

State of HealthTech Victoria



dandolopartners



launchvic
FUELLING THE STARTUP STATE



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LaunchVic foreword



In developing LaunchVic's two year strategy in 2017 we spoke to many stakeholders and reviewed the international competitive landscape to identify areas where Victoria had natural global competitive advantages.

We wanted to understand what key sectors could be leveraged to accelerate the growth of the startup ecosystem and what sectors would help put us on the map globally as international leaders.

The overwhelming evidence found that Victoria should position itself internationally as a health orientated startup ecosystem.

Contributing \$30 billion each year to the State's economy, health is the largest and fastest growing source of employment.

Victoria is already renowned for its formidable strengths in health research, and a strong medtech, biotech and pharmaceutical industry with strong export potential.

LaunchVic's research into the startup ecosystem in Victoria has shown that one in five startups are in health, wellbeing or sports and that Victorian health and wellbeing startups attract more VC funds than other sectors.

On top of this, the 2018 Global Startup Genome report claimed Melbourne to be one of 'the most important global health and life sciences ecosystems' in the world.

So it would seem Melbourne has all the ingredients necessary to become an internationally-competitive hub.

To help make this a reality, LaunchVic commissioned dandolopartners to provide recommendations on the types of interventions needed to maximise this dynamic and exciting sector.

I hope you enjoy *State of HealthTech Victoria* – a must read for government and leaders in health and aged care services, medtech, biotech and pharmaceuticals.

Dr Kate Cornick
CEO LaunchVic



The opportunity for Victoria

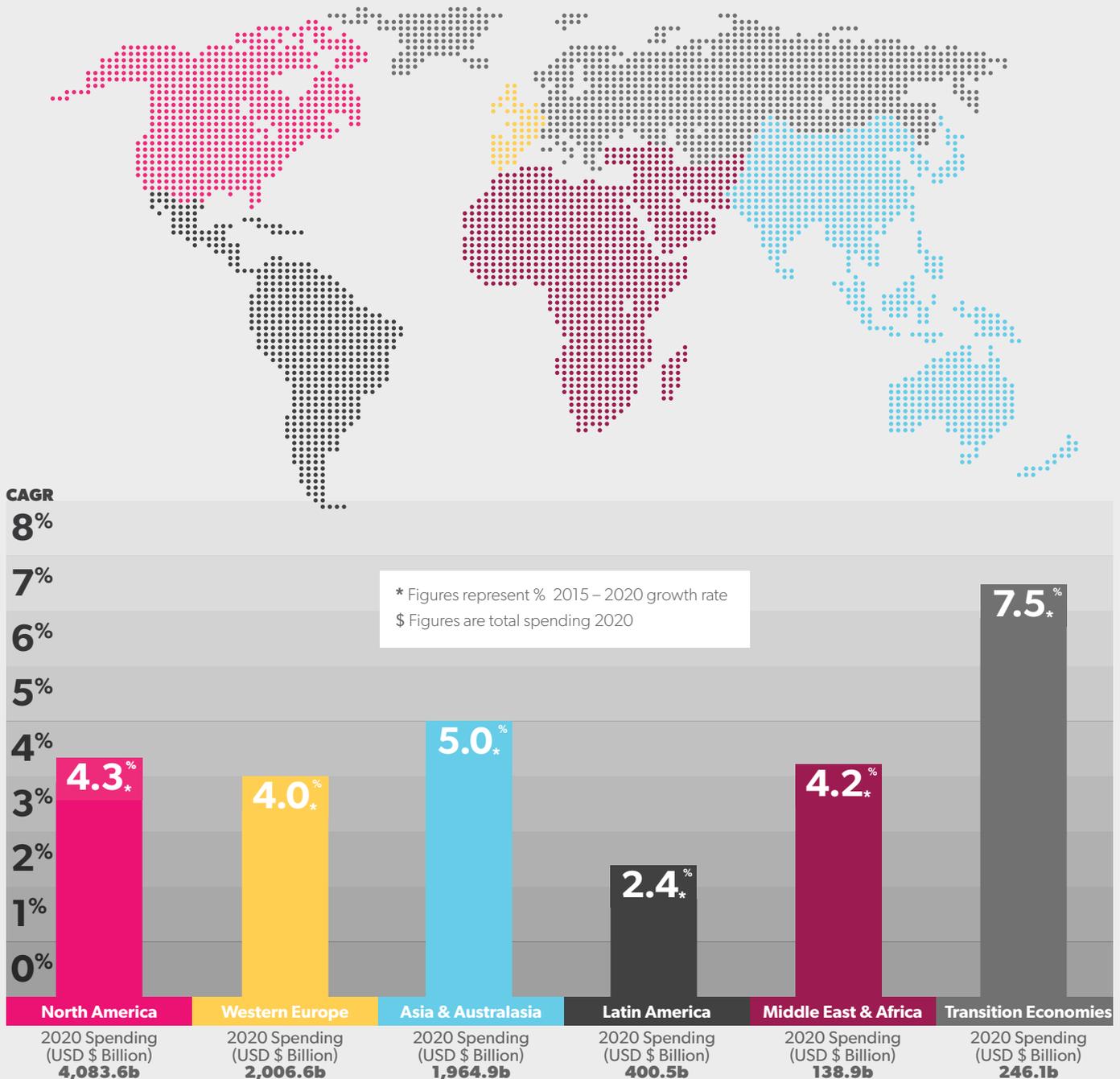
Victoria has an opportunity to generate significant economic and health benefits by supporting health and wellbeing startups to grow and scale.

