



1. Introduction

1.1 Hong Kong is now facing an acute shortage of doctors in the public healthcare system amidst rapid ageing.¹ Per capita doctor ratio in Hong Kong was 2.0 per 1 000 people in 2018, one of the lowest amongst advanced places in Asia and was just about three-fifths of that in the Organisation for Economic Co-operation and Development ("OECD").² Insufficient manpower gives rise to longer waiting queues and more sentinel events in public healthcare services, especially so during the seasonal surges in influenza. While the Government projects that the annual shortfall of doctors is in the region of 285-1 007 for the period 2016-2030, the public believes that the actual shortage is far more than indicated in view of the huge service gap.³ Although overseas-trained doctors ("OTDs") are allowed to practise in Hong Kong upon passing a Licensing Examination and/or meeting other qualifying requirements, annual entry is too modest to relieve the shortage.⁴ Against this backdrop, there are increasing calls in the community to expand the scale of admitted OTDs, with reference to the practice seen in many advanced places.

1.2 At the request of Hon Tommy CHEUNG Yu-yau, the Research Office has undertaken a study on the policy of admitting OTDs in selected places.

¹ At end-2018, there were altogether 14 651 registered doctors in Hong Kong. About 54% of registered doctors work in the private sector and 46% in the public sector. While the overall number of doctors has increased by 45% during 2000-2018, it lags behind the 74% growth in elderly population aged 65 and above. See Yuen (2014).

² While per capita doctor ratio in Hong Kong has improved from 1.8 to 2.0 per 1 000 people during 2008-2018, it lagged behind South Korea (2.3), Singapore (2.4), Japan (2.4) and Australia (3.7). For OECD as a whole, the average figure was 3.4 in 2015. See Organisation for Economic Co-operation and Development (2017, 2018 and 2019b).

³ Food and Health Bureau (2017) and South China Morning Post (2019b).

⁴ During 1996-2018, the number of non-locally trained doctors passing all three components of the Licensing Examination averaged at 24 each year, representing just about 7% of annual provisional registration of new doctors. This apart, 15-19 non-locally trained doctors worked in the Hospital Authority under limited registration annually in recent years.

Singapore and Australia are selected for further study because (a) they have admitted a large quantity of OTDs, accounting for more than 30% of overall doctor supply; and (b) their OTD admission policy is time-tested, with a history of more than 30 years. This information note begins with a concise overview of the global recruitment trend of OTDs in advanced places, followed by a discussion of recent shortage of doctors in the public sector and the existing admission policy of OTDs in Hong Kong. It will then switch to the two selected places, outlining their OTD admission policies and effectiveness, along with a concise table for easy reference (**Appendix**).

2. Recent global developments in recruiting overseas-trained doctors

2.1 Most of the advanced places are facing manpower challenges in the healthcare sector arising from ageing population.⁵ In spite of efforts made to increase the number of graduates from local medical schools in recent years, local supply is still not enough to meet the healthcare needs.⁶ Many advanced places have thus resorted to admitting OTDs in a large quantity to address the problem of doctor shortage. The usual qualifying requirements for admitting such OTDs include (a) passing a dedicated examination set for OTDs; (b) offering examination-free entry to graduates from a prescribed list of overseas medical schools; (c) receiving internship or supervised practice for a specified duration in the recipient countries; and (d) offering "restricted entry" to certain streams of specialist doctors for clinical practice or medical research.⁷

2.2 Indicative of increased recruitment of overseas doctors in advanced places, the total number of OTDs in OECD has increased by 37% in eight years to 463 000 in 2016.⁸ OTDs now account for some 17% of the overall doctor supply in OECD on average, tripling that of 5% in 2000 (**Figure 1**). The ratio of OTDs is even higher in some OECD member states, such as New Zealand (42%), Norway (40%), Australia (33%), the United Kingdom ("UK") (28%) and the United States ("US") (25%).

⁵ World Health Organization estimated the shortage of healthcare professionals (including doctors, nurses and midwives) in the world will increase by a total 250% to 14 million persons by 2030. See Yeates and Pillinger (2018), Moullan (2014) and World Health Organization (2006).

⁶ Forcier et al. (2004) and Organisation for Economic Co-operation and Development (2016).

⁷ Organisation for Economic Co-operation and Development (2016).

⁸ Organisation for Economic Co-operation and Development (2019a).

Figure 1 – Proportion of overseas-trained doctors in OECD, 2000-2016

	2000	2008	2016
OECD	5%	13%	17%
- Australia	-	24%	33%
- Canada	21%	22%	24%
- New Zealand	38%	43%	42%
- Norway	-	32%	39%
- United Kingdom	-	30%	28%
- United States	-	25%	25%

Note: (-) Data not available.

Source: Organisation for Economic Co-operation and Development.

2.3 By and large, admission of OTDs could bring multiple benefits to the recipient countries. **First**, OTDs could instantly relieve the shortage problem and improve the quality of healthcare services. Had there been no OTDs, the doctor ratio per 1 000 population in OECD would have dropped noticeably from 3.4 to 2.9 in 2015.⁹ **Secondly**, if the admitted OTDs work in the private sector, they could widen the choice of healthcare services for patients on the one hand, and help lower the healthcare pricing amidst increased competition on the other.¹⁰ **Thirdly**, if the admitted OTDs work in the public sector, they could relieve the pressure in the public healthcare system especially in certain segments where local doctors are reluctant to serve. For instance, OTDs in the US and Canada are often admitted for practice in rural and remote areas.¹¹ **Lastly**, OTDs could enhance diversity of the healthcare workforce and facilitate exchange of medical experiences.

2.4 On the other hand, there are also issues of concerns arising from admission of OTDs. **First**, some may query whether OTDs would compromise the quality of local healthcare services, especially when OTDs come from those places with lower medical standard. However, empirical evidence is mixed here. While OTDs coming from certain developing places (e.g. Nigeria, Egypt, Pakistan, the Philippines and India) tend to receive more service complaints than local doctors in Australia, the mortality rates of patients treated by OTDs

⁹ Organisation for Economic Co-operation and Development (2016).

¹⁰ Forcier et al. (2004).

¹¹ Aluttis et al. (2014).

in the US and Canada were similar to local doctors.¹² **Secondly**, some places (e.g. the US, Canada, Australia and Ireland) may require admitted OTDs to be placed under internship and residency for monitoring before full registration, but it will crowd out the precious training places and supervisory resources which could have been reserved for local medical graduates.¹³ **Thirdly**, massive admission of OTDs could lead to career concerns (e.g. promotion and remuneration) of local doctors. For instance, the salaries of local doctors in the US are allegedly dampened by OTDs.¹⁴ **Fourthly**, there are language and cultural concerns if the admitted OTDs could not effectively communicate with local patients. For this reason, some English-speaking places tend to admit OTDs from those places speaking English as well.¹⁵ **Fifthly**, there are concerns that massive and steady flows of doctors from developing places to advanced places may result in brain drain and doctor shortage in developing places over time.¹⁶

3. Shortage of doctors and existing policy on OTDs in Hong Kong

3.1 The Government has progressively expanded the number of annual entry of students to the two local medical schools, from 250 during 2005-2009 to 470 during 2016-2019, and further to 530 during 2019-2022, with a cumulative increase of 112% in 14 years. While it has contributed to a rise in the per capita doctor ratio from 1.5 to 2.0 per 1 000 people during 2000-2018, new supply of doctors is still inadequate to catch up with rising healthcare demand (**Figure 2**). During 2005-2018, local elderly population aged 65 and above has surged by a much faster pace of 52% to some 1.3 million. Worse still, the hospitalization rate of elderly (26%) is almost four times that of non-elderly (7%) and their out-patient demand is about twice that of the non-elderly.¹⁷

¹² Elkin et al. (2012), Ko et al. (2005) and Norcini et al. (2010).

