

White Paper

Private Market Opportunity for CAR T-cell Therapy in Asia Pacific

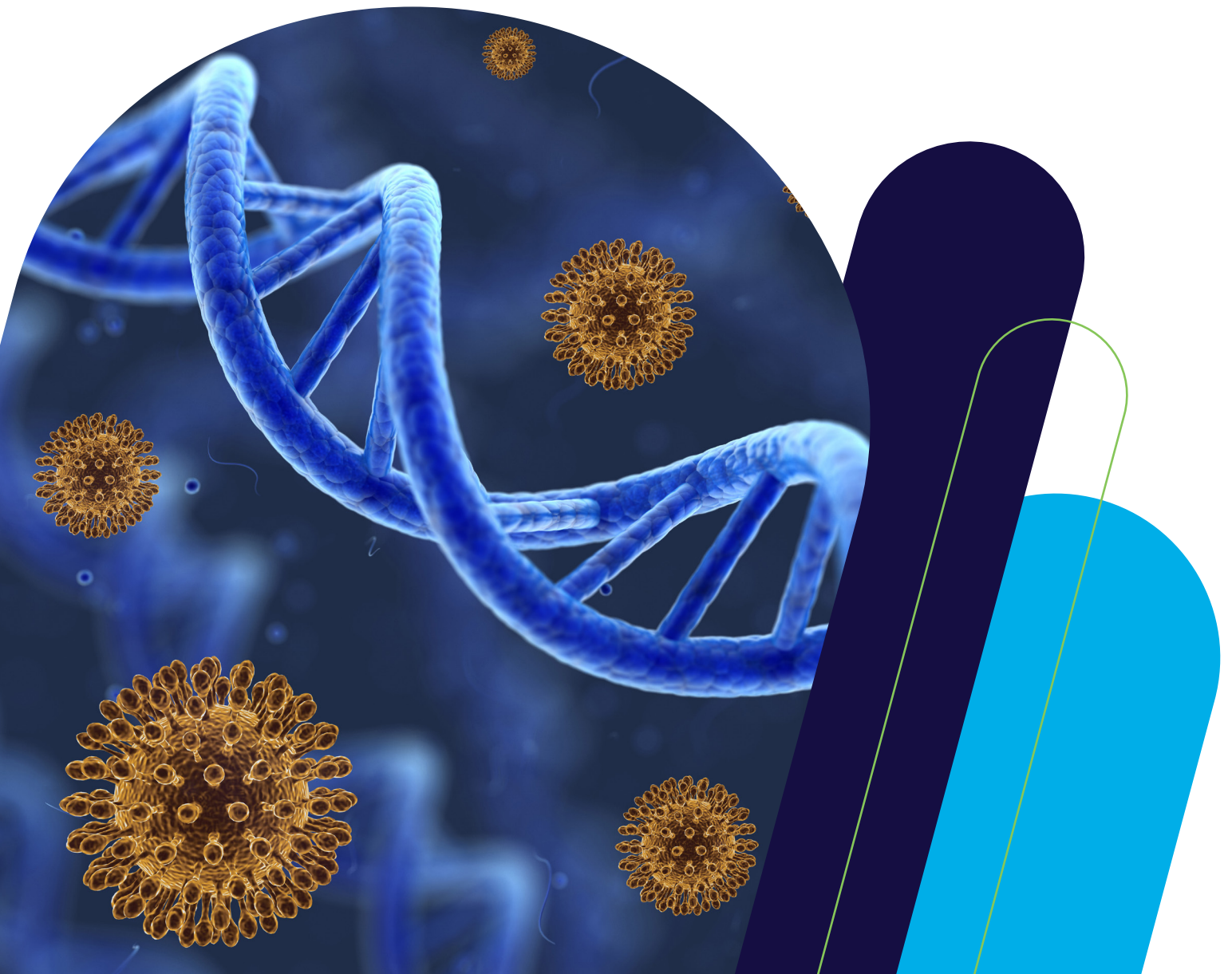


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Introduction

IQVIA explore the opportunity of private CAR-T delivery across the Asia Pacific region. Our experts assess this opportunity in the context of highly varied public funding arrangements and level of preparedness for CAR-T adoption across APAC countries. This report focuses on three case study markets including **Australia** as an “Innovative” market, **Singapore** as an “Advancing” market, and **South-East Asia** (ex-Singapore) as “Initialising” markets.

Summary

Asia Pacific (APAC) is home to ~60% of the world’s population with wide ranging levels of diversity in economic development and consequent access to healthcare services. On one end of the spectrum, we have a “western peer” developed market like Japan while the other end has major “global south” constituents like India and Indonesia with <USD 5,000 GDP/capita. Across this spectrum, we see significant markets like Australia, China, Korea and Taiwan which face different local challenges while inching towards higher levels of healthcare maturity and equity. This spectrum becomes even more polarised when we consider a “highly innovative and specialised” therapy like “CAR-T” which has captured the medical community’s attention over the last

decade and is set to expand indications even as positive real-world evidence piles on. We know that for most markets in APAC, public delivery continues to be limited given the ever-increasing funding and capacity pressures. Considering this context, we have explored opportunities for the private sector to lead the charge in expanding patient access to these new therapies (with and without public collaborations). Opportunities and potential solutions are tailored to local practicalities and look significantly different based on market archetypes. While Australia has the potential to open CAR-T delivery in private setting for local patients, Singapore could pilot public-private partnerships (PPPs) for the “bottom of the pyramid”, and South East Asia could look to strengthen “hub and spoke” medical tourism pathways to access locally unavailable treatment.

Introduction to CAR-T

What is CAR-T?