GLOBAL MARKET FOR HEALTH PRODUCTS & SERVICES

The global health and wellbeing market is growing rapidly

Global health care spending is expected to reach USD \$8.7 trillion by 2020, up from USD \$7 trillion in 2015¹. This creates significant opportunities for Victorian health and wellbeing startups that can supply other health systems with high-quality products and services.

Healthcare Spending 2015-2020²



¹ World Industry Outlook, Healthcare and Pharmaceuticals, The Economic Intelligence Unit, June 2017

² Ibid

Global trends are driving increased healthcare spending over the long term



In developed markets, public and private health systems **face rising costs and increased revenue pressure**. This trend is creating more demand for innovative and cost-effective solutions to patient-centred care.



Ageing populations are leading to a higher incidence of health-related issues in developed economies. As evidenced very clearly in Japan, where the share of people over 65 will reach nearly 30% by 2021, – as well as Western Europe at nearly 21%.³



Higher-income households and rising consumer expectations are pushing up health costs in developing economies. This is coupled with an increase in chronic diseases (diabetes, chronic heart disease, Alzheimer's disease), which is exacerbated by lifestyle risks associated with rising incomes.



Population growth is driving an increased demand for healthcare services in developing economies. At a regional level, population growth is particularly strong in Africa (2.59%), the Middle East (2.07%) and Asia (1.05%).⁴

Global Market Size by Sector⁵

Sectors

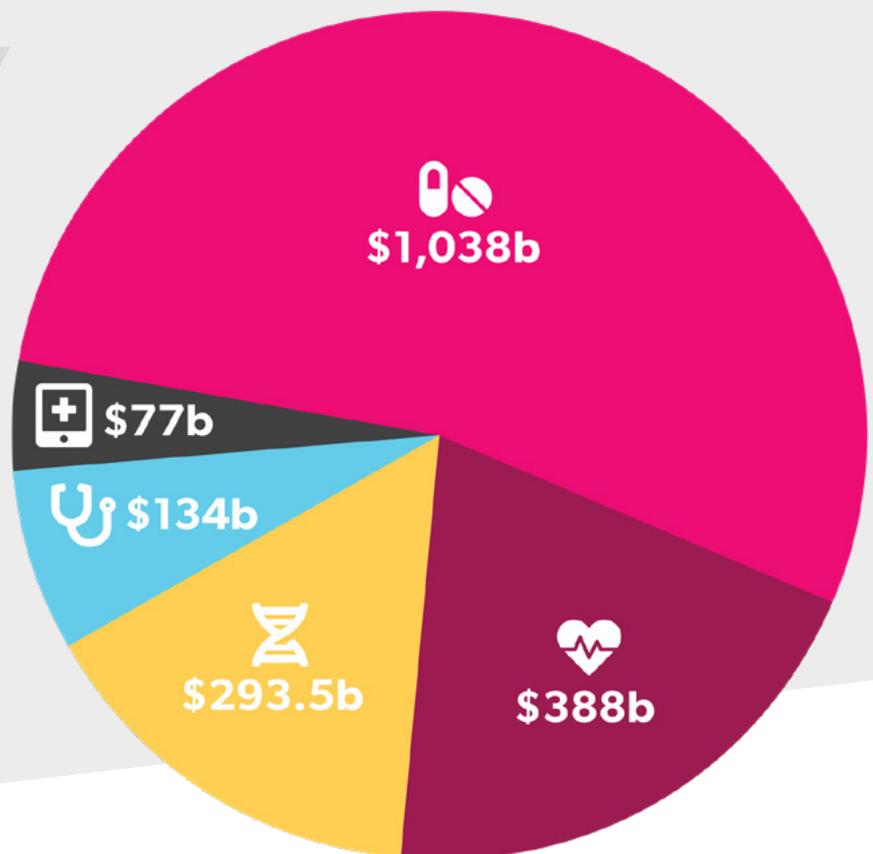
Pharmaceuticals

MedTech

Biotechnology

Health services

Digital HealthTech



³ Ibid

⁴ United Nations, 2017. World Population Prospects.