¹³ Organisation for Economic Co-operation and Development (2016).

¹⁴ Baker (2006).

¹⁵ Organisation for Economic Co-operation and Development (2016).

¹⁶ The World Health Assembly announced the "Global Code of Practise on the International Recruitment of Health Personnel" in 2010, encouraging countries to achieve "self-sufficiency" in healthcare manpower training on the one hand, whilst recognizing the human right of migrating to other countries on the other. See World Health Organization (2010).

¹⁷ In 2016, 36% of elderly people would have out-patient consultation within a month before enumeration, compared with that of 17% for non-elderly. Moreover, elderly patients account for half of all patient days and accident and emergency admissions, as well as more than one-third of out-patient attendances provided by the Hospital Authority. See Census and Statistics Department (2017), GovHK (2018) and Hospital Authority (2012 and 2017).

Figure 2 – Selected indicators on doctor supply in Hong Kong, 2000-2018

	2000	2010	2018
1. Total number of fully-registered doctors	10 130	12 620	14 651
2. Per capita doctor ratio per 1 000 population	1.5	1.8	2.0
3. New supply of doctors [^]	567	446	651
4. Ratio of doctors practising in public sector [*]	44%	44%	46% [#]
5. Overall population ('000)	6 665.0	7 024.2	7 451.0
6. Elderly population aged 65 and above ('000)	729.2	918.5	1 266.2

Notes: (^) New doctors with provisional or limited registration.

(*) Excluding doctors working in universities and the subvented sector.

(#) Figure for 2017.

Sources: Census and Statistics Department and Medical Council of Hong Kong.

3.2 Local shortage of doctor is exacerbated by the structural imbalance in the local healthcare system. Amongst the stock of doctors in Hong Kong in 2017, less than half (46%) work in the public sector which nevertheless cater for about 90% of local in-patient services.¹⁸ The public healthcare segment has thus been under tremendous pressure, as manifested in a significant lengthening in waiting time for "semi-urgent" cases of accident and emergency services in public hospitals by 75% to 114 minutes during 2008-2018.¹⁹ So did the average waiting time for public specialist outpatient services, which has increased by 83% to 121 weeks for routine cases in Orthopaedics and Traumatology over the same period.²⁰ In 2017, the Government projected that the annual shortfall in the public sector would increase from 285 doctors in 2016 to 1 007 by 2030. Yet it is felt that the actual shortfall is far more than that, given the manpower demand of the base year of 2015 in the projection model "is assumed to be at an equilibrium", which is widely believed to be not the case.²¹

¹⁸ Public healthcare sector here includes those services provided by the Hospital Authority and Department of Health.

¹⁹ Between 2008-2009 and 2017-2018, the average waiting time for the "urgent cases" of accident and emergency services in public hospitals has lengthened by 53% to 26 minutes; by 75% to 114 minutes for "semi-urgent cases", and by 44% to 127 minutes for "non-urgent cases". See Food and Health Bureau (2009 and 2018).

²⁰ Referring to the average waiting time for the 90th percentile of routine cases in 2008-2009 and 2017-2018.

²¹ Actually, there were considerable service gaps in the public healthcare system in 2015. See Food and Health Bureau (2017) and Legislative Council Secretariat (2017).

3.3 To address this manpower shortage and in view of rising attrition rate to 6% in 2018-2019, the Government and Hospital Authority ("HA") have been taking multiple measures to retain local doctors.²² They include (a) enhancing new supply of local medical graduates; (b) improving remuneration packages for HA doctors; (c) improving promotion prospects like creating more mid-level positions (i.e. associate consultants) for meritorious doctors serving HA for more than five years; (d) offering flexible work arrangement for those doctors who have special needs; (e) extending the retirement age to 65 for new doctors recruited since mid-2015;²³ (f) rehiring some of the serving doctors upon retirement since 2015-2016; and (g) recruiting part-time doctors for short-term flexible engagement on a need and ad-hoc basis.²⁴ However, these measures seem to have limited boosting effect on overall doctor supply in Hong Kong.

3.4 As regards the admission policy of OTDs in Hong Kong, it witnessed a distinct change in 1996, as summarized below :

- (a) **Before September 1996:** OTDs with medical qualification accredited from six selected Commonwealth countries could have examination-free practice in Hong Kong, averaging at 200 annually during 1990-1995 and accounting for 42% of annual new supply of doctors.²⁵ At end-2018, 2 388 OTDs admitted under this mechanism were still practicing in Hong Kong, representing 16% of the stock of overall doctor supply and two-thirds of overall OTDs (**Figure 3**).²⁶

For OTDs from other places, they need to pass a Licentiate Examination administered by the Medical Council of Hong Kong ("MCHK"). For the 20-year period between 1977 and 1996, a total of 983 OTDs were licensed for local practice on this basis.

²² More HA doctors have switched to work in the private sector due to greater work pressure, resulting in a steady rise in the attrition rate of HA from 3.9% in 2013-2014 to 6% in 2018-2019.

²³ At end-2018, HA rehired 61 retired doctors, representing 1% of total doctor workforce in HA.

²⁴ In March 2019, only 20 doctors had been deployed to public hospitals on a part-time basis.

²⁵ Before September 1996, OTDs having their medical qualifications obtained in only six selected out of 53 Commonwealth countries (i.e. the UK, Australia, New Zealand, Ireland, Singapore and West Indies) recognized by the British General Medical Council ("GMC") could fully register in Hong Kong, without the need to sit the local licensing examination. Visiting panels of examiners were sent to each of these places arranged by GMC to assess the teaching standard of the medical colleges, ensuring the quality of medical qualifications. See Legislative Council (1995).

²⁶ Dedicated statistics provided by MCHK to the Research Office on request.

(b) **After September 1996:** Admission policy was considerably tightened in 1996, comprising two key channels at present. **First**, OTDs need to pass a Licensing Examination comprising three parts (i.e. Examination in Professional Knowledge, Proficiency Test in Medical English and Clinical Examination) and complete an internship assessment in public hospitals for one year before "full registration".²⁷ So far, only 457 OTDs were licensed for practice in Hong Kong during the 22-year period between 1997 and 2018, representing about 3% of the stock of overall doctor supply at end-2018.