Chimeric antigen receptor (CAR) T-cell therapy is a next generation therapy which currently treats patients with certain haematological cancers including acute lymphoblastic leukaemia (ALL), adult and acute diffuse large B-cell lymphoma (DLBCL), multiple myeloma (MM), and mantle cell lymphoma (MCL). CAR-T treatment involves the removal and genetic modification of T-cells, which are the body's immune cells that normally target and kill pathogen-infected cells and other abnormal cells. These modified T-cells are then injected back into the patient where they selectively attack the cancer cells throughout the patient's body (Figure 1).¹ CAR T-cell therapy has demonstrated lifesaving and life-changing results with a single dose infusion.²

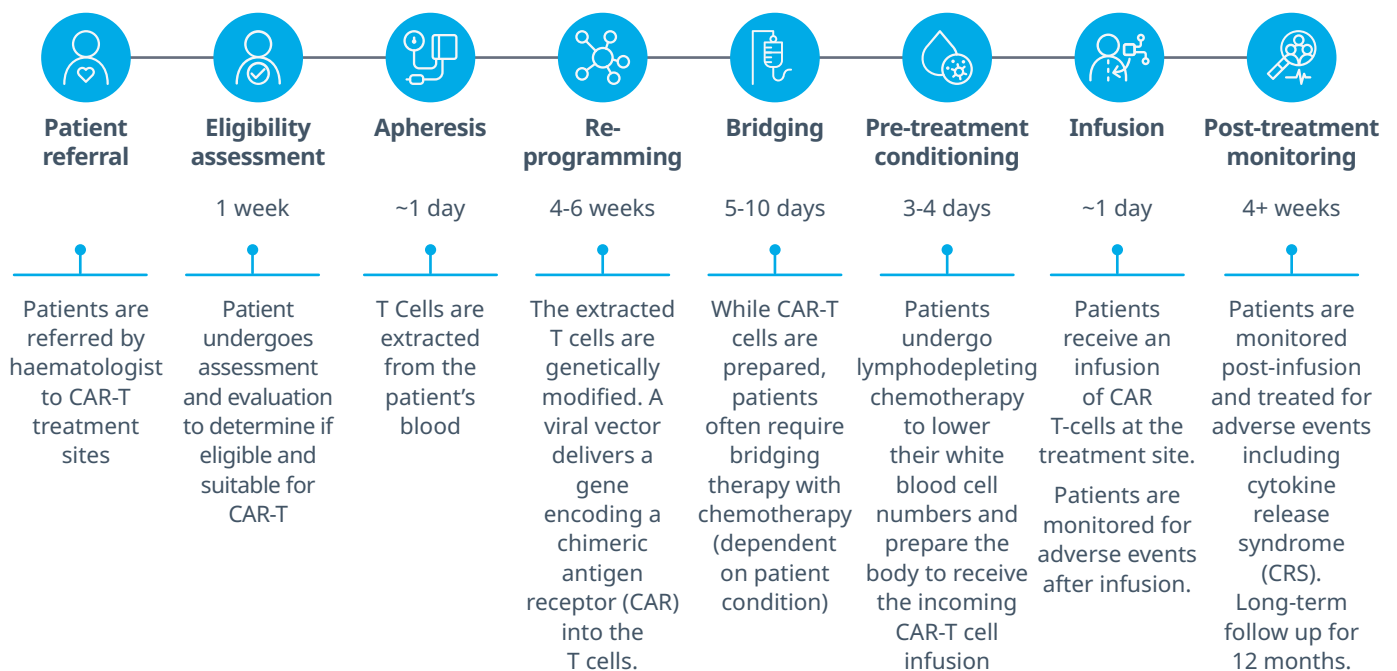
Multiple Myeloma is the most recent clinical indication for CAR-T cell therapy which is expected to have a disruptive impact on care due to the relatively larger patient population.² CAR-T also shows promise in treating other forms of cancer. There were 852 CAR-T trials globally in 2022, 72% of which were evaluating CAR-Ts for haematological cancers and the remaining 28% in solid tumours, including gastric and pancreatic cancer.³

Existing funding mechanism for CAR-T in APAC

Public funding for CAR-T in the APAC region is currently limited to 'public pay' markets. In Australia, Kymriah received public funding for ALL in 2019,⁴ and DLBCL in 2020.⁵ Yescarta then received public funding for DLBCL and follicular lymphoma (FL) in 2021.⁶ Both products have also entered other 'public pay' APAC markets including Japan and Korea.^{7,8} Similarly in Taiwan, Kymriah was approved in 2021 and recently obtained reimbursement under a managed entry agreement (MEA) via a risk-sharing model between Novartis and the National Health Insurance Association (NHIA).⁹

Within Southeast Asia (SEA), Singapore is the first market to receive regulatory approval for CAR-T but public funding remains limited.¹⁰ There are ongoing discussions to develop a sustainable financing framework through a national healthcare insurance to fund and improve access to CAR-T.¹¹ In Malaysia and Thailand, CAR-T is currently undergoing advanced stages of clinical trials and used on a case-by-case basis.¹² Similar to Singapore, it is expected to receive limited public funding as its in nascent stages of commercialisation while public payers assess its cost effectiveness and long-term financial impact on government budget.^{13,14} Meanwhile, there are no approved CAR T-cell therapies in other SEA markets including Vietnam, Philippines, and Indonesia.

Figure 1: CAR-T patient journey from referral to infusion and follow-up¹



Introducing country archetypes and rationale

In this white paper, our primary focus is the assessment of the private market potential for CAR T-cell therapy within the APAC region. Recognising the substantial diversity in each country's pharmaceutical ecosystem and their respective preparedness for CAR-T adoption, it becomes evident that a uniform approach is not universally applicable. To address

this heterogeneity, we have comprehensively analysed APAC countries, looking at key aspects to categorise them. In this paper, we will seek to address commercial challenges using one specific case study market per archetype — Australia as the “Innovative” archetype, Singapore as the “Advancing” archetype, and collective SEA-5 markets (Malaysia, Vietnam, Philippines, Indonesia, Thailand) as the “Initialising” archetype.



INNOVATIVE ARCHETYPE

“Innovative” countries such as Australia, Japan and Korea exhibit a relatively strong state of readiness across multiple dimensions compared to other country archetypes. Each country has an established regulatory pathway for CAR-T registration, along with a mature medical infrastructure for CAR-T administration. Further enhancing the CAR-T landscape, these countries have established dedicated CAR-T centres of excellence (CoE) with renowned KOLs actively advocating adoption of this novel therapy. While there is a CAR-T public funding arrangement in place, expanding patient access would be one of the key challenges moving forward. The new wave of CAR T-cell therapies (i.e., for multiple myeloma) opens the need for increased capacity to relieve pressure on already-stretched healthcare systems. In Australia specifically, service delivery is restricted to a limited number of public hospitals which is thought to lead to significant inequity of access.