⁵ Deloitte, 2017. Global Life Sciences Outlook; P&S Market Research, 2016. Global Digital Health Market; and Markets and Markets, 2017. Healthcare IT Market by Product.

Key markets situated geographically close to Australia have unmet demand for healthcare



- Indonesia's per capita healthcare spending is increasing at 14% per annum.
- The Indonesian Government has made it a priority to ensure all 250 million citizens will be supported by a universal healthcare system by 2019.



- Expenditure on healthcare is forecast to rise to \$US1 trillion by 2020.
- Current priorities for the Chinese healthcare system include the implementation of activity-based funding – an area of Victorian expertise and leadership.
- The China-Australia Free Trade Agreement will permit Australian suppliers to establish aged care institutions in China.



- Total health care spending is projected to rise at an annual rate of over 12%, from an estimated \$96.3 billion in 2013 to \$195.7 billion in 2018.
- India has one of the world's highest number of diabetes sufferers, at more than 65 million individuals.
- To match bed availability to the standards of more developed nations, India needs to add 100,000 beds this decade.

⁶ Indonesia – Frost & Sullivan, 2013. Indonesian Healthcare Expenditure Market to Reach US\$60.6 billion in 2018.

⁷ China – McKinsey, 2012. Healthcare in China: Entering 'unchartered waters'

⁸ India – Economic Times, 2015. India needs 3.5 million hospital beds, 3 million doctors by 2034.

WHY GROW VICTORIA'S HEALTH AND WELLBEING ECOSYSTEM?

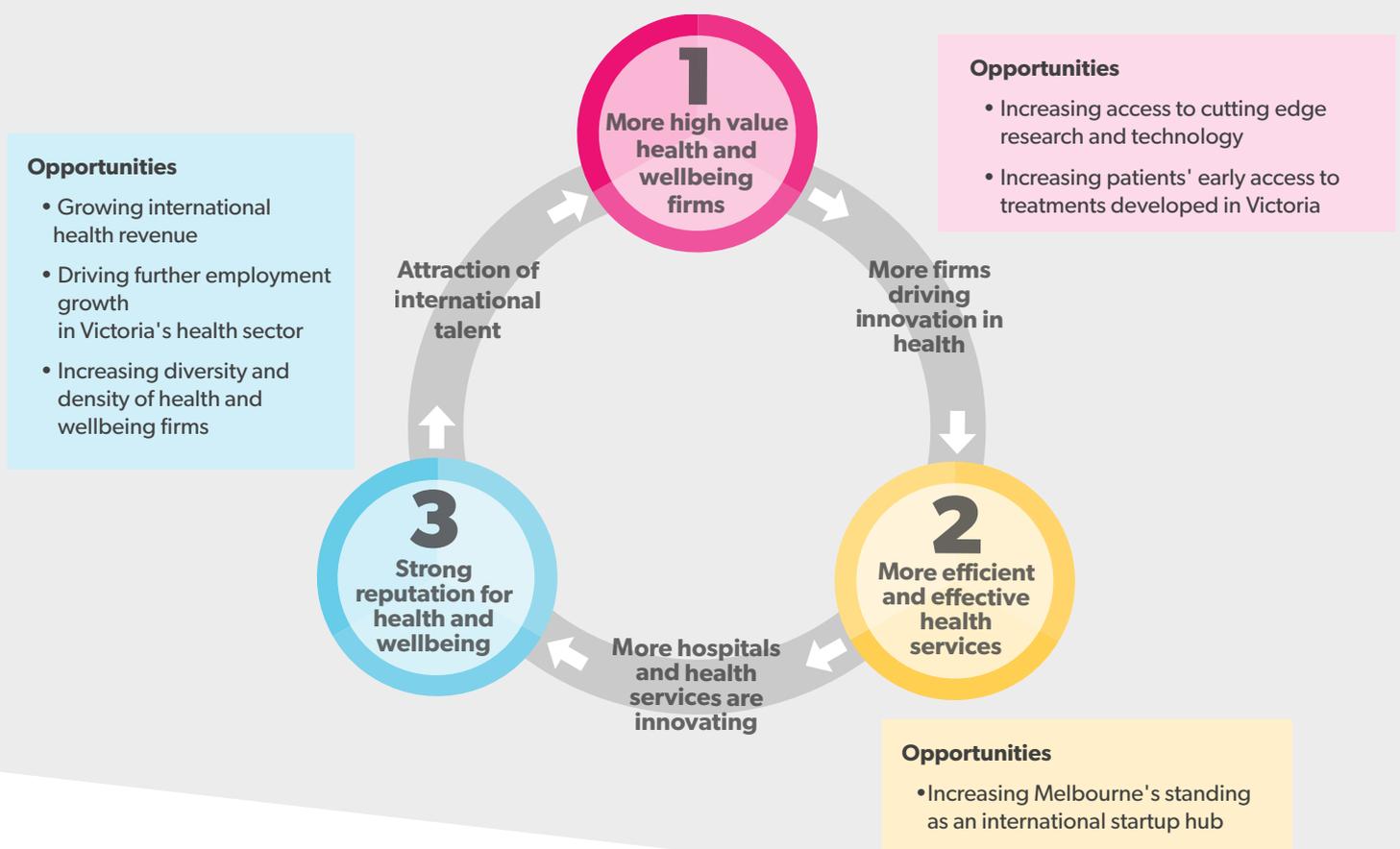
Victoria's health and wellbeing ecosystem makes a vital contribution to the economy

