation standards, policies and procedures, and process of the other". While the agreement is available on both competent authorities' websites, there is no specific guidance for nurses about its impact on their ability to practice in the other economy. Registration is overseen by many state and provincial bodies in each economy, who as a result of this MRA are likely to treat the other economy's nursing qualifications as equivalent.

The second agreement, the India – Singapore Mutual Recognition Agreement on Nursing Services, of 2018, is the only nursing MRA to be established in the past five years. It was developed under the auspices of the comprehensive economic cooperation agreement India and Singapore signed in 2005 (Seth, 2015). This agreement was made possible by work undertaken in India to develop an effective listing of registered nurses, which became effective in 2018. Under the agreement, recognition is limited to graduates of named educational institutions, with four Singaporean and only seven Indian institutions listed.

ASEAN Mutual Recognition Arrangement on Nursing Services

Seven APEC economies are parties to the ASEAN MRA on Nursing Services. These include Brunei Darussalam; Indonesia; The Philippines; Singapore; Thailand; and Viet Nam. Signed in 2006, the MRA had four stated objectives:

1. Facilitate mobility of nursing professionals within ASEAN
2. Exchange information and expertise on standards and qualifications
3. Promote adoption of best practices on professional nursing services
4. Provide opportunities for capacity building and training of nurses

There is a significant body of research on this and other ASEAN MRAs, which has consistently found that while the agreements have had negligible impact on international mobility, they have provided an important mechanism for exchange for regulatory cooperation (Mendoza et al., 2017; Mendoza and Sugiyarto, 2017; Papademetriou et al., 2016). In the case of nursing, ASEAN Nursing Common Core Competencies were agreed to in 2009 and since that time there has been extensive benchmarking between Member States as they have developed regulatory frameworks (Fujita et al., 2019; Pachanee et al., 2019; Republic of the Philippines Department of Health, 2018). The MRA has led to increased transparency and improved educational and regulatory standards, leading to the overall improvement of the quality of nursing and therefore population health across the region (Kunaviktikul et al., 2019; Kyoko et al., 2020). The ASEAN Joint Coordinating Committee on Nursing (AJCCN) has provided a platform for regular communication between nursing regulatory bodies in ASEAN.

Under the agreement, nurses who meet the following conditions in their home economy are deemed eligible to work in the host economy "subject to domestic laws and regulations": if

they have been granted a nursing qualification, are currently licensed and have at least three years of professional experience.

There is no indication that ASEAN Member States are granting recognition to nurses from other ASEAN states who meet these criteria. While little data is published, Malaysia reports just 12 ASEAN Foreign Nurses in the economy in 2020, nine from the Philippines, and two from Singapore, down from 209 when the program first started (Ministry of Health Malaysia, 2023). Despite the apparent failure of the MRA to affect recognition practices, it is likely that mobility of nurses between ASEAN members will increase as a result of the greater alignment of licensing procedures and standards stemming from collaboration enabled by the MRA (Kyoko et al., 2020).

5.2 Impediments to nursing MRAs

There are several factors that have hampered the development of MRAs for nursing qualifications. These are a lack of regulatory alignment, concerns about conduct and concerns about brain drain.

Differences in educational and professional standards

An ongoing obstacle relates to the differences between nurse training regimes. In most APEC economies, over the past 30 years a hospital-based apprenticeship model of training nurses has been replaced by college-based diplomas and degrees. Experienced nurses with hospital-based qualifications now face significant obstacles in gaining recognition abroad, even if they have achieved the highest standard of professional accreditation in their home economy.

As a result of this recent evolution there are significant differences in nursing education systems and registration systems, particularly between low- and middle- income economies, which can make the assessment of equivalency difficult. As discussed above, over the past 15 years many of these systems have invested considerable resources in the development of regulatory systems that bring them into closer alignment with other economies. APEC economies in Southeast Asia in particular have been supported in this by regional cooperation under the auspices of the ASEAN MRA and bilateral programs (Fujita et al., 2019).