Secondly, specified institutions (e.g. HA, Department of Health and two local medical schools) may apply on behalf of those OTDs with proven experience and knowledge under "limited registration" for teaching, conducting research or clinical work for a period up to three years. At end-2018, only 124 doctors worked in Hong Kong under limited registration, taking up just 0.8% of overall doctor supply.

Figure 3 – Number of overseas-trained doctors in Hong Kong at end-2018

Qualification	Number	Percentage share in total doctor supply
1. Examination-free entry before 1996	2 388	16.3%
2. Examination-based entry during 1977-2018	1 146*	7.8%
3. Limited registration	124	0.8%
4. Total	3 658	24.9%

Note: (*) As some licensed OTDs may quit the practice due to reasons such as retirement, migration and deaths, the stock of existing OTDs is not equal to the sum of examination-based entries of 983 for the period 1977-1996 and 457 for the period of 1997-2018. By and large, the entry for the latter period takes up just one-third of overall examination-based entry.

Source: Medical Council of Hong Kong.

²⁷ Candidates must pass all three components of examination within five years, ensuring that OTDs have attained a professional standard comparable to that of local medical graduates for safeguarding public health. Under some rare occasions, MCHK may grant exemptions to certain parts of examination to candidates with very high qualifications. Consequently, none of the 36 applications for exempting Professional Knowledge Examination were approved, while only 4 out of 28 candidates were exempted from Clinical Examination during 2008-2018.

3.5 In response to growing advocacy of noticeably expanding the number of OTDs to relieve the pressure in the public healthcare system, both the Government and MCHK have introduced some flexibility in the admission regime to facilitate OTDs to work in Hong Kong more recently. They include (a) relaxing exemption requirements to some candidates in the Licensing Examination in 2015;²⁸ (b) shortening internship training from one year to six months for candidates with qualified specialist fellowship in 2015; and (c) extending the validity period of limited registration from one year to three years in 2018. Most recently on 8 May 2019, MCHK has decided to entirely exempt the internship requirement for those overseas-trained specialists who have passed the Licensing Examination and have worked in the public healthcare segment (i.e. HA, Department of Health and two universities) for three years.²⁹

3.6 The public are concerned that the annual entry of OTDs is too few and recent policy relaxation is still too modest. For the entire period of 1996-2018, only 457 OTDs managed to pass all three component examinations and internship assessment, representing only 3% of the stock of doctor supply at end-2018. This in turn could be attributable to a low pass rate in the Licensing Examination, averaging at only around 5% for all three components of examination on single attempt basis (**Figure 4**).³⁰ This examination-based entry system is thus considered to be too restrictive and unattractive to OTDs, due to a lack of comprehensive curriculum and its requirement of candidates to have completed overseas internship beforehand.³¹ For limited registration of OTDs, the stock number was 124 at end-2018, with only 12 of whom working in HA.³²

²⁸ Taking Clinical Examination as an illustration, the exemption requirement of post-registration experience in the relevant discipline of 10 years has been reduced to six years.

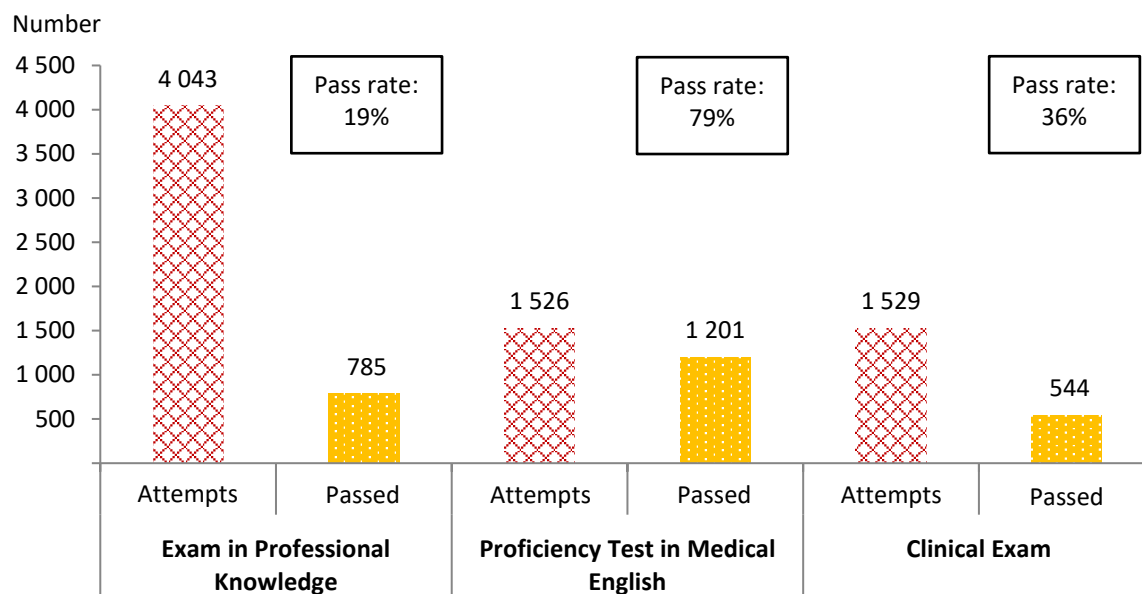
²⁹ While the initial four proposals were voted down at a MCHK meeting held on 3 April 2019, MCHK contemplated the proposed exemption again on 8 May 2019 to respond to public concerns. See South China Morning Post (2019a and 2019c).

³⁰ Based on the statistics of MCHK for 1996-2018, the pass rate is estimated to be only 19% for the "Examination in Professional Knowledge", 79% for the "Proficiency Test in Medical English" and 36% for the "Clinical Examination". The overall pass rate for a single attempt in all three components of examination is estimated to be only 5%, reflecting that candidates may need to make multiple attempts within the five-year period.

³¹ Reportedly, some medical schools in other places (e.g. the UK, the US and Australia) do not guarantee internship for international students, even though they have completed medical studies there. In other words, such OTDs could not sit the Licensing Examination in Hong Kong.

³² HA has recruited qualified OTDs under limited registration since 2011. During 2013-2018, OTDs with limited registration employed by HA averaged 18 annually.

Figure 4 – Number of attempts* and overall pass rate of Licensing Examination in Hong Kong, 1996-2018



Note: (*) Statistics refer to attempts made by candidates. Candidates can at most make five attempts for Clinical Examination after passing the first two parts of Licensing Examination during the five-year validity period.

Source: Medical Council of Hong Kong.

3.7 There have been intense discussions in the community regarding the suggestion to increase the entry of OTDs for improvement of public healthcare services. Here is a summary of major issues of concern:

- (a) **Need to maintain high quality of local medical services:** In the call for increasing the number of OTDs, the medical professionals caution that this should not compromise the overall quality of local medical services. For fairness and as a safeguard to service quality, OTDs must have professional qualifications on par with local doctors;
- (b) **Focusing service imbalance in the public sector:** In view of the current service imbalance, future admission schemes should ensure that OTDs would work in the public sector for a sufficiently long period to bridge the service gap;³³

³³ As an indicator of the job preference of OTDs granted full registration, on average about 75% of them joined HA each year during 2011-2016.