The Victorian health sector has a gross contribution to the Victorian economy of over \$30 billion p.a.⁹ It is Victoria's largest and fastest growing source of employment:

- 12 per cent of Victorians are employed in the health sector¹⁰
- Victoria's public and private health systems alone employ over 130,000 Victorians, with approximately 77,000 Victorians employed in the public health system¹¹
- A further 23,000 people are employed in medtech and pharma¹²

Growing Victoria's health and wellbeing ecosystem creates economic and health benefits

Accelerating the growth of Victoria's health and wellbeing startups will generate a range of economic and health benefits including increased export revenue, employment growth, more efficient health services and better patient outcomes.



⁹ DPC, 2016, Showcasing Victoria's Health Services To The World

¹⁰ DHHS, 2016, Victoria's International Health Strategy 2016 – 2020

¹¹ DHHS, 2017, People in health

¹² DEDJTR, 2017, State of the Sector: Medical Technologies and Pharmaceuticals

Victoria's health and wellbeing ecosystem

Victoria has all of the ingredients necessary to become an internationally-competitive hub for health and wellbeing startups.

ASSET BASE

At the heart of Victoria's health and wellbeing ecosystem is an international reputation for quality. Victoria's reputation is underpinned by a substantial asset base with world leading research talent, active capital markets, excellent clinical trials processes and a strong regulatory and policy environment. Access to these assets provides startups with the inputs they need to develop, validate and commercialise their products and services.



Policy

Support from the Victorian government:

- LaunchVic ecosystem support
- Future Industries Fund

Support from the

Commonwealth government:

- Tax incentives for early stage investors
- AusIndustry Entrepreneurs Program
- Business Talent Visa

Regulation

- Reputable clinical trials system with access to trial-ready infrastructure
- Robust regulatory environment with effective IP rights
- Strong ties with the fast growing Asia Pacific region supported by FTAs
- Globally leading regulation and quality standards within aged care

Culture

- Recognition as a leading sporting and fitness destination
- Melbourne ranked as the world's most livable city for seventh year running

Institutional support

- 9 dedicated health accelerators and incubators
- 8 leading industry bodies/networks
- 9 world-class universities
 - Two universities in the global top 30 for life sciences (one of only three cities along with London and Boston)
 - Monash ranked second in the world for pharmacy in the 2017 QS World University Rankings
 - Swinburne recognised as a leader in design innovation
 - Growing support at universities for entrepreneurship and commercialisation
- Sophisticated public and private healthcare system, with 15 teaching hospitals
- 16 medical research institutes

Firms

- 310+ private health and wellbeing firms
- 36 ASX listed life sciences companies
- Large corporates active within the health ecosystem (e.g. Telstra, Bupa)

Capital

A number of VC firms that are active in health, e.g.

- Brandon Capital
- GBS Ventures
- River Capital
- Starfish

Dedicated large funds established in recent times, e.g.

- Medical Research Commercialisation Fund
- Biomedical Translation Fund

Talent

World-leading research talent:

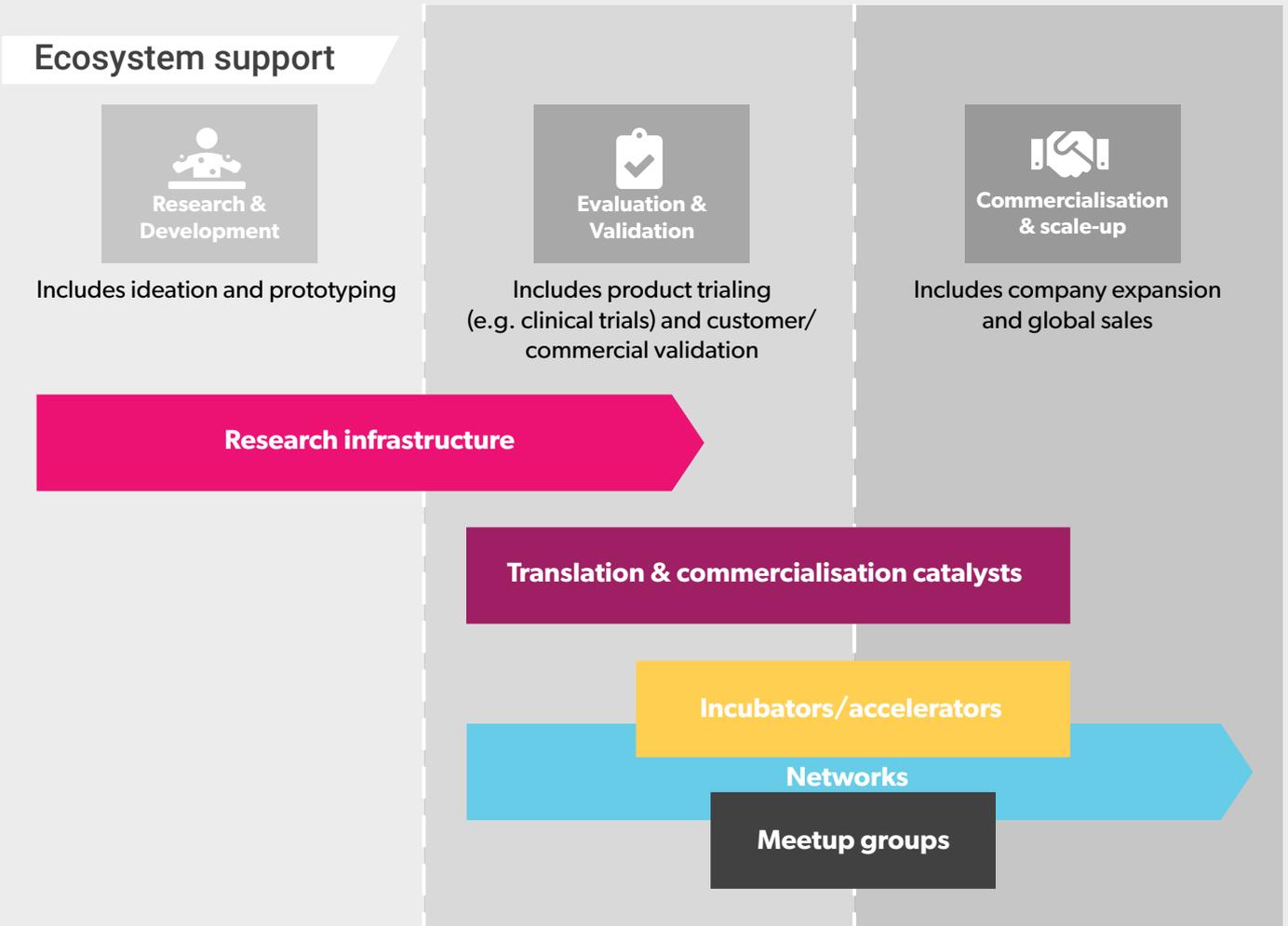
- 10,000 health and medical researchers, with particular strengths in cancer, brain science and immunology

Highly capable tech talent

- Highest number of graduates from IT and computer science courses in Australia
- Health firms are able to easily access core tech skills (e.g. computer science / IT)

ECOSYSTEM SUPPORT

Startups have access to a significant number of institutions and infrastructure supporting them to grow and scale at each stage of their development. Victoria's supporting infrastructure includes over 70 organisations bridging the gap between research and commercialisation, including more than 10 dedicated health startup incubators and accelerator programs.



Research Infrastructure

- 16 Medical Research Institutes
- 15 teaching hospitals
- 9 world-class universities
- Supporting institutions, including:
 - CSIRO
 - Australian Synchrotron
 - Carlton Connect
 - Melbourne Academic Centre for Health
 - Biomedical Research Victoria

Networks

- BioMelbourne Network
- AusBiotech
- Health Informatics Society of Australia
- Australian Sports Tech Network
- MTPConnect
- AusBiotech
- STC Australia
- Australian Information Industry Association
- Australian Centre for Health Information
- Victorian eHealth Network

Incubators/accelerators

- HCF Catalyst
- Impact Co
- ANDHealth+
- Melbourne Health Accelerator
- CSIRO ON Accelerate
- Bytes4Health
- Headstart Accelerator
- Agnes Health
- MedTech's Got Talent
- The Actuator