ADVANCING ARCHETYPE

In contrast to “Innovative” countries with a robust CAR-T landscape, “Advancing” archetype markets exhibit relatively lower levels but still

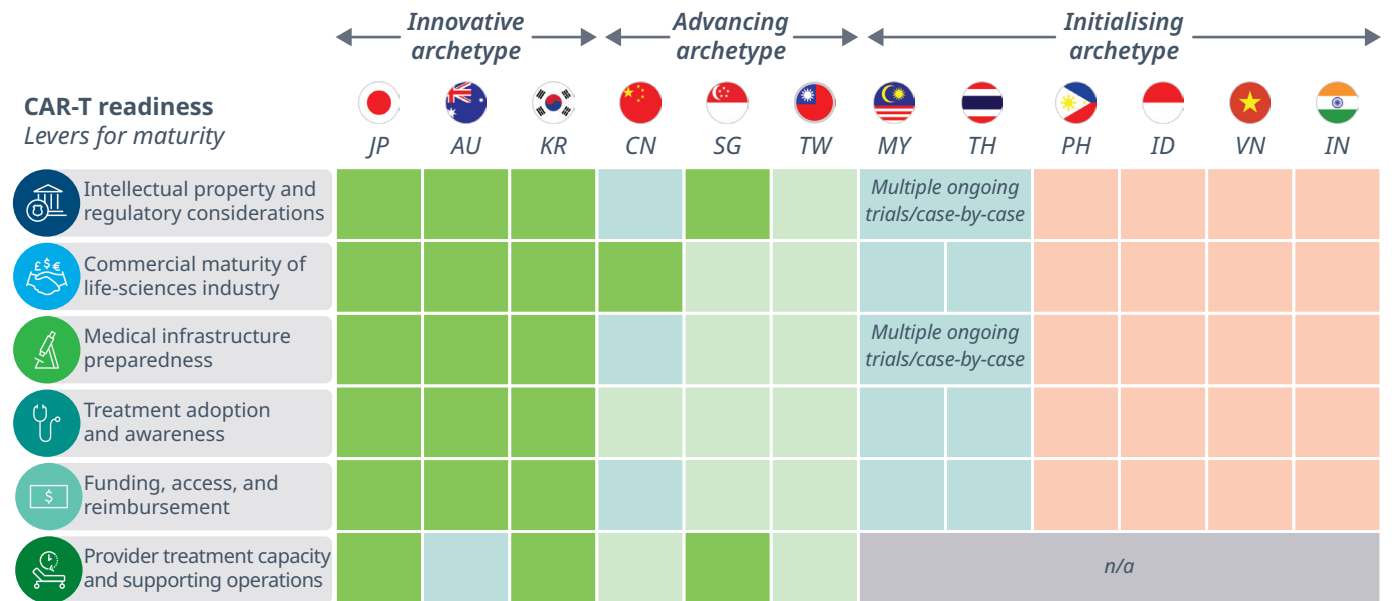
reasonable regulatory readiness or commercial maturity. However, there are still noteworthy barriers to CAR-T adoption due to limited medical infrastructure, awareness, and government funding. Innovation in activating diverse funding options (including private payer collaborations) while defining clear regulatory pathways for novel therapies will help these markets mature further.



INITIALISING ARCHETYPE

Finally, the initialising archetype comprises of countries such as Thailand, Malaysia, Philippines, Indonesia, Vietnam, and India. These countries reveal significant gaps in their preparedness for CAR T-cell therapy, spanning critical aspects such as regulatory access, delivery capability, and healthcare funding. Currently, most of these markets do not have a “mass-market” approved local CAR-T treatment option. Access is currently limited to active clinical trials and case-by-case compassionate use (e.g., Malaysia, Thailand) with the majority run by local pharmaceutical companies. At the point of authoring this whitepaper, only a select segment of affluent patients have the option of using the medical tourism route to gain access in USA, Europe, Singapore, or Australia.

Figure 2: APAC market maturity and CAR-T readiness: innovative, advancing and initialising archetypes



Note: Country abbreviations JP – Japan; AU – Australia; KR – South Korea; CN – China; SG – Singapore; TW – Taiwan; MY – Malaysia; TH – Thailand; PH – Philippines; ID – Indonesia; VN – Vietnam; IN - India

Legend: Low High

Private market opportunity for CAR-T

Innovative archetype: Australia case study

CAR-T FUNDING POLICY IN AUSTRALIA

In Australia, the need for in-hospital care for CAR T-cell therapy has had implications on the assessment and funding pathway. Under the National Health Reform Agreement (NHRA) Addendum 2020-25, “highly specialised therapies” (HSTs) like CAR-T and other cell and gene therapies with elements of in-hospital care are assessed by The Medical Services Advisory Committee (MSAC) and jointly funded (50:50) by the State/Territory governments and the Australian Commonwealth Government.¹⁵

The NHRA Addendum 2020-25 is an agreement between the States and Territories and the Commonwealth Governments regarding the funding of public hospitals. Under this arrangement, the States and Territories ultimately decide when and which public hospitals will provide treatment. “High cost, highly specialised therapies” are defined in the NHRA Addendum 2020-25 as “TGA approved medicines and biologicals delivered in public hospitals”.¹⁵ There are currently only six treatment centres in Australia across four States delivering CAR T-cell therapy for DLBCL patients.^{1, 16-19}

PRIVATE AND PUBLIC HEALTH FUNDING AND PROVISION IN AUSTRALIA

Australia has a hybrid public-private healthcare system, with a universal healthcare system known as Medicare and a substantial private health insurance sector. Medicare is funded by the Commonwealth Government and includes GP services, care delivered in private hospitals, specialist consults, and certain pathology and dental services. Hospital services are provided by both public and private hospitals, with public hospital funding split approximately 45:55% between Commonwealth and State/Territory Governments. Private health insurance and out-of-pocket payments accounted for 29% of total healthcare expenditure in 2020-21 (\$64.9 Bn AUD).²⁰ In 2022, 45.1% of Australians (11.86 million people) purchased private hospital cover, and 55.1% of Australians (14.41 million people) purchased private extras cover.^{21, 22} Furthermore, practitioners in both public and private Australian hospitals can prescribe some Commonwealth funded Pharmaceutical Benefits Scheme (PBS) medicines, including the Efficient Funding of Chemotherapy Program and the Highly Specialised Drugs Program (HSD).²³ Despite the interconnected public-private healthcare system in Australia, private hospitals are not currently permitted to treat patients with publicly funded CAR T-cell therapy under the NHRA Addendum 2020-25.