- (c) **Requiring complementary reforms in the public sector:** Some HA doctors feel that inadequacy of doctors is only one of the factors leading to gaps in public healthcare services. There are calls to reduce non-clinical duties (e.g. meetings and clerical work) on the one hand, and more effective redeployment of HA doctors to those departments facing more acute manpower shortage (e.g. accident and emergency services) on the other;³⁴
- (d) **Language requirement and communications skills:** It is deemed important for OTDs to know the local language so that they can effectively communicate with patients; and
- (e) **Maintaining stable career development of doctors:** Some local doctors are concerned that massive entry of OTDs could lead to over-supply of doctors, causing volatility in medical profession and compromising service quality.³⁵

4. Admission policy of overseas-trained doctors in Singapore

4.1 Singapore is a major medical hub in Southeast Asia, but its supply of local doctors cannot cope with the rising healthcare demand amidst ageing on the one hand, and strong service demand from other places in the region.³⁶ Local medical training is deemed to be too moderate to bridge the manpower gap. The Singaporean government began to allow OTDs from certain medical schools in selected Commonwealth or affluent countries to work in Singapore as early as in the 1970s. The scale of admission has been expanded significantly since 2003. As a result, the annual number of newly registered OTDs in Singapore has surged by 211% in 17 years to 408 in 2017, with its share in annual new supply of doctors hovering at a high level of 53%. The stock of OTDs has also increased significantly by 69% to 5 510 during 2011-2017, representing 42% of total supply of doctors (**Figure 5**).

³⁴ RTHK (2019) and 陳沛然 (2016).

³⁵ 前線醫生聯盟 (2017).

³⁶ The Singaporean government had been keen to develop medical tourism in the 2000s, but this enthusiasm seems to have receded subsequently in face of manpower shortage and public calls for prioritizing service to local elderly. See Labroo (2017) and Parliament of Singapore (2014a).

Figure 5 – Selected statistics on supply of doctors in Singapore, 2000-2017

	2000	2010	2017
1. Total number of practising doctors	5 577	9 374 [#]	13 219
- Ratio of OTDs	-	35% [#]	42%
2. Per capita of doctors per 1 000 population	1.4	1.8	2.4
3. Newly registered doctors	287	742	764
- Ratio of OTDs	46%	70%	53%
4. Ratio of doctors practising in public sector*	48%	61%	68%
- Ratio of OTDs working in public sector	-	43% [#]	48%
5. Overall population ('000)	4 027.9	5 076.7	5 612.3
6. Elderly population aged 65 and above ('000)	235.3	338.4	516.7

Notes: (#) Figure in 2011.

(*) Excluding doctors working in "Not-for-profit" sector.

Sources: Ministry of Health and Singapore Department of Statistics.

4.2 In a nutshell, there are four major channels for OTDs to practise in Singapore at present, as summarized below:

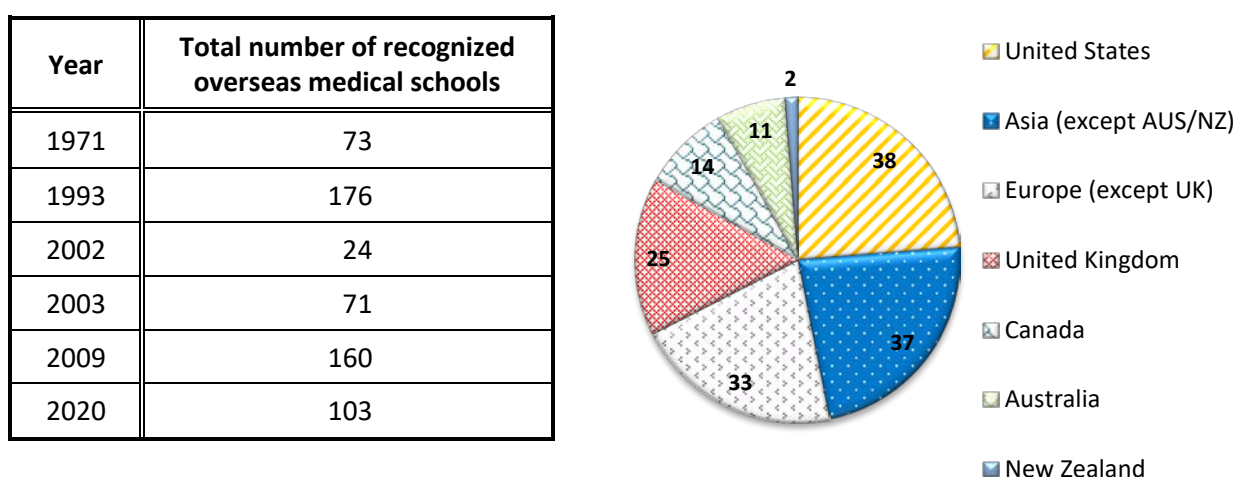
- (a) **Experienced graduates from recognized schools:** The Singapore Medical Council ("SMC") specifies a number of recognized overseas medical schools ("recognized schools") which are subject to periodic reviews.³⁷ While the number of such schools has been maintained at 160 since 2009, the SMC has just announced on 18 April 2019 it will be trimmed by 36% to 103 with effect from January 2020, in anticipation of rising number of local medical graduates in the nearer future (**Figure 6**).³⁸

³⁷ According to SMC, the selection criteria of these overseas medical schools include (a) recognition by the World Health Organization; (b) medium of instruction in the schools; and (c) compatibility of the curriculum and training of such schools and clinical practice in Singapore. These overseas medical schools are reviewed from time to time, taking into account of feedback from professional associations and from public healthcare sector. See Ministry of Health (2003).

³⁸ The number of recognized schools exhibited wide fluctuation over time in Singapore. It had increased steadily from 73 in 1971 to a peak of 176 in 1993, but plunged to only 24 before 2003, largely because of concerns of oversupply of doctors by then. However, its number has risen again to 71 in 2003, and further to a peak of 160 in 2009, due to emerging doctor shortage. Nonetheless, it will fall to 103 by 2020, in view of a 67% increase in annual intake of local medical students from about 300 in 2010 to 500 in 2018, upon opening of the third medical school and expansion of the other two medical schools in Singapore. See Singapore Medical Council (2017) and Parliament of Singapore (2018a).

Graduates of these recognized schools are exempted from sitting the Qualifying Examination.³⁹ Moreover, if these OTDs also come with (i) clinical practice for several years after full registration in their respective places and (ii) offer letters from public hospitals or healthcare institutions in Singapore, they are eligible for supervised practice in Singapore for 2-4 years under "**conditional registration**" with SMC-approved senior doctors as their supervisors.⁴⁰ Those OTDs with satisfactory assessment result during the supervision period may then be considered for "**full registration**" and work anywhere in Singapore. In 2017, there were 217 conditional registrations, accounting for 37% of new registration of OTDs in Singapore;

Figure 6 – Total number of recognized overseas medical schools in Singapore and its geographical distribution in 2019



Sources: Singapore Medical Council and Parliament of Singapore.