However, even within large economy-wide systems such as Canada and the United States, achieving consistency and mutual recognition between jurisdictions has proved difficult, imposing barriers to mobility even within economies, and making economy-wide recognition of foreign qualifications difficult. Most Canadian provinces signed nursing MRAs in 2001 (Torgerson et al., 2006), but full economy-wide recognition of all provincial qualifications was only achieved with the implementation of the Canadian Free Trade Agreement in 2017 (Leslie et al., 2022). A recent study by Bauer et al. (2023) found state nursing boards in the United States remained wary of recognition of nurses registered in other states even during the disruption caused by the COVID pandemic, citing concerns over the potential for automatic recognition to undermine the revenues of nursing boards, fear of lower standards being applied in other jurisdictions, a lack of disciplinary oversight, and a loss of state sovereignty. Although there is effectively still a two-tier system in the United States, resistance is gradually being overcome through regulatory cooperation led by the NCSBN, and in particular the development of the Nurse Licensure Compact, which has expanded to include 40 states and territories.

Similarly, suspicion persists among competent authorities even in those APEC economies with the most highly aligned nursing education and registration systems. A 2016 study

undertaken by the Australian Health Practitioner Regulation Agency (AHPRA) of accreditation systems for registered health professionals in Canada; Ireland; New Zealand; the United Kingdom; and the United States found that:

> "When considering the pathways to general registration and specialist registration in the 14 [Australian National Registration and Accreditation Scheme] professions, it is clear that embarking on any comparison is a difficult task. The differing range of requirements to meet general or specialist registration combined with the different entities involved across the economies looked at, means that any comparison of these is complex." (AHPRA, 2016, p. 5).

This is indicative of a tendency among healthcare regulators to focus on the differences between the regulatory mechanisms rather than the similarities between the underlying principles, standards, and competencies. As discussed earlier, Cooper, et al. (2020b, 2020a) have documented repeated calls in Australia for simplification of registration processes for internationally qualified healthcare professionals. Clearly there is a need to build trust between competent authorities, as one interviewee explained, "There are issues of trust and control. The regulators are risk averse and have trouble trusting each other, and if they are not doing the assessment themselves then they believe they are not fulfilling their responsibilities to ensure public safety."

Fortunately, as will be discussed below, there are signs that nursing regulators from these economies are inching closer to adopting a mutual recognition framework that has the potential to do for the nursing profession in the 2020s what the Washington Accord did for engineering in the 1980s.

Concerns about conduct

It is customary for MRAs to include a requirement that mobile professionals provide a statement from their home jurisdiction demonstrating that they have not committed any breaches of codes of ethics or professional conduct. During interviews it was apparent that competent authorities in nursing are unlikely to enter into MRAs unless they are able to access, not just historical statements, but also real-time information about infractions in other jurisdictions in which a practitioner may be registered.

In response to these concerns among United States regulators, the National Council of State Boards of Nursing (NCSBN) has developed an online database, Nursys, that allows for real-time verification of nurse licensure and discipline of all nurses in participating boards of nursing.[17] NCSBN is currently in discussions with other jurisdictional regulators regarding real-time information about nurse disciplinary issues which may help address concerns about mobility and patient safety. A similar system enabling the international sharing of such information would likely be required in order to support MRAs across APEC economies.

Global competition for nurses

The WHO estimates that the world faces a shortage of around 5.9 million nurses, and this shortage is overwhelmingly (89 percent) in low- and lower-middle-income economies. The global nursing workforce is projected to grow from 27.9 million in 2021 to 36 million by 2030, but most of the projected increase (70 percent) is expected to occur in upper-middle and high-income economies (WHO, 2021, p. 11). Within APEC the supply of nurses varies considerably, with far fewer nurses in many middle-income and low-income economies than

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[17] Available at https://www.nursys.com/

in the high-income economies, as shown in Table 8 above. As a result, concerns about brain drain are much more pronounced in relation to nursing than is the case for the other professions included in this study.