The growing demand for CAR T-cell therapy is forecasted to have a significant impact on treating hospitals. Each new therapy brings increased demand for hospital beds, clinical resources and infrastructure needed for its delivery (i.e., apheresis, cryopreservation), and clinical and administrative staff.² The approval and reimbursement of new CAR T-cell therapies in Australia opens the need for increased capacity for which private delivery could play a key role. Private hospitals in Australia are already delivering CAR-T clinical trials at Hollywood Private Hospital in Perth, and Epworth HealthCare in Victoria is planning to offer its first CAR-T clinical trial later in 2023.^{24,25} Meanwhile, Icon Cancer Centre Wesley's leading role as Queensland's largest provider of autologous stem cell transplantation (ASCT) is evidence of a delivery capability in cellular therapy.²⁶ This demonstrates a strong delivery capability and capacity in the private hospital sector which is currently untapped based on the current CAR-T funding arrangements.

The Mid-Term Review of the NHRA Addendum 2020-25 (finalised in October 2023, and published by the Health Minister in December 2023) states that *"there*

could be an opportunity to explore opportunities to leverage capacity in CAR-T cell treatment centres in private hospitals where eligible public patients could be treated" (scenario B in table 1.)²⁷

Further, Recommendation 30 from the report states that *"A unified national HTA process for the assessment and delivery of high-cost, highly specialised therapies under the NHRA should be progressed, that addresses issues of national consistency, risk sharing, access (including the potential for private sector delivery), affordability, timeliness and information sharing"*.²⁷

The next section of this whitepaper lays out IQVIA's assessment on the potential benefits of private CAR-T delivery in Australia, the various delivery and funding scenarios, and the challenges associated with CAR-T funding in the private sector.

BENEFITS OF PRIVATE CAR-T DELIVERY IN AUSTRALIA

The inclusion of private CAR-T delivery in the NHRA Addendum post-2025 could have several benefits for Australian patients, the health care system, and the economy:



- i. **Increased capacity** — Private delivery could help meet demand for the new wave of CAR T-cell therapies and improve capacity and relieve pressure on the already-stretched public healthcare system.
- ii. **Reduced cost to the public system** — Australians with private health insurance accessing CAR T-cell therapy in a private hospital is expected to reduce the cost to the public purse of delivering CAR-T in a public hospital.
- iii. **Increased referrals from the private channel** — The Commonwealth should recognise the need for equitable access to CAR-T for patients regardless of the public or private clinical setting. A private CAR-T service would increase awareness and increase timely referrals from Australia’s substantial private care setting, which is currently thought to be a CAR-T referral ‘blind spot’.

CAR-T delivery models in Australia

Several CAR-T delivery models exist in Australia depending on the care setting (public vs private) and

the funding of the CAR-T ‘product’ and ‘service’ costs. This section outlines the different CAR-T delivery models and the funding implications for each.

Scenario A — Full Public (Status quo) is the current “public funding” arrangement in Australia where delivery of publicly funded CAR-T for DLBCL is restricted to six public hospitals. Both the ‘product’ and service costs are jointly funded (50:50) by the Commonwealth and State/territories governments, via a block funding arrangement.

Scenario B — Publicly funded product in private setting could involve a patient who is eligible to receive publicly funded CAR-T but has private health insurance, has a preference to be treated in a private hospital, or is a public patient and is referred to a private hospital based on availability or capacity. This scenario is not currently possible under the NHRA Addendum 2020-25, where only public hospitals can deliver “publicly funded” CAR-T. It’s likely that state and territory governments which co-fund CAR-T (50%) may be

CAR-T delivery models in Australia and funding implications

SCENARIO	CAR-T PUBLICLY FUNDED?	PATIENT MEETS THE PUBLIC FUNDING CRITERIA	CARE SETTING	POSSIBLE UNDER THE CURRENT NHRA ADDENDUM 2020-25?	FUNDING MECHANISM FOR CAR-T PRODUCT COST?	FUNDING MECHANISM FOR SERVICE COSTS?
a. Full Public (Status quo)	Yes — TGA approved and publicly funded	Yes	Public hospital	Yes	Block funded under the NHRA	Block funded under NHRA Addendum 2020-25
b. “Publicly funded” product in private setting	Yes — TGA approved and publicly funded	Yes	Private hospital	No	Block funded under the NHRA or a future Commonwealth funding stream (i.e. PBS)	Private health insurance, Medicare and self-pay
c. Full private model	Yes or no (but TGA approved)	No	Private hospital	Yes (but private hospitals are not currently accredited)	Self-pay	Private health insurance, Medicare and self-pay
d. Private patient in public hospital	TGA approved	No	Public hospital	Yes, but uncommon	Self-pay	Self-pay

opposed to this scenario of co-funding CAR-T delivery in private facilities. However, as per Recommendation 30 of the NHRA Mid-Term Review, a future unified national HTA and funding process which involves an entirely Commonwealth Government funded CAR-T product may enable the “public funding” of CAR-T (product cost) in a private hospital.²⁷

Scenario C — Full private model is a scenario where the CAR-T would be TGA approved, but either not reimbursed, or the patient doesn’t meet the reimbursement criteria. Like scenario B, the patient would prefer to be treated in a private hospital or public hospital access would be hindered by limited capacity or sensitivities of receiving self-funded CAR-T in a public hospital. In this scenario, the CAR-T product and service costs would be mostly self-funded, with private health insurance expected to play a very limited role due to the lack of Medicare Benefits Schedule (MBS) codes for CAR-T care components (i.e., apheresis, cryopreservation) (*see next section*). This scenario would be feasible under the current NHRA Addendum 2020-25, but leading haematology private hospitals would need to obtain the necessary accreditations to deliver a CAR-T service. This is an uncommon funding model in Australia as drug costs are typically publicly funded (hospital funded or PBS) and service costs would be partly funded by private health insurance, but there is a lack of framework for private health insurance to fund (*see next section*). This scenario would be the likely model for a CAR-T Medical Tourism program in Australia where overseas, Medicare ineligible patients would be required to fully self-pay and be treated in a private hospital.