(b) **Fresh graduates from recognized schools:** For fresh graduates from the aforementioned recognized schools (i.e. within two years of degree completion), they are also exempted from the Qualifying Examination. They can work as a houseman in a public hospital in Singapore for one year under "**provisional registration**", and this application must be submitted through a

³⁹ In addition, OTDs with overseas postgraduate fellowships accredited by recognized specialist colleges in selected places are also exempted from the Qualifying Examination in Singapore.

⁴⁰ For overseas-trained non-specialist doctors, Singaporeans are subject to supervised practice for two years, but it will lengthen to four years for foreigners. For overseas-trained specialist doctors, both Singaporeans and foreigners are subject to a 2-year period of supervised practice.

local employer whose hospitals are accredited for housemanship. After that, they can apply for "conditional registration". There were 191 provisional registrants who were OTDs in 2017, taking up 32% of new registration of OTDs in Singapore;

- (c) **Graduates from unrecognized schools mainly conducting research in universities:** For those graduates from other medical schools not on the aforementioned list, they can still work in Singapore for short-term medical practice or medical research in universities under "**temporary registration**" for a period of two years.⁴¹ There were 184 temporary registrations in 2017, with a share of 31% in overall new registration of OTDs in Singapore; and
- (d) **Graduates from unrecognized schools aiming at clinical practice:** For those Singaporean graduates from other overseas medical schools not on the list aiming at clinical practice, they need to pass the Qualifying Examination set by SMC beforehand. As this channel is designed for a very small number of Singaporean OTDs, there is virtually no information in the public domain on the pass rate and the annual number of OTDs admitted under this channel.⁴²

4.3 The design of the admission scheme of OTDs in Singapore needs to balance a number of policy concerns. Here are their salient features:

- (a) **Examination-free admission system:** Unlike those examination-based systems such as Hong Kong, the Singaporean scheme relies on the accreditation of medical training of overseas recognized schools to maintain professional standard of admitted OTDs, rather than a pass in local examination;

⁴¹ OTDs with medical qualifications not in the list of recognized schools may register with temporary registration if they engage in research and training which may involve medical consultation with patients. The maximum service period is two years, with one-year renewal period. In 2017, they accounted for 1.2% of total number of registered doctors.

⁴² An enquiry was directed to SMC for details of the Qualifying Examination, but SMC replied that this information is confidential. Conceivably, those graduates from unrecognized schools but manage to pass the Qualifying Examination with job offer in Singapore are subsumed under the statistics on "provisional registration" and "conditional registration".

- (b) **Supervision-based quality assurance:** Supervised practice for 2-4 years required for OTDs under conditional and temporary registrations can help them familiarize with the medical system and practice in Singapore. Performance of OTDs is holistically assessed based on comments from SMC-approved supervisors and peer feedback. OTDs with unsatisfactory medical competency, poor communication skills or poor professional behaviour may be removed from the list of registration.⁴³

For OTDs under provisional registration, they need to be subject to one-year supervised housemanship, the same as local medical graduates. Underperformed OTDs will be removed from register to ensure the medical standard;

- (c) **Quality control by SMC:** All OTDs registered with SMC are bound by the regulation of SMC. Patients can lodge complaints to SMC against OTDs. SMC may impose disciplinary action on OTDs depending on the result of investigation;
- (d) **Language bridging courses:** To expedite familiarization with local culture and clinical practice, SMC and hospitals would organize language bridging courses (e.g. basic Mandarin, Chinese dialects, Malay or Hindi), orientation programmes and mentorship for OTDs. In each shift of public hospitals, while attention is paid to a good mix of local and foreign staff, interpreters are provided if necessary. Moreover, OTDs must pass an English proficiency test if the medium of instruction for their medical degrees is not in English;⁴⁴
- (e) **Alleviating shortage in the public sector:** The OTDs admission schemes are tailored to resolve doctor shortage in the public sector, as almost all admitted doctors for clinical practice need to serve in public hospitals for 2-4 years at the start. Although qualified OTDs under conditional registration may work in the private sector, the threshold of medical qualifications for

⁴³ On average, only about 1%-2% of OTDs recruited under conditional registration do not get full registration after completion of supervised practice. See Satku and Lee (2016).

⁴⁴ The Straits Times (2011 and 2015) and Parliament of Singapore (2012b and 2014).

such path is prohibitively high.⁴⁵ As a result, the share of OTDs in the overall stock of doctors in the public sector has risen from 43% to 48% during 2011-2017, whereas the respective share in the private sector was 26% and 31% over the same period;

(f) **Encouraging Singaporeans to receive overseas medical training:**

The admission policy actually encourages Singaporeans to return to their home country for practice upon graduation from overseas medical schools, along with some incentive schemes. For instance, annual pre-employment grant of up to S\$50,000 (HK\$290,000) is offered to those Singaporeans studying in overseas recognized schools in the final three years of study, but they need to serve in the public hospitals for 3-4 years including one-year housemanship training on return. Relocation incentive was also provided to subsidize them to return to Singapore.⁴⁶ As a result, about one-sixth of OTDs are actually Singaporeans by end-2017 (**Figure 7**);⁴⁷ and

(g) **Addressing career concerns of local doctors:**

The Singaporean government promises that priority will be given to local medical graduates for filling new medical positions, with OTDs playing a supplementary role only. As discussed above, the number of recognized schools of OTDs will be considerably trimmed to 103 as from January 2020, in anticipation of increase in future supply of local medical graduates resulting from 67% surge of intakes during 2010-2018.⁴⁸ Also, all OTDs must have an employer for medical registration before arriving at Singapore. Furthermore, the remuneration of local doctors in the public

⁴⁵ For direct entry into private practice: (a) foreign specialist doctors should have at least five years of clinical experience after obtaining a recognized specialty qualification; and (b) foreign non-specialist doctors should have at least five years of clinical practice in Family Medicine after obtaining Family Physician qualifications. As a result, only 138 or 6% of OTDs with conditional registration worked in the private sector in 2017.