International agencies, led by the WHO and the International Labour Organization are focused on ensuring that all economies are able to meet their health workforce needs, with a particular focus on workforce development in low-income and lower middle-income economies. However, the international movement of nurses has exacerbated global inequalities. A WHO study found that 15.2 percent of nurses in high-income economies are foreign-born or foreign-trained, compared with just 0.7 percent in upper middle-income economies, 0.4 percent in lower middle-income economies, and a negligible number in low-income economies (WHO, 2020, pp. 47–48). There are several factors that account for this:

- Migration of nurses from low- and middle-income economies to high income economies
- Migration of nurses between high-income economies, which is more often facilitated by MRAs such as those in the EU, between the United States and Canada, and between Australia and New Zealand
- The flow of international students to train as nurses in high-income economies and subsequently obtain residency in those places

The first of these factors, the movement of nurses from the global South to the global North has received much attention. In response, the WHO (2010) *Global Code of Practice on the International Recruitment of Health Personnel*, set out to "to establish and promote voluntary principles and practices for the ethical international recruitment of health personnel" (p.2). The Code establishes a set of expectations for MRAs to ensure that international agreements support the needs of developing economies:

> "Member States should use this Code as a guide when entering into bilateral, and/or regional and/or multilateral arrangements, to promote international cooperation and coordination on international recruitment of health personnel. Such arrangements should take into account the needs of developing countries [sic] and countries [sic] with economies in transition through the adoption of appropriate measures. Such measures may include the provision of effective and appropriate technical assistance, support for health personnel retention, social and professional recognition of health personnel, support for training in source countries [sic] that is appropriate for the disease profile of such countries [sic], twinning of health facilities, support for capacity building in the development of appropriate regulatory frameworks, access to specialised training, technology and skills transfers, and the support of return migration, whether temporary or permanent."

These expectations of MRAs are arduous. However, it does not appear that such concerns are a major factor in limiting interest in developing MRAs. Such technical assistance is typically required over many years in order to develop educational standards and licensing practices to align with international standards, and this work invariably happens before MRAs are able to be put into effect.

The WHO Global Code recommends that, "Member States should facilitate circular migration of health personnel, so that skills and knowledge can be achieved to the benefit of both source and destination countries [sic]." This is particularly relevant to international student mobility. Where MRAs are in place between the student's home economy and the economy in which they train, graduates are able to move between those two systems during the course of their career. This is rarely the case for mobile students in APEC. For example, in 2022 there were

19,224 international students undertaking nursing education programs in Australia (not including New Zealand students) (Australian Government, 2023). While those who graduate will have qualifications that will allow them to register to practice in Australia, none are able to use an MRA to have those Australian qualifications recognised for practice in their home economy.

Despite efforts to enhance mobility across Southeast Asia though the ASEAN Nursing MRA, the major destinations of international mobile nurses from ASEAN economies remain the United States; Europe; the Middle East; and Japan, where ageing populations are fuelling demand for nurses and other caregivers, and where higher salaries can be earned (Fujita et al., 2019; Kunaviktikul et al., 2019; Kyoko et al., 2020; Pachanee et al., 2019).

While concerns about brain drain are prominent in the literature, this study found mixed views. Some suggested that governments do go to great lengths to retain nurses, particularly those who are educated at public expense. As one interviewee based in an ASEAN economy put it, "Governments are afraid of brain drain. You train them in your country [sic], then they move out." One qualifications recognition expert suggested:

> "There is a massive worldwide shortage of nurses, every jurisdiction has to figure out how to do this better…. Even in highly developed countries [sic] like the UK, workforce issues are a huge problem. Countries [sic] which are losing nurses are worried that if an MRA is put in place, it will make it even easier for nurses to go elsewhere."

And yet these concerns do not appear to be manifested in domestic policies or MRA discussions. One competent authority representative from a high-income economy explained that, "There is a global shortage of nurses, but this has not been a conversation in relation to MRAs".