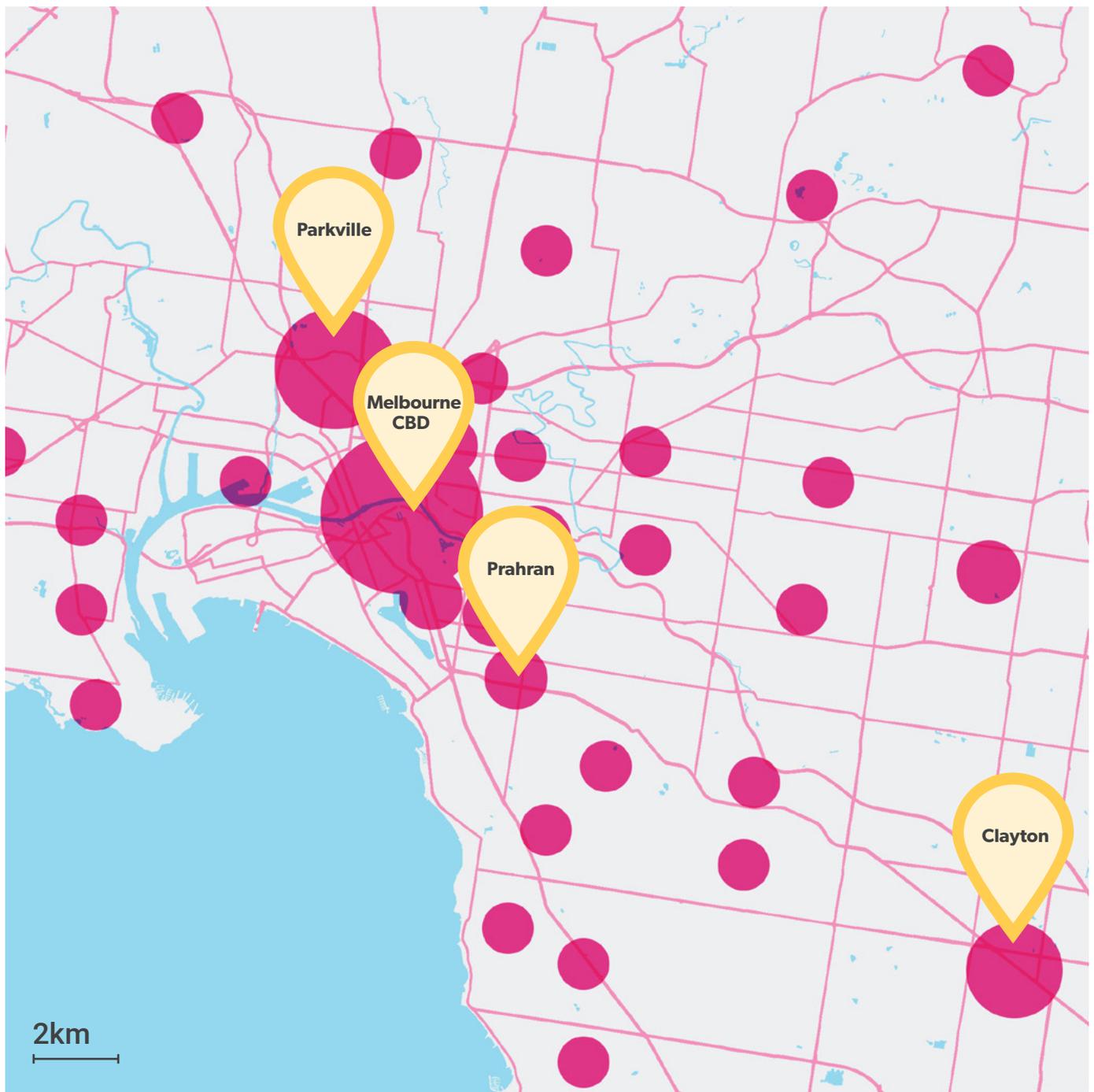
Transactions & commercialisation catalysts

- Biocurate
- Fitzroy Health
- TRaM – Translating Research at Melbourne
- Swinburne Innovation Precinct
- Planet Innovation