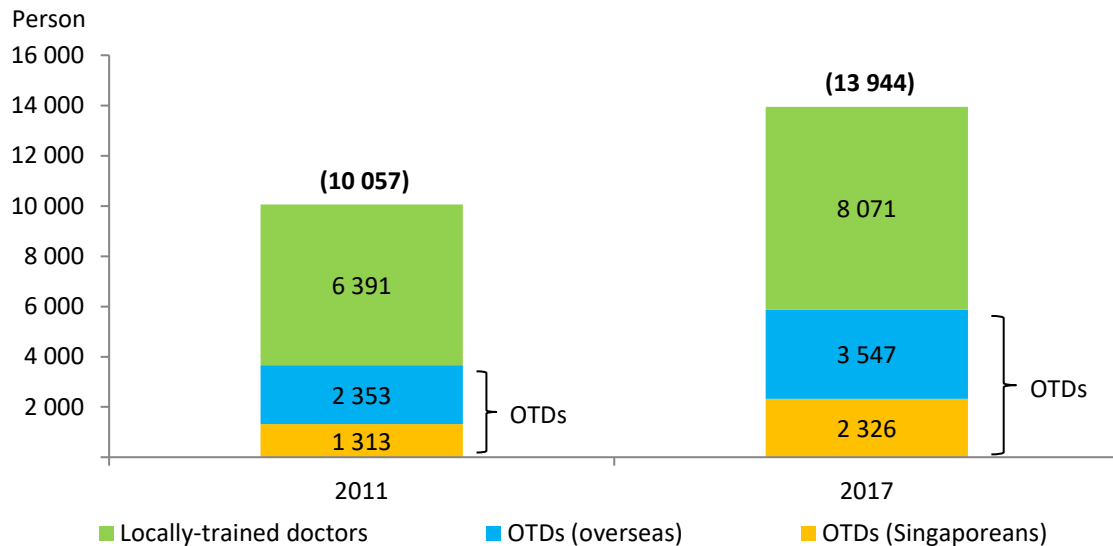
⁴⁶ For some medical schools, the grant can cover up to 60% of their annual fees, putting their fees at a level comparable to local counterparts. Between 2010 and 2016, about 900 Pre-employment grants and 300 Relocation Incentive were awarded. See The Straits Times (2016b), Tan (2016) and Parliament of Singapore (2017).

⁴⁷ For instance, there was a stock of full registration of 1 621 Singaporean doctors trained overseas in Singapore in 2017, and another stock of 516 such doctors with conditional registration. They represented about 28% and 9% of respective overall stock of OTDs in that year.

⁴⁸ Ministry of Health (2019).

sector has been improved as a means of staff retention under the Healthcare 2020 Masterplan.⁴⁹

Figure 7 – Total supply of doctors in Singapore by place of training in 2011 and 2017



Source: Singapore Medical Council.

4.4 The above measures seem to have effectively boosted the supply of doctors in Singapore. **First**, per capita doctor ratio in Singapore has increased by a total of 71% during 2000-2017, from 1.4 doctors to 2.4 doctors per 1 000 inhabitants, surpassing that of 2.0 in Hong Kong. **Secondly**, as OTDs accounted for 62% of new doctor supply and 42% of total doctor supply in 2017, the aforementioned per capita doctor ratio would be almost halved without them. **Thirdly**, as about one-sixth of OTDs are Singaporeans, the language and cultural adjustment issues are relatively small for them. **Fourthly**, given that most (90%) of the overseas-trained Singaporean doctors recruited between 2010-2012 continued to practise in Singapore after five years and 80% of them stayed in the public sector for five years or more, it helps to address the acute manpower shortage in the public sector.⁵⁰ **Lastly**, the number of complaints received by SMC hovered within a narrow range of 8-17 cases per 1 000 doctors during 1990-2017, suggesting increased recruitment of OTDs had insignificant implications on the quality of healthcare service in Singapore.⁵¹

⁴⁹ Parliament of Singapore (2005, 2007b and 2012a).

⁵⁰ Parliament of Singapore (2018b).

⁵¹ As a comparison, the ratio of complaints received per 1 000 doctors in Hong Kong averaged at 38 cases during 2008-2017.

5. Admission policy of overseas-trained doctors in Australia

5.1 In Australia, the problem of doctor shortage emerged in the early 2000s, partly due to reduced local manpower training in the earlier decades.⁵² Also contributed is increased healthcare demand due to ageing in society, with the elderly population aged 65 and above rising by a total of 61% during 2000-2017, with their hospitalization rate almost tripling that of the non-elderly population (**Figure 8**).⁵³ It is projected that the country will be short of some 5 500 doctors by 2030.⁵⁴ In response, the Australian government has increased the annual number of domestic medical graduates by some 148% during 2000-2017, but it is still not enough to meet service demand. There is a need to admit OTDs in larger quantity, especially so in rural and remote areas.

Figure 8 – Selected statistics on supply of doctors in Australia, 2000-2017

	2000	2010	2017
1. Total number of practising doctors	47 372	74 100*	90 417
2. Ratio of practising doctors per 1 000 population	2.5	3.3*	3.7
- Respective ratio in remote areas	1.2*	2.4	2.5
3. Ratio of clinical doctors practising in public sector	44%	54%*	51%
4. Overall population ('000)	19 157.0	22 328.8	24 597.5
5. Elderly population aged 65 and above ('000)	2 360.2	3 008.1	3 791.5

Note: (*) Figures in 2001 or 2011.

Sources: Australian Institute of Health and Welfare, Department of Health and Australian Bureau of Statistics.

5.2 Regarding the admission policy on OTDs, it used to be the responsibility of state governments in Australia to manage registration of overseas healthcare workers before 2010.⁵⁵ However, the Australian

⁵² In the 1980s and 1990s, there was an oversupply of doctors in Australia, prompting the Australian government to reduce the annual intakes of local medical students and to set a quota for OTDs. These tightening measures nevertheless led to shortage of doctors in the early 2000s.

⁵³ In 2016-2017, people aged 65 and over accounted for 42% of same-day hospitalizations and 41% of overnight hospitalizations. See Department of Health (2013) and Australian Institute of Health and Welfare (2018).

⁵⁴ Health Workforce Australia (2014) and Department of Health (2013).

⁵⁵ Before 2010, medical registration was managed by state governments, resulting in a variety of rules and requirements in admitting OTDs and creating red tape for practising across states. Some state governments were not vigilant enough in scrutinizing the qualification of OTDs, precipitating concerns over healthcare quality. See ABC News (2015) and Parliament of Australia (2010).

government decided to centralize the registration policy and revamp the entire healthcare regulatory framework during 2007-2010, after a severe medical fraud committed by an OTD resulting in 30 deaths in early 2000s.⁵⁶ The "National Registration and Accreditation Scheme" for healthcare workers was thus launched at the country level in 2010. More specifically for OTDs, they may apply for practice in Australia either through the following three pathways for medical registration:

- (a) **Examination-free entry for graduates from five selected places under "Competent Authority Pathway"**: The Medical Board of Australia currently recognizes medical degrees and licensing examinations accredited by respective medical councils in five selected places (i.e. the UK, the US, Canada, New Zealand and Ireland). OTDs passed the medical assessments in these five places need not sit the Australian Medical Council ("AMC") examinations and may apply for "**provisional registration**" for practice in Australia. After completion of one-year supervised practice, they could apply for "**general registration**".⁵⁷

Under this pathway, OTDs must have a job offer and pass the pre-employment structured clinical interview ("PESCI") before applying for provisional registration.⁵⁸ This is considered to be a fast track assessment for recruiting qualified OTDs to Australia. Based on limited and scattered statistics available, 604 OTDs were granted general registration annually on average under this pathway during 2008-2014.⁵⁹

⁵⁶ It was reported that 30 patients died while under care by an India-trained doctor during 2003-2005, triggering mounting public concerns. It was subsequently revealed that this OTD actually did not have a formal surgical qualification, and was sanctioned from practice in the US after a number of deaths before coming to Australia. This suggested a severe loophole in the decentralized admission mechanism managed by the state governments. See ABC News (2015) and Parliament of Australia (2010).