Indeed, low and middle-income APEC economies do not appear to be wary of entering into MRAs. In these systems there is no shortage of people willing to become nurses, there is a shortage of funds to employ nurses within the healthcare system. Providing opportunities for young people to earn high salaries abroad by studying nursing need not contribute to nursing shortages at home. Indeed, Indonesian government officials are more concerned with the low rates of nursing employment abroad, according to a study undertaken by Efendi et al (2021). The authors of the study found that apart from language proficiency, the major impediment to mobility is the lack of recognition of Indonesian nursing qualifications abroad. The study recommended that Indonesian authorities should emulate the approach taken by the Philippines by improving foreign language training for nursing students and aligning curriculum with international standards so that graduates are more able to take competency tests in destination economies.

5.3 Opportunities for future development of MRAs for nurses

There is an opportunity for APEC to harness current efforts to improve recognition of nursing qualifications that are underway on a range of fronts. Below are three approaches to supporting the expansion of mutual recognition for nurses across APEC.

Develop bilateral MRAs for nurses

At the economy level, it is likely that the APEC economies most active in professional recognition of engineers and architects will be the ones to initiate pathbreaking initiatives in relation to nursing. The agreement in place between the United States and Canada for nurses and the Trans-Tasman MRA between Australia and New Zealand have both supported the

mobility of nurses to a significant degree. There is pressure on both sides of the Pacific for these economies to do more to support the mobility of nurses. For example, Australia recently announced a review of regulatory settings designed, "to ensure that unreasonable additional requirements or standards are not being applied to overseas trained professionals" (DHAC, 2022). Meanwhile, in the United States, significant progress has been made in establishing the Nurse Licensure Compact, which now encompasses 40 states and territories, allowing nurses to have a single licence in one state and the privilege to practice in all other 39 jurisdictions.

There is an opportunity to pursue additional bilateral MRAs between the five economies that have been most active and which have a high degree of regulatory alignment – Australia; Canada; New Zealand; Singapore; and the United States. Progress amongst this group would pave the way for future agreements involving a broader range of economies.

Provide targeted support to the International Nurse Regulator Collaborative

Formed in 2011, the International Nurse Regulator Collaborative (INRC) involves five APEC economies and three European states. It aims to share expertise and experience between nursing regulatory organisations in jurisdictions with substantially equivalent processes and standards. INRC members are:

- National Council of State Boards of Nursing (USA)
- Singapore Nursing Board
- Nursing and Midwifery Board of Australia
- Nursing Council of New Zealand
- British Columbia College of Nurses and Midwives (Canada)
- College of Nurses Ontario (Canada)
- Consejo General de Enfermería (Spain)
- Nursing & Midwifery Council (UK)
- Nursing and Midwifery Board of Ireland

A recent study funded by the INRC examined the degree of alignment between these regulators' standards and practices in order to consider the feasibility of transjurisdictional mobility between these systems (Roots, 2023). It found a high to very high degree of consistency between systems in terms of standards for nursing education and competency requirements, concluding that:

> "The high level of consistency of expected standards and processes for licensure/registration found across the INRC jurisdictions demonstrates that the expectations for transjurisdictional mobility by organisations such as the World Health Organization (WHO), the United Nations, and individual governments is indeed possible." (Roots, 2023, p. 29)

Mutual recognition of qualifications between these systems, the study found, would both promote mobility and reduce regulatory workload. Recognising that a key requirement is the building of trust between competent authorities, it affirmed that, "applicants moving between the INRC jurisdictions are low risk because they have already been put through consistent processes and procedures to obtain their regulatory credentials in the previous jurisdiction" (p.31).

Efforts to align nursing education and licensure standards internationally are embryonic, but the INRC initiative contains all the elements required to emulate the success of the Washington Accord in engineering. Nursing can learn much from this previous experience,

and key figures in the INRC are clearly aware of the way in which the Washington Accord has transformed global opportunities for professional engineers for over 30 years.

The INRC has adopted a core principle that there should be a separation between regulators and professional associations, presumably to avoid 'regulatory capture', in which the competent authority acts in the interests of the professionals it is supposed to regulate rather than the interests of the broader public. A representative of one of the member organisations explained that, "There are other regulators where they are the regulator and the professional association, and we see conflicts there. In the INRC the regulation and the professional association must be separate." This is a point of departure from the Washington Accord, in that many engineering competent authorities are both professional associations and accrediting bodies.