Scenario D — Private patient in a public hospital — this is similar to Scenario C except that the patient would be treated in a public hospital. This is currently the only way for self-paying patients to access CAR-T in Australia, but it is unlikely to be a common delivery model given capacity issues in public hospitals (particularly for inpatient/intensive care unit beds) and potential sensitivities of prioritising self-pay or Medicare ineligible patients in public hospitals.

Role of private health insurance for CAR-T funding

CAR-T SERVICE DELIVERY COSTS

Despite that approximately half of Australians have some form of private health insurance cover, the role of private health insurance for CAR-T funding is expected to be limited.^{21,22} Health care services require Medicare Benefits Schedule (MBS) codes for private health insurance to provide coverage, which are currently lacking for CAR T-cell therapy. Further, the coverage for private healthcare is better under a private hospital-based care service rather than one where CAR-T is delivered in an outpatient setting — due to the coverage that most private health insurers provide.

In the private in-hospital setting, insurers cover 25% of the ‘scheduled fee’ (the combined cost of the MBS items), as well as accommodation and theatre fees, depending on the insurance policy. The remaining 75% of the scheduled fee is covered by Medicare. The patient may then incur a gap payment, which is the out-of-pocket expense for when the cost of the medical treatment exceeds what is claimed back from Medicare and private health insurance. Out-of-hospital services receive a Medicare benefit of 85% of the MBS fee, while health insurers do not pay any benefit. The remaining 15% would therefore be paid out-of-pocket by the patient.²⁸

The development of MBS item codes needed for the private delivery of CAR-T is currently not possible under the current NHRA arrangement where only public hospitals can deliver CAR-T. Until this changes there will be no Medicare benefit, and, in most cases, health insurers won’t provide any benefit or coverage.

PRIVATE HEALTH INSURANCE FUNDING OF CAR-T “PRODUCT” COST

Medicine costs for privately treated patients in Australia are typically funded by the PBS, including the Efficient Funding of Chemotherapy Program, and the Highly Specialised Drugs Program (HSD). While PBS typically covers the cost of the drug in a normal outpatient setting.²³ However, such “public funding” of the CAR-T “product” cost is not possible under the

current arrangement. Further, the role of private health insurance to cover the CAR-T “product” cost would be limited in the scenario where the CAR-T is not reimbursed. Most private health insurance extras policies only cover \$200-\$1,500 AUD for non-PBS prescription drugs, depending on the provider.²⁹⁻³¹

To conclude, the delivery of CAR T-cell therapy is not currently permitted in Australian private hospitals, despite that they have demonstrated a strong capability and capacity to do so. However, funding challenges exist in the private sector with the development of MBS codes currently blocked under the NHRA Addendum 2020-25. The inclusion of private delivery in the NHRA Addendum post-2025 could help meet the demand of the new wave of CAR T-cell therapies, reduce the cost to the public system, and increase referrals from the substantial private sector.

Advancing archetype: Singapore case study

Singapore’s unique position within the “Advancing” archetype stems from its modern healthcare infrastructure and receptiveness to medical advancements within the region of South East Asia (SEA). A favourable starting point for pharmaceutical companies to unlock regional SEA opportunities, Singapore is often the pilot market to spearhead a regional go-to-market model — firstly to address the affluent domestic market, and secondly to attract the broader regional market through a hub and spoke medical tourism model given accessible geographic connectivity.

Singapore’s domestic affordability — Public-private partnership key to drive greater access

LOCAL (CITIZEN) POPULATION

The high-cost of CAR T-cell therapy at ~USD 300k (fully loaded estimate) remains the primary barrier to treatment affordability, however, the extent of impact varies across population segments who are eligible for different healthcare financing programmes — MediShield Life (MSL), MediSave (MS), Integrated Shield Plan (ISPs) — to support the overarching MediFund, the national level means-tested endowment fund for the lower income groups.³² Among the