Meetup groups

- Peak15 HealthTech
- Startup HealthTech
- Startup Victoria
- med_hack

GEOGRAPHY



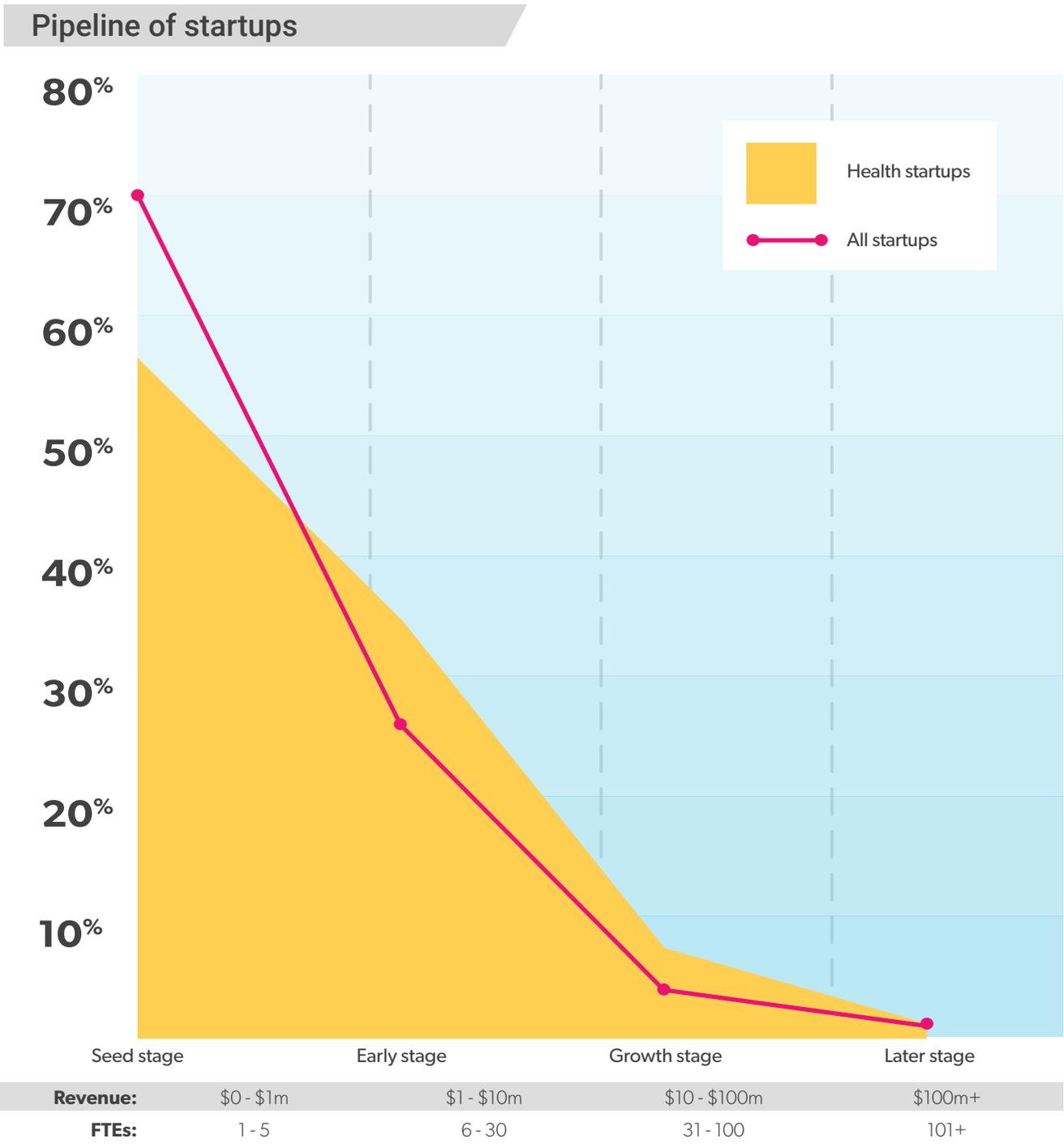
Major clusters of firm activity have emerged across Melbourne, including in the health precincts of Parkville and Clayton, both home to world-leading research expertise, R&D facilities and clinical trials capabilities.

Profile of Victorian health and wellbeing startups

Victoria's deep research expertise, coupled with its substantial asset base, has created a thriving network of health and wellbeing startups.

PIPELINE OF STARTUPS

Victoria is well positioned to transform health and wellbeing startups into high growth firms and economic output across the broader economy. Victoria has a strong pipeline of startups at all stages of development – from seed stage startups with significant growth potential to later stage startups tackling large international markets. The share of growth and later stage startups within Victoria's health sector is higher than other sectors across the economy.



SCALEUPS

Victoria already shows signs of success at growing internationally competitive health and wellbeing startups. Victoria has produced a number of successful scaleups, with 13 health and wellbeing companies listed on the ASX over the last five years, with a combined market cap of \$7.1 billion as at March 2018.