There is an opportunity for APEC to support the development of this initiative in the hope that it could develop similarly to the Washington Accord, broadening its membership over time. The current membership of INRC is slightly broader than the initiators of the Washington Accord; in addition to the engineering body's founders – Australia; Canada; New Zealand; and the United States – INRC also includes Singapore, as well as non-APEC economies the United Kingdom, Ireland, and Spain.

A multilateral MRA built around the INRC could function in much the same manner as the Washington Accord has done in engineering, by establishing a clear set of regulatory principles and practices that are appealing to others to adopt over time. Targeted support could then be provided to other economies to join this grouping, as has been successful in broadening participation in engineering. The speed of development should be able to be accelerated significantly by learning from the experiences of technical professions over several decades and adopting proven techniques for the development of shared standards and recognition processes.

Support inclusive collaboration between nursing regulators

The broader participation of APEC economies in mutual recognition for nurses will require extensive collaboration between regulatory bodies, supported by bilateral initiatives and participation in multilateral fora. Bilateral initiatives of the kind discussed above have been underway for many years, and more recently these are being developed in conjunction with broader economic partnership agreements. For example, as part of the Indonesia-Australia Comprehensive Economic Partnership Agreement, in 2019 the two economies committed to undertaking:

> "A comparative assessment of nursing education standards including skills and competencies in Indonesia against Australian nursing education standards with the objective of identifying how Indonesia's nursing education system could be improved to deliver world qualified and competitive nurses."[18]

APEC economies can assist the WHO in setting global standards for the education and licensing of nurses, which is a key precondition for broad-based mutual recognition. The WHO has also recognised the need for a more coordinated and standardised approach to the international recognition of nursing qualifications, particularly as the demand for nurses increases globally and as the mobility of nurses across borders becomes more common

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[18] Exchange of letters between Australia and Indonesia,
https://www.dfat.gov.au/sites/default/files/iacepa-side-letter-improving-health-professional-standards-access-health-services.pdf

(WHO, 2021). There are several regional fora that provide opportunities for establishing regulatory collaboration in nursing in the Asia-Pacific.

As discussed above, the ASEAN MRA on Nursing Services has provided a productive platform for regulatory cooperation, which is coordinated through the ASEAN Joint Coordinating Committee on Nursing (AJCCN). The seven Southeast Asian APEC economies – Brunei Darussalam; Indonesia; Malaysia; The Philippines; Thailand; Singapore; and Viet Nam – are members of this body, which has the potential to be invigorated around supporting the greater alignment of regulatory systems. Over time, this would assist these economies to enter into MRAs with other States, as has occurred in engineering – Indonesia; Malaysia; and Singapore are now signatories of the Washington Accord, while the Philippines and Thailand are provisional signatories. This approach is consistent with the recommendations of an Asian Development Bank review of ASEAN MRAs:

> "The limited harmonization of training standards and curricula for health professionals among ASEAN countries [sic] has translated into little trust among regulatory bodies in the region. Moving forward, there is value in initiatives that increase trust among Member States, such as by creating regional umbrella associations and supporting regional efforts to improve competency standards at the national [sic] level. These are small yet important steps that would lay the groundwork for mutual recognition much later." (Mendoza et al., 2016, p. 30).

Another regional forum that provides an opportunity for capacity building in the Asia-Pacific is the South Pacific Chief Nursing and Midwifery Officers Alliance, which includes four APEC economies – Australia; New Zealand; Papua New Guinea; and the United States – along with 11 other Pacific States. The organisation was established in 2004 to promote cooperation and capacity building for nurses and midwives in the South Pacific. Like the AJCCN, this group provides a forum in which APEC member economies can work with partner economies to develop closer alignment of regulatory settings, that may then lead to MRAs. A similar group initiated in 1990 in the Caribbean, CARICOM, has led to the development of regional standards for nurse education and practice, and a common regional examination for nurse registration (CARICOM, 2013; Reid, 2000).