⁵⁷ The medical licensing examinations in these five recognized places are regarded as competent assessment of medical knowledge and clinical skills to a standard consistent with that of the AMC examinations for non-specialist registration. See Parliament of Australia (2012).

⁵⁸ PESCI is an assessment of medical knowledge, skills, clinical experience and attributes to determine whether OTDs are suitable to practise in a specific position. It includes a structured clinical interview.

⁵⁹ It is crudely estimated that examination-free entry of OTDs represented some 24% of annual growth of practising doctors during 2008-2014. See Australian Medical Council (2008-2014) and Australian Institute of Health and Welfare (2013 and 2016).

(b) **Examination-based entry for graduates from other places under the "Standard Pathway"**: For those OTDs from other places, they can apply for practice in Australia through passing a professional examination managed by AMC. OTDs have two examination options to choose from. **Under Option 1**, OTDs need to pass both parts of the AMC examinations (i.e. Multiple Choice Question Examination and Clinical Examination) for provisional registration. General registration will be considered after completion of one-year supervised practice. **Under Option 2**, OTDs need to pass the Multiple Choice Question Examination initially before proceeding to apply for "limited registration" for practice in rural and remote areas, which are short of doctors, and subject to supervision for at least one year. During the supervision period, OTDs need to pass the remaining Clinical Examination, or else complete a workplace-based assessment for general registration.⁶⁰

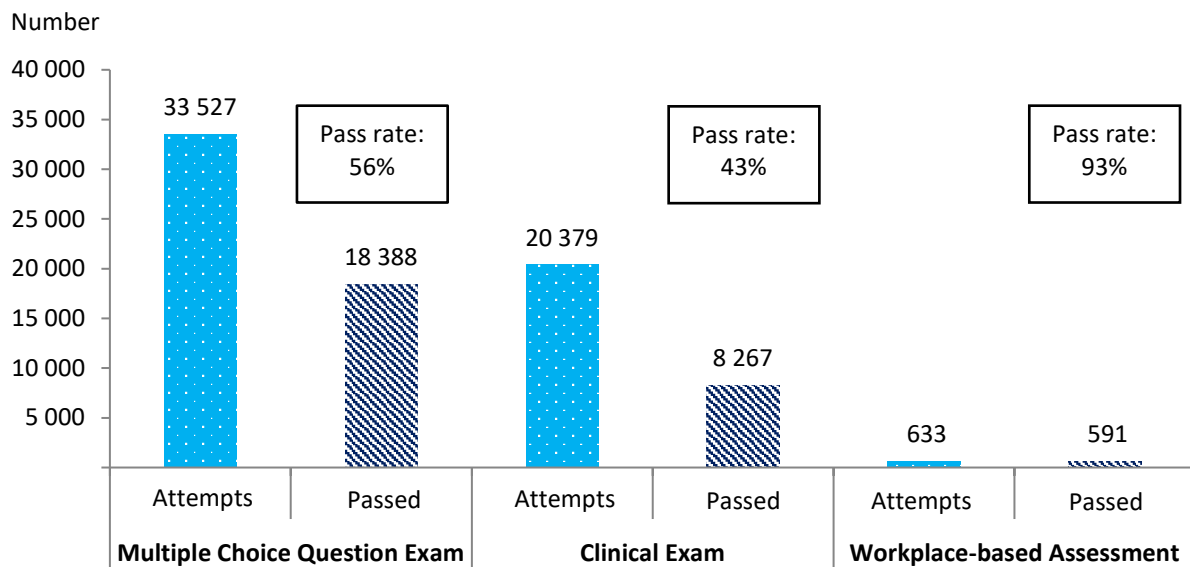
OTDs must have a job offer and pass PESCI before application for provisional registration. During 2008-2018, the overall pass rate was estimated to be 24%-52% on single attempt basis, depending on the combination of examinations (**Figure 9**).⁶¹ During 2008-2014, about 6 271 OTDs passed the above two modes of AMC examinations;⁶² and

⁶⁰ The workplace-based assessment takes a longer period to assess the clinical skills and communication skills of OTDs under a real and daily hospital setting, as compared with a three-hour Clinical Examination. The aim of the assessment is to provide an alternative route for OTDs unable to take the oversubscribed Clinical Examination or working in remote areas. See Australian Medical Council (2019) and Department of Health (2013).

⁶¹ The pass rates of the AMC examinations were 24% (Multiple Choice Question Examination and Clinical Examination) and 52% (Multiple Choice Question Examination and Workplace-based assessment) in a single attempt during 2008-2018.

⁶² It is crudely estimated that examination-based entry of OTDs represented some 36% of annual growth of practising doctors during 2008-2014. See Australian Medical Council (2008-2014) and Australian Institute of Health and Welfare (2013 and 2016).

Figure 9 – Number of attempts* and pass rate of AMC examinations in Australia, 2008-2018



Note: (*) Statistics refer to attempts made by candidates.

Source: Australian Medical Council.

(c) **Entry of specialists under "Specialist Pathway":** For those OTDs already having overseas specialist qualification, they may apply for "specialist registration" in Australia. The specialist qualification of OTDs and its comparability are assessed by relevant specialist colleges in Australia. These OTDs are subject to either one-year peer review period (if the qualification of OTDs is categorized as substantially comparable to that in Australia) or a two-year supervised practice with further assessments (if their qualifications are categorized as partially comparable). They should have secured a job offer and apply for either provisional or limited registration for supervision. OTDs completed all the college requirements will be recommended for specialist registration.⁶³ During 2015-2017, on average 561 OTDs were recommended for specialist registration annually.⁶⁴

⁶³ There is also a route for overseas-trained specialists to practise in places with urgent medical needs without specialist registration in Australia. However, this route will not automatically lead to the grant of specialist registration to OTDs. During 2008-2017, about 49% of overseas specialist qualifications were assessed as "substantially comparable", while "partially comparable" and "not comparable" were 39% and 12% respectively.

⁶⁴ It is crudely estimated that annual entry of specialists represented some 22% of annual growth of registered doctors during 2015-2017. See Medical Board of Australia (2019).