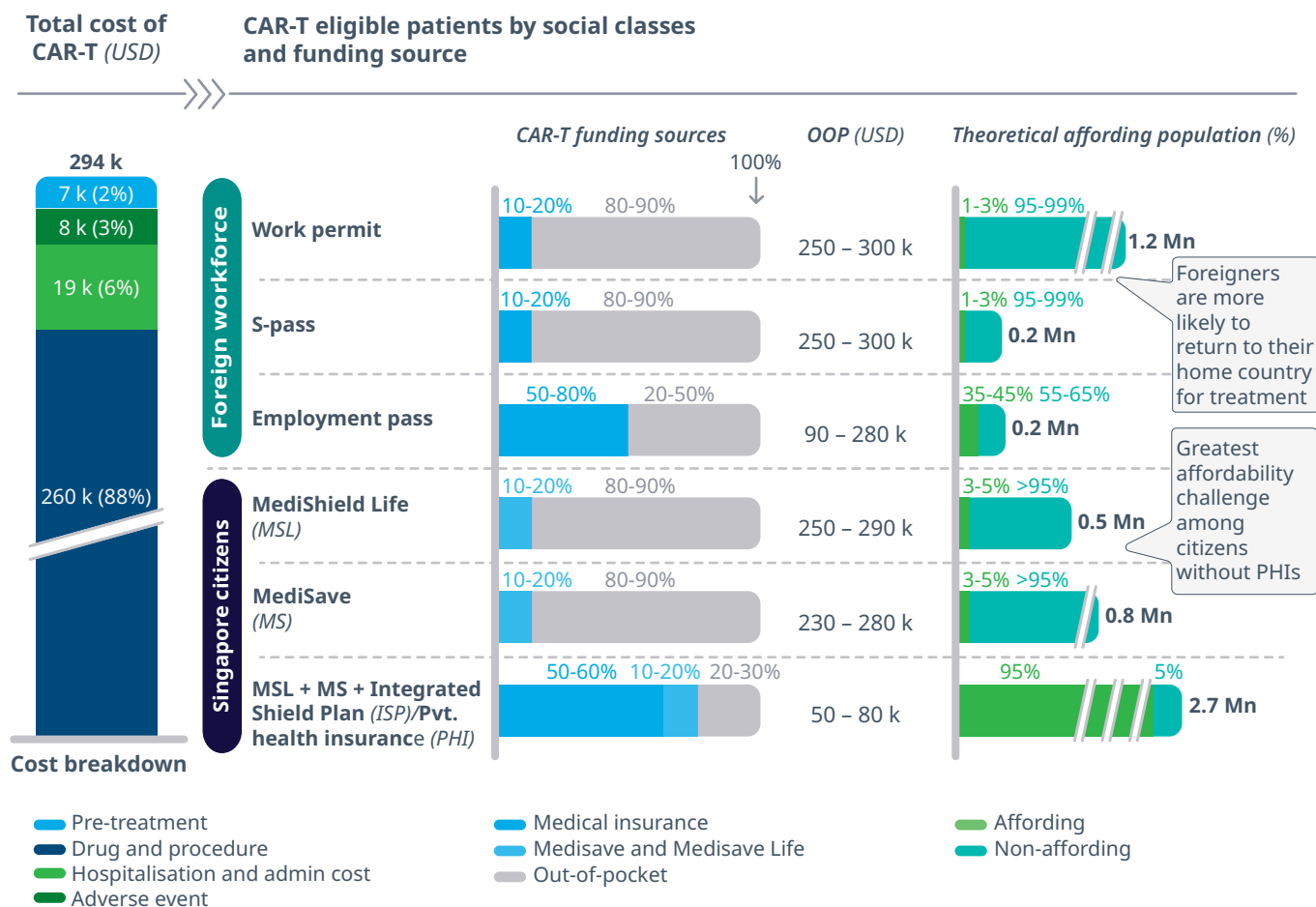
local population, highest affordability penetration is expected within the MSL + MS + ISP segments given the robust coverage plans of private financing schemes (up to ~USD 200k), driving down out-of-pocket (OOP) to as low as USD 80K. Affordability penetration within this sub-population is currently estimated to be 25%, with a ~3x upside through other financing methods of loans, savings, and innovative payment solutions. Conversely, MS and MSL populations face significant affordability challenges due to ceilings capped at ~USD 50k. The affording subpopulation is estimated to be <5%, with a further 5-7% upside attainable through alternative innovative financing models.

FOREIGN WORKFORCE

Basic corporate insurance mandated for the foreign workforce provides ~USD 50k coverage for medical treatment and hospitalisation.³³ Personal private health insurance penetration tends to be low at <10% penetration among the foreign workforce, typically held by employment pass (EP) holders given their significantly higher income. Out-of-pocket costs could amount to ~USD 300k, which estimates to <1%



Figure 3: Estimated CAR-T funding sources in Singapore and theoretical affording population



Note: PPP – private public partnerships; OOP – out-of-pocket
Source: IQVIA analysis

affordability among work permits (WP — unskilled foreign workers in labourer industries) and S-pass holders (mid-level skilled foreign workers in developing industries), and ~5% among Employment Pass holders (high-skilled professionals). While we estimate a 20-30% upside among EP holders through improved private health insurance coverage and alternative innovative financing models (Figure 3), this upside tends to be unrealised due to a preference of returning to their home-country for treatment.

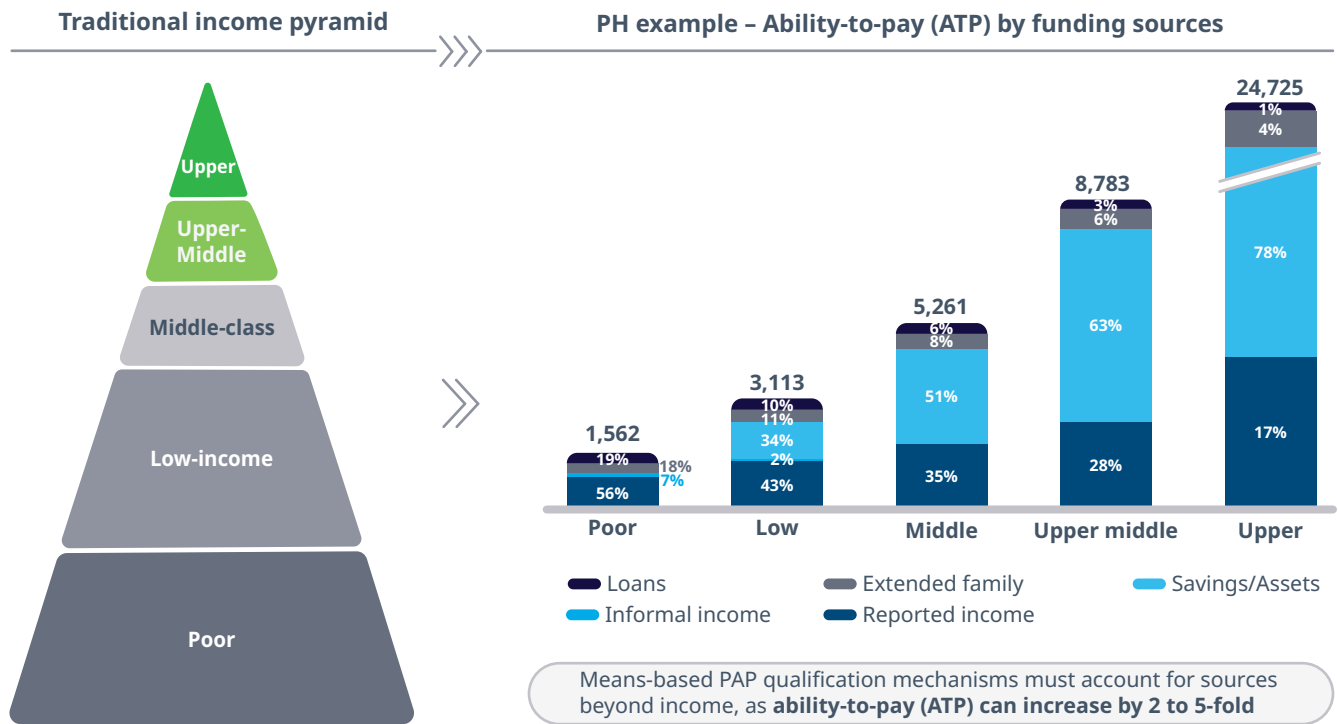
Initialising archetype: SEA (Ex-Singapore) case study