6 Mutual Recognition Agreements for dental practitioners in APEC

Dental practitioners comprise a smaller profession than the three discussed above. While there are over 14 million nurses in APEC economies according to WHO workforce data, there are only around 1.2 million dental practitioners, half of whom are in the People's Republic of China.

Table 10. Dental practitioners in APEC

APEC economies	Number of dental practitioners	Dental practitioners per 10,000 population
Australia	16,153	6.29
Brunei Darussalam	106	2.38
Canada	24,909	6.57
Chile	26,685	14.81
People's Republic of China	637,000	4.52
Hong Kong, China	NA	NA
Indonesia	32,418	1.24
Japan	104,152	8.32
Republic of Korea	26,978	5.2
Malaysia	9,717	3.0
Mexico	14,528	1.15
New Zealand	2,644	5.15
Papua New Guinea	49	0.049
Peru	7,217	2.14
The Philippines	28,378	2.49
Russia	50,642	3.48
Singapore	2,363	4.06
Chinese Taipei	NA	NA
Thailand	18,202	2.55
United States	201,900	5.99
Viet Nam	NA	NA

Data source: WHO Global Health Observatory 2023

6.1 MRAs for dental practitioners in APEC

Like other health professions, there are relatively few MRAs which are specific to dentistry. Across APEC there are four MRAs for dental practitioners, all involving Canada, and one multilateral agreement, the ASEAN Mutual Recognition Arrangement on Dental Practitioners. Dental practitioners are also covered by 13 comprehensive MRAs, and as is the case for nurses, these agreements are well used by dental practitioners. In Europe, where mutual recognition is well-established, dental practitioners are the fifth most mobile regulated profession, with 11,630 recognition decisions being made between 2018 and 2022, as discussed above in Section 2.

Table 11. Coverage of MRAs for dental practitioners

Economy	MRA Partners	ASEAN MRA
Australia	Canada; New Zealand	
Brunei Darussalam		✓
Canada	Australia; France (Québec only); Ireland; New Zealand; Switzerland (Québec only); United States	
Chile	Argentina; Bolivia; Brazil; Colombia; Costa Rica; Ecuador; El Salvador; Guatemala; Honduras; Nicaragua; Peru; Spain; United Kingdom; Uruguay	
People's Republic of China		
Hong Kong, China		
Indonesia		✓
Japan		
Republic of Korea		
Malaysia		✓
Mexico		
New Zealand	Australia; Canada	
Papua New Guinea		
Peru	Bolivia; Chile; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua	
The Philippines		✓
Russia		
Singapore		✓
Chinese Taipei		
Thailand		✓
United States	Canada	
Viet Nam		✓

Data source: APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure

Bilateral MRAs for dental practitioners

The Commission on Dental Accreditation of Canada is by far the most active competent authority in APEC economies, having initiated one of the earliest bilateral MRAs in 1956 with the United States; Australia (2010); New Zealand (2011);, and Ireland (2012). These are the only bilateral dentistry MRAs in APEC.

ASEAN Mutual Recognition Arrangement on Dental Practitioners

The only multilateral recognition initiative for dental practitioners in the Asia-Pacific region was the ASEAN MRA, which came into effect in 2008. It shares similar objectives to the other ASEAN MRAs, which are to:

- Facilitate mobility of dental practitioners within ASEAN
- Exchange information and enhance cooperation in respect of mutual recognition of dental
  practitioners
- Promote adoption of best practices on standards and qualifications
- Provide opportunities for capacity building and training of dental practitioners

In relation to recognition of qualifications, requirements are very similar to those in the other MRAs – registration in the home economy, satisfaction of professional development requirements, and good practice – with one major qualification. The dental MRA requires that the practitioner be "in possession of a dental qualification recognised by the [Professional Dental Regulatory Authority] of the Country [sic] of Origin and Host Country [sic]". In effect, the agreement states that qualifications will be recognised if the qualifications are recognised. However, fifteen years after the agreement came into effect, there is no indication that any ASEAN member explicitly recognises the dental qualifications of any other member. Like the other agreements, the dentistry MRA has made some progress on regulatory cooperation, through the ASEAN Joint Coordinating Committee on Dentistry. This group in 2018 adopted Minimum Common Competency Standards for dental undergraduate education including the scope of performing abilities for each competence (AJCCD, 2018).