5.3 By and large, the admission schemes of OTDs in Australia display the following salient features in policy design:

- (a) **Multiple pathways for entry of OTDs:** There is a diversity of admission channels for OTDs to practise in Australia, including
 - (i) examination-free entry for graduates from five places;
 - (ii) examination-based entry for candidates from other places;
 - and (iii) a special entry channel for specialists;

- (b) **Supervised practice for quality assurance:** All OTDs with limited or provisional registration in Australia must be placed under supervised practice for at least one year, providing assurance to the Medical Board of Australia and the community that OTDs would not put the public at risk. This is, for example, in the form of one-year supervision for overseas-trained non-specialists, and one-year peer review for overseas-trained specialists with comparable qualification. Supervisors will regularly assess OTDs and relax the level of supervision if the latter perform satisfactorily;

- (c) **Quality control by regulatory authority:** OTDs in Australia are regulated by the Australian Health Practitioner Regulation Agency. The public can lodge a complaint to the Agency if OTDs are practising in an unsafe manner;

- (d) **Addressing doctor shortage in rural and remote areas:** As local doctors are reluctant to work in rural and remote areas, the Australian government is keen to fill the manpower gap with the newly recruited OTDs. Actually, a number of policy reviews were conducted to facilitate recruitment of OTDs to work in these areas over the past two decades. OTDs working in remote and rural areas can earn higher salaries.⁶⁵ Moreover, while a 10-year waiting period is imposed on OTDs to access national medical insurance benefits and private practice in general, the waiting period of those OTDs working in rural and remote areas can be shortened to three years in

⁶⁵ For instance, the General Practice Rural Incentives Program introduced in 2009 awarded A\$4,500-A\$60,000 (HK\$25,020-HK\$333,600) each year to doctors working in rural and remote areas depending on remoteness, working years, etc.

some cases.⁶⁶ Rural Workforce Agency, a dedicated authority for recruitment of OTDs to rural and remote areas, is established to assist prospective OTDs and employers;⁶⁷

- (e) **Bridging courses and cultural awareness programmes:** Bridging courses assisting OTDs to prepare for AMC examinations are offered in Australia, with government subsidy covering the course fee. A one-stop portal of DoctorConnect is offered to familiarize OTDs with the Australian healthcare system, cultural values and style of communication;
- (f) **Language requirement:** All OTDs applying for limited or provisional registration need to pass the English proficiency tests such as International English Language Testing System ("IELTS") before starting their employment in Australia, if the medium of instruction of their education is not in English; and
- (g) **Career concerns of local doctors:** *First*, all incoming OTDs are required to secure a job offer before registration in Australia. *Secondly*, OTDs could only turn to private practice 10 years after registration, effectively reducing competition for job positions in urban areas. *Thirdly*, the Australian government can also regulate the entry of OTDs through issuance of immigration visas. For instance, the Australian government implemented "Visa for GP Initiative" in March 2019, reducing the annual number of OTDs by 200 under the skilled migration programme. *Fourthly*, local employers are required to obtain approval from Rural Workforce Agency confirming the genuine need to fill a primary healthcare position at a given location in Australia by an OTD, directing OTDs to rural and remote areas and offering protection to local doctors.⁶⁸

⁶⁶ Since 1997, all OTDs are subject to a 10-year moratorium restricting their access to national medical insurance benefits and private practice since their initial registration in Australia.

⁶⁷ Rural Workforce Agencies are state-funded organizations providing recruitment and supporting services to health professionals needed in rural and remote communities. Around 6 000 health professionals were supported each year.

⁶⁸ Department of Health (2019c).

5.4 Admission of OTDs seems to have effectively addressed the doctor shortage problem in Australia. **First**, OTDs took up 33% of the stock of overall doctor supply in Australia in 2017, considerably up from 24% in 2007.⁶⁹ **Secondly**, on the back of these OTDs, per capita doctor ratio has risen by 48% from 2.5 to 3.7 per 1 000 people during 2000-2017. For remote areas, the respective rise was more significant by 108%, to 2.5 per 1 000 people during 2001-2017. **Thirdly**, as regards the quality of medical service of admitted OTDs, overall complaints lodged against all doctors ranged between 54-82 cases per 1 000 practising doctors during 2010-2017, bearing no direct relationship with the rising number of OTDs. That said, OTDs graduated from some developing places (e.g. Nigeria, Egypt, Pakistan, the Philippines and India) were reported to have received more complaints than local doctors in Australia.

6. Observations

6.1 Per capital doctor ratio in **Hong Kong** is lower than advanced places in Asia, causing pressure in the public healthcare system. There are increased calls in the community to follow the overseas practice to admit OTDs in larger quantity, bearing in mind the need to maintain quality of local healthcare services as well. While OTDs now account for some 25% of overall doctor supply in Hong Kong, most of them (about six-sevenths of OTDs) were admitted before 1996. For the more recent period of 1997-2018, admitted OTDs represented just 4% of the total doctor supply in 2018.

6.2 In **Singapore**, the admission scheme of OTDs is largely based on examination-free entry of OTDs from 160 recognized overseas medical schools (which will be reduced to 103 as from January 2020). Service quality of OTDs is safeguarded by accredited overseas training on the one hand, and supervised local practice for a specified duration on the other. While OTDs now account for some 42% overall supply of doctors in Singapore, about one-sixth of these OTDs are actually Singaporeans.

⁶⁹ Organisation for Economic Co-operation and Development (2019) and Medical Deans Australia and New Zealand (2019).

6.3 In **Australia**, the OTDs admission scheme includes both examination-free and examination-based entries. More specifically for the latter, the overall pass rate is estimated at 24-52% on single attempt basis, higher than around 5% in Hong Kong. Similar to Singapore, supervised local practice is the safeguard of service quality. OTDs now account for 33% of overall supply of doctors in Australia.

Prepared by LEUNG Chi-kit
Research Office
Information Services Division
Legislative Council Secretariat
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Tel: 2871 2129

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Admission of overseas-trained doctors ("OTDs") in selected places

	Hong Kong	Singapore	Australia
1. Total number of practising doctors	14 651 (2018)	13 219 (2017)	90 417 (2017)
2. Number of doctors per 1 000 people	2.0 (2018)	2.4 (2017)	3.7 (2017)
3. Share of doctors in the public sector	46% (2017)	68% (2017)	51% (2017)
4. Total number of OTDs	3 658* (2018)	5 873 (2017)	29 000 (2017)
5. Share of OTDs in total supply of doctors	25%*	42%	33%
6. Major policy and mechanism of admitting OTDs			
(a) Exam-based entry and its estimated pass rate on single attempt basis [^]	✓ (5%)	✓ (N.A.)	✓ (24%-52%)
(b) Exam-free entry from recognized overseas medical schools	✗	✓	✓
(c) Exemption from overseas internship	✗	✓	✓
(d) Special arrangement for recruiting clinical specialist	✗	✓	✓
(e) Financial incentive for local OTDs practising in home country	✗	✓	✗
7. Measures to safeguard service quality of OTDs			
(a) Supervised practice	✓	✓	✓
(b) Supervision by regulatory regime	✓	✓	✓
(c) Language proficiency requirement	✓	✓	✓
(d) Bridging and supporting programmes	✗	✓	✓
(e) Requiring OTDs to work in segments under most pressure	✓	✓	✓

Notes: (*) While about 85% of OTDs in Hong Kong were admitted in 1996 and before, the rest of some 15% were admitted during 1997-2018.

([^]) Estimation of overall pass rate is computed from pass rates of each component examination on attempt basis.

(N.A.) Information not available.

Sources: Medical Council of Hong Kong, Singapore Medical Council, Australian Medical Council and Medical Board of Australia.

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