NASCENT BEGINNINGS — “REGIONAL MEDICAL TOURISM”

South-East Asia (ex-Singapore) comprises >30% of total oncological disease burden in the world,³⁴ but continues to belong to the “initialising archetype” for

some of the novel oncological therapies like CAR-T. For the purpose of this whitepaper, we focus on major markets in the region including India, Indonesia, Vietnam, Philippines, Thailand, and Malaysia. Currently, none of these markets have an approved CAR-T option with medical tourism being the only available option to access therapy. With the introduction of this therapy at the heart of SEA in Singapore, which in the last decade has established itself as a hub for such offerings, we expect the access to treatment to expand significantly to the SEA’s affluent elites who have a physically closer and convenient choice to access the treatment (vs travelling predominantly to the west). At the same time, with limited penetration of international private health insurance, the cost is expected to stay completely out-of-pocket for most travellers, with the exception of a small number of beneficiaries of early access compassion grants such as the Medical Treatment Overseas Program (MTOP) in Australia.

Figure 4: Nuanced view on affordability and expansion in ability to pay



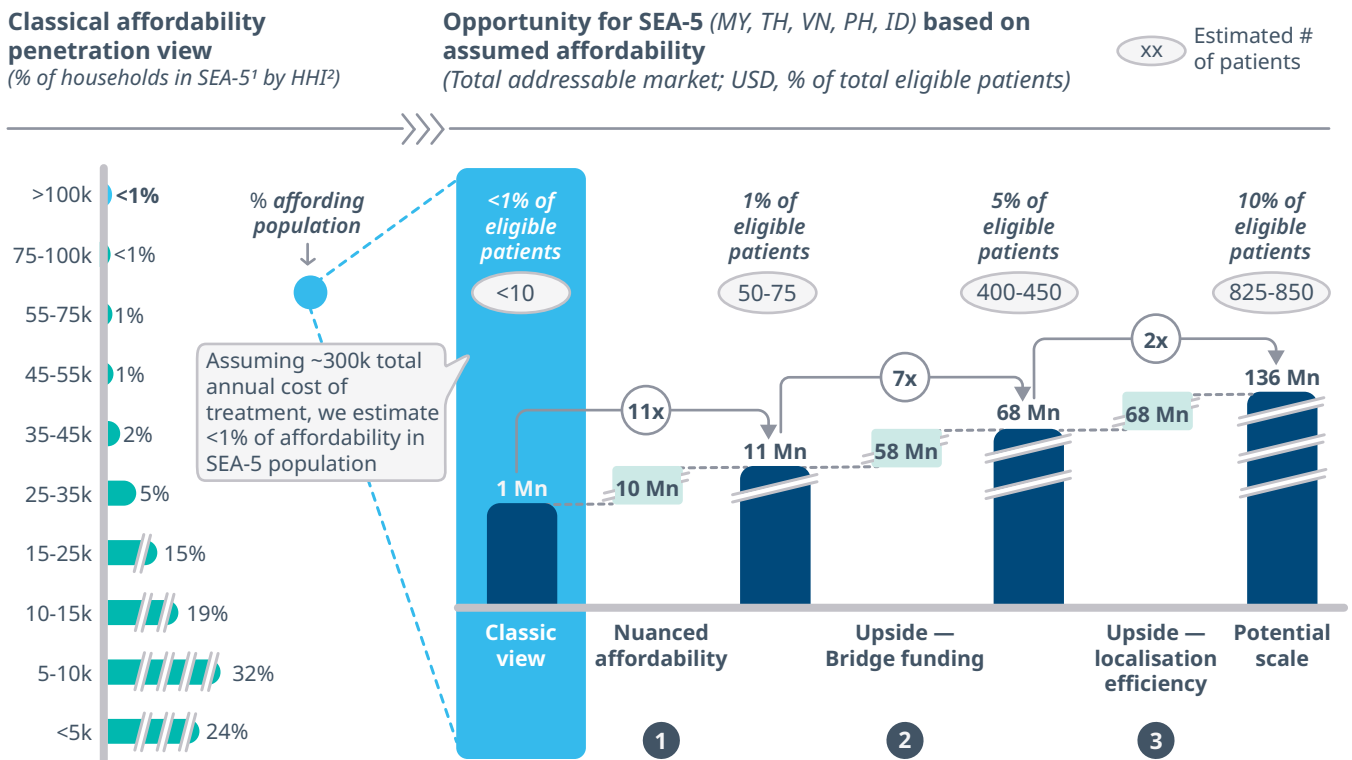
ADDRESSABLE MARKET — “BIGGER THAN WHAT IT SEEMS”

SEA (ex-Singapore) is globally perceived to be a cluster of markets characterised by high population (and consequently prevalence), lower affordability levels and limited payer support mechanisms. Within the ambit of this thinking, “classical affordability view” posits that <1% of the patient population can afford the relatively expensive cost of treatment, let alone the additional burden of travelling to a developed country as medical tourists. Market makers have continued to hold this view for decades while these markets have truly “come of age” in recent times. This classical view of affordability does not consider the local nuances of wealth accumulation (i.e., savings, combined affordability of the economic unit etc.) that ends up predicting the market much smaller than its true depth. Based on IQVIA estimates, “classical” affordability view could under-represent affordability of patient segments by a factor of almost 1/5th (Figure 4).