6.2 Impediments to dentistry MRAs

Concerns are often expressed about the uneven supply of dental practitioners, and the impact that international mobility may have. Concerns about brain drain from low- and middle-income economies to high-income economies are sometimes expressed, and are the subject of the WHO code of conduct on international recruitment of health personnel, that was discussed in relation to nurses above (Davda et al., 2020; WHO, 2010). Similar concerns have been expressed in the United Kingdom, which after leaving the EU has experienced a substantial exodus of dental practitioners coupled with difficulty in attracting foreign dental practitioners, largely due to arduous processes for registration of foreign-trained dental practitioners and immigration restrictions (Davda et al., 2020).

Meanwhile, in other economies, professional associations have sought to limit the entry of foreign professionals. For example, the Australian Dental Association (ADA) in 2015 called for dental practitioners to be excluded from the Trans-Tasman MRA for at least two years due to what they argued was a serious over-supply of dental professionals (Olive 2015). Five years later, again citing an over-supply, the ADA argued for the recruitment of overseas qualified dental professionals should cease because Australia should be "self-sufficient with regard to the training of the dental workforce" (Australian Dental Association, 2020). In a more recent statement, the ADA acknowledges a maldistribution of the dental workforce, with shortages in regional areas of each state and territory (Liew, 2023). Acknowledging that some foreign dental practitioners find the assessment of their qualifications "challenging, in terms of costs, processes, and success rates", the ADA counters that, "helping protect the health and safety of the public by ensuring overseas trained dental practitioners meet the high standards

required of dental professionals in Australia is very important." It is often difficult in such cases to know to what extent protectionism, or the public interest, is driving recognition practices.

6.3 Opportunities for future development of MRAs for dental practitioners

As is the case in the other three professions that are the focus of this study, the prospects for expanding mutual recognition for dentists involve on the one hand building upon the more developed recognition practices of the active economies and on the other engaging in targeted capacity building support to enhance regulatory cooperation more broadly across APEC as a precondition for broader involvement in mutual recognition.

Build on established recognition practices for dental practitioners to develop new MRAs

There is an opportunity to emulate Canada's efforts by converting informal unilateral recognition practices into bilateral agreements between competent authorities. A decade ago, Canada developed a 'hub and spoke' pattern of dental professional MRAs, building on a long history of collaboration with the United States (Crawford, 2002). When one considers the actual recognition practices of the APEC economies that are leading in the development of MRAs in other fields, there is scope for other economies to follow Canada's lead. For example:

- The Dental Board of Australia (2023) recognises listed dental education programs from institutions in the United Kingdom and the Republic of Ireland
- The Dental Council of Hong Kong recognises listed dental education programs from Australia; Canada; France; New Zealand; the Republic of Ireland; Singapore; Sweden; Chinese Taipei; Switzerland; the United Kingdom; and the United States (Dental Council of Hong Kong, 2023)
- The New Zealand Dental Council (2023) recognises dental education programs accredited by the United States Commission on Dental Accreditation and the United Kingdom General Dental Council
- The Singapore Dental Council recognises listed dental education programs from Australia; Canada; Hong Kong, China; New Zealand; the Republic of Ireland; the United Kingdom; and the United States (Singapore Dental Council, 2021).

This is evidence of a high degree of alignment and trust between some economies, which provides a very strong foundation for the development of bilateral or multilateral MRAs for dental practitioners. As the ADA notes, "In select countries [sic], qualification and registration requirements mirror those in Australia relatively closely. Dental practitioners registered in those countries [sic] can have their qualification recognised and obtain registration in Australia in a reasonably efficient manner" (Liew, 2023). Formalising these practices in MRAs that respect the accreditation undertaken by competent authorities in each economy would improve transparency, predictability and rigour.