We believe that just by looking at these holistic affordability factors with local nuances, the market size expands 10 times to show a patient opportunity

of 50-75 patients, representing a ~\$10Mn market size. Furthermore, if we also consider potential solutions that spread payment over a period of time (e.g., instalment-based payments), which is a common affordability solution deployed in these markets, we could potentially estimate a market comprising 400-500 patients representing ~\$70Mn in value. Finally, some markets in this archetype have local CAR-T clinical trials. Once approved over the next 3-5 years, we expect strong efficiencies being realised with treatment being available locally along with the typical price discount that could be expected from local offerings in these markets (compared to the price being offered in developed markets for medical tourists). Factoring this on top of the aspects discussed earlier, the market could increase to 825-850 patients representing a ~\$136M opportunity. (Figure 5)

Figure 5: Total addressable market upside for CAR-T in SEA-5 (Malaysia, Thailand, Vietnam, Philippines and Indonesia)



Recommendations

Innovative archetype: Australia case study

The delivery of CAR T-cell therapy is not currently permitted in Australian private hospitals, despite that they have demonstrated a strong capability and capacity to do so. IQVIA is supportive of Recommendation 30 from the NHRA Mid-Term Review for a unified national HTA process for the assessment of high-cost, highly specialised therapies which addresses national consistency and access issues, and the potential for private sector delivery of CAR T-cell therapy. The Australian Commonwealth Government should recognise the need to ensure equitable access to CAR T-cell therapy for patients regardless of the public or private clinical setting. Private CAR-T delivery could also play a key role in meeting the demand for the new wave of CAR-T cell therapies, while reducing cost to the public system. For private health insurance to play a funding role, MBS item numbers for CAR-T services are required but their development is not

possible under the current arrangement. Until the NHRA Addendum is changed, health insurers will provide limited benefit or coverage for CAR T cell therapy.

Advancing archetype: Singapore case study

Singapore is a mature “oasis” in a developing SEA landscape where ~60% patients have requisite affordability levels for CAR-T due to availability of funding mechanisms and personal incomes/wealth. However, the growing value perception of CAR-T should pave the way for unlocking governmental cancer funding vehicles for the under-served local population. We have examples of public-private-partnerships (PPPs) as additional safety nets to encourage shared responsibility and complement the existing healthcare funding ecosystem at four levels:- (1) individual financial responsibility via compulsory health-savings program (MediSave); (2) government-mandated catastrophic health insurance schemes (MediShield and MediShield Life); (3) government-initiated endowment fund for means-tested lower



income patients as a social safety net (MediFund); (4) additional coverage of private healthcare insurance schemes to fill gaps (Integrated Shield Plan).

Our research suggests funding insufficiencies in CAR-T coverage of individual compulsory health-savings program and private health insurance result in patients accessing their personal savings.³⁵ Consequently, the current imperative remains for pharmaceutical companies to build a case for pharmaco-economics with real world evidence data to allow CAR-T inclusion on the government subsidy list. Similarly, a significant proportion of the skilled expat population lack the coverage for CAR-T in their employer led private insurances. Therefore, there is an opportunity and growing interest to shape the private health insurer landscape towards the direction of CAR-T inclusion either through comprehensive employer packages or top-up premium insurance offerings.



Initialising archetype: SEA (ex-Singapore) case study

In the near term, there is an opportunity to develop a hub and spoke medical tourism model to serve as an access opportunity for self-paying patients from SEA while access for the broader population opens.³⁶ With Singapore's reputation as a formidable medical tourism centre, pharmaceutical companies must invest in developing patient activation streams to unlock the potential.³⁷ Additionally, given affordability is the most significant access barrier in this region, innovative payment solutions (e.g., patient bridge and spread cashflows) can significantly enhance this opportunity. In the longer run, we expect Thailand, Malaysia and India to have local CAR-T options which will pave the way for broader and convenient access for the local patient population.

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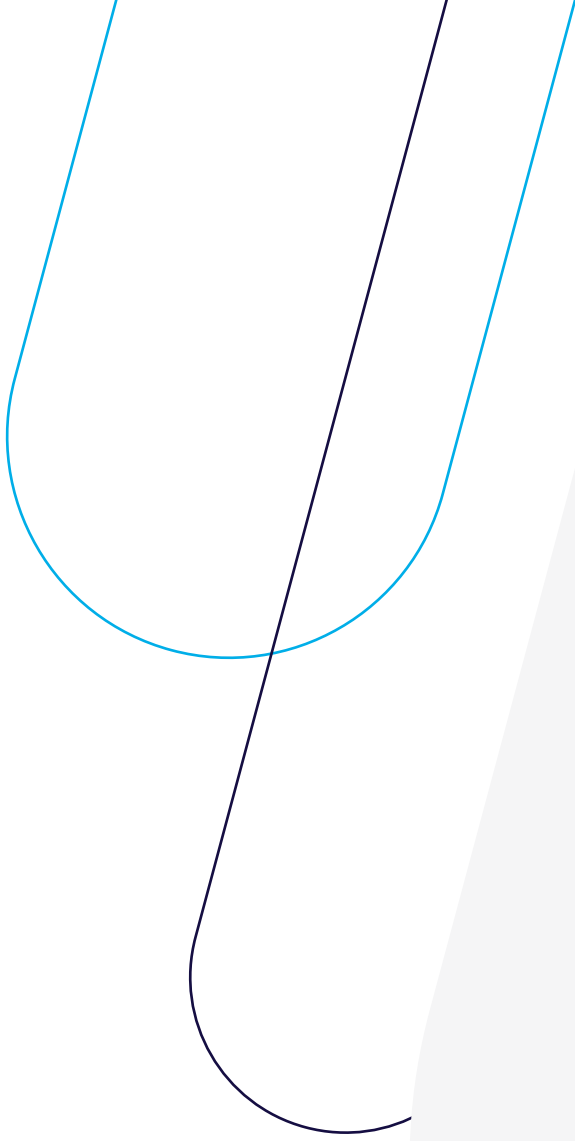
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