Build capacity in dental education and licensing across APEC

As the experience of the ASEAN MRA for dental practitioners shows, mutual recognition is unlikely to be achieved across all of APEC without extensive attention to the alignment of educational and professional standards. The development of Minimum Common Competency Standard in 2018 is a step in the right direction but much remains to be done to reach a point where dental education programs from across the region will provide mobility opportunities for graduates (Poolthong and Chuenjitwongsa, 2017, p. 78). For APEC economies in Southeast

Asia, the ASEAN Joint Coordinating Committee on Dentistry provides a forum for engagement, but progress to date has been slow and much could be achieved by building on the work done in other jurisdictions on competency standards and curriculum requirements.

It is notable that there are few institutions linking dental competent authorities in the Asia-Pacific region. By contrast, in Europe, the Federation of European Dental Competent Authorities and Regulators provides an interesting model, and more broadly much can be learned from the extensive collaboration that has been underway for decades with the EU to harmonise dental education to support EU policies of mutual recognition and workforce mobility (Bryce et al., 2022; Field et al., 2017). The International Federation of Dental Educators and Associations, with branches in the Asia-Pacific and the Americas is another organisation that could be harnessed to provide opportunities for collaboration, capacity building and benchmarking.

There is an opportunity to make a major step forward in regional collaboration in the near term, by building on the informal recognition practices across the region, the desire of governments to realise mutual recognition, and the extensive work on regulatory cooperation in dental education and licensure across Europe and North America. Progress will require outward-looking competent authorities to take a leadership role, as Canada did between 2010 and 2012, supported by domestic governments across the region.

Appendix 1. Interviewees

- Mr David Benton, National Council of State Boards of Nursing, United States
- Ms Kathlyn Irish Mae Q. Cervantes, Professional Regulation Commission, The Philippines
- Dr Roger Chao, Assistant Director/Head of Education, Youth and Sports, ASEAN Secretariat, Indonesia
- Atty. Melisa Jane Comafay, International Affairs Office, Professional Regulation Commission, The Philippines
- Mr Jose Y Cueto Jr, Architecture Board, Professional Regulation Commission, The Philippines
- Professor Andrew Davey, Director International, Griffith Health, Griffith University, Australia
- Ms Marie Cecille P. Fernando, International Affairs Office, Professional Regulation Commission, The Philippines
- Professor Christopher Findlay, Honorary Professor, Crawford School of Public Policy, Australian National University, Australia
- Hon. Zenaida C. Gagno, Professional Regulatory Board of Nursing, The Philippines
- Ms Ella Marie Galima, International Affairs Office, Professional Regulation Commission, The Philippines
- Ms Petrina Halloran, Policy Manager, Nursing and Midwifery Board of Australia
- Mr Berlian Kushari, Indonesian Accreditation Board of Engineering Education
- Hon Elizabeth C. Lagrito, Professional Regulatory Board of Nursing, The Philippines
- Ms Kathlyn Loseby, Chief Executive Officer, Architects Accreditation Council of Australia
- Mr Andi Taufan Marimba, Chairman, Indonesia Monitoring Committee for APEC Engineer Register, The Institution of Engineers Indonesia
- Robert M. Mirafuente, Architecture Board, Professional Regulation Commission, The Philippines
- Dr Hildegunn Nordas, Senior Associate, Council on Economic Policies, Norway
- Dr Robyn Phillips, Director, X-Border Projects, Australia
- Mr Habibie Razak, Executive Director, The Institution of Engineers Indonesia
- Professor M. Romli, Indonesian Accreditation Board of Engineering Education, Indonesia
- Dr Alison Roots, independent health professions researcher, Australia
- Mr Robert Sac, Architecture Board, Professional Regulation Commission, The Philippines
- Mr Faizal Safa, The Institution of Engineers Indonesia
- Hon Merle L. Salvani, Professional Regulatory Board of Nursing, The Philippines
- Dr Pawel Sajewicz, Manager, Agreements & Professional Standards, Engineers Australia
- Hon. Elsie A. Tee, Chairperson, Professional Regulatory Board of Nursing, The Philippines

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