AdAlta 2016*

Biotech treatments with an initial focus on treating fibrotic diseases

Healthscope 2014*

Private Hospital operator and provider of pathology services

dorsaVI 2013*

Wearable sensor technology for athletes

Paradigm Biopharma 2015*

Biopharma company focusing on treatment of inflammation

Estia Health 2014*

Provider of residential aged care services

TPI Enterprises 2015*

Supplier of illicit narcotics raw material to the pharmaceutical industry

Monash IVF Group 2014*

Operator of assisted reproductive services

Japara Healthcare 2014*

Provider of residential aged care services

Sienna Cancer Diagnostics 2017*

Provider of diagnostics for detecting cancer

Cann Group 2017*

Cultivation and supply of medicinal cannabis

Lifespot Health 2017*

Telemedical systems for monitoring and managing chronic diseases

Telix Pharmaceuticals 2017*

Provider of molecularly-targeted radiation therapy technology

Integral Diagnostics 2015*

Provider of diagnostic imaging services to healthcare professionals

Jayex 2015*

Software platform for managing patient flow

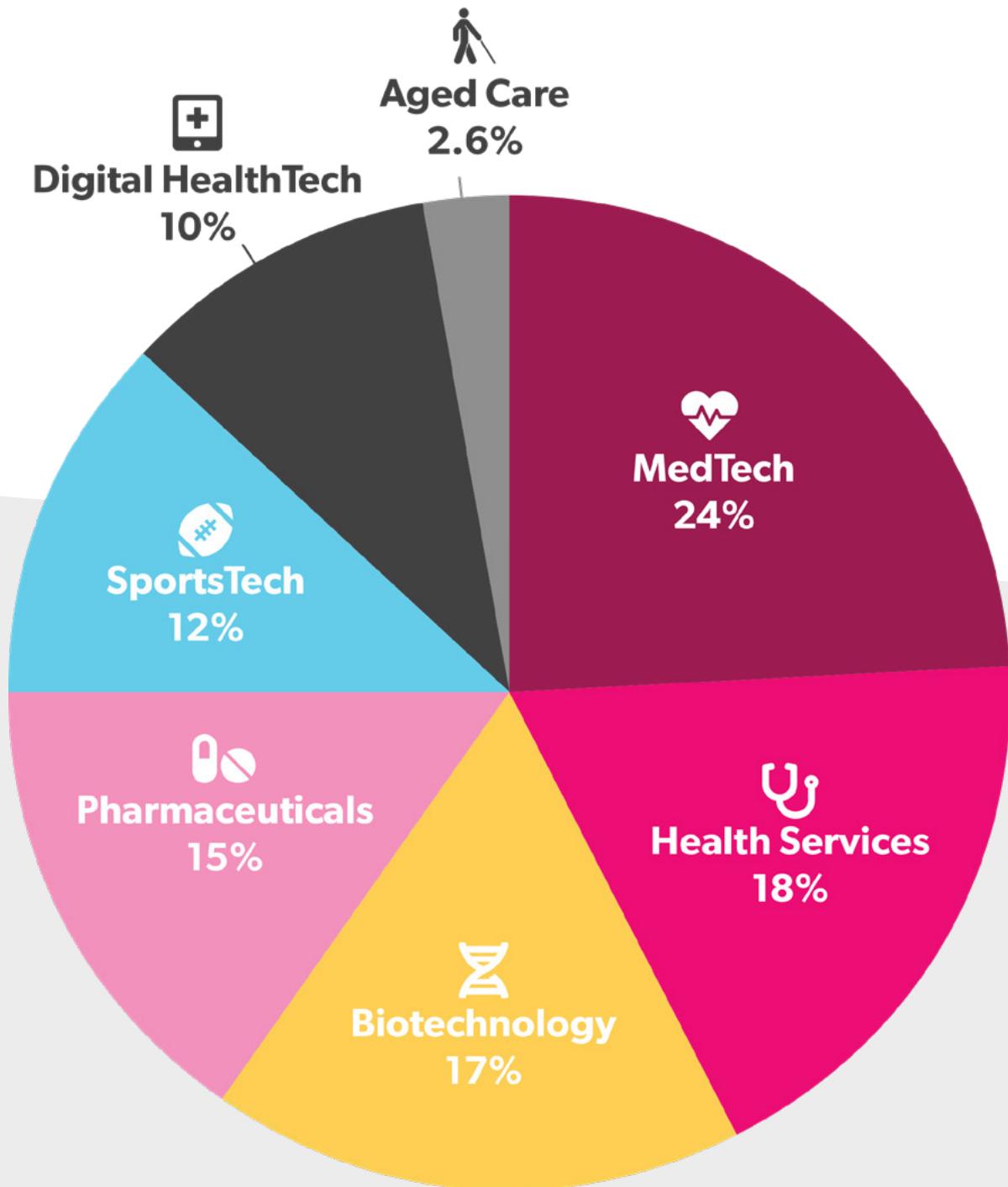
*Year listed

\$7.1 BILLION

SECTORAL MIX

Victoria's health and wellbeing startups and scaleups are operating in a diverse range of sub-sectors, with particularly strong specialisations in medtech, health services and biotechnology.

Startups by sector



59% of health and wellbeing startups provide a regulated product or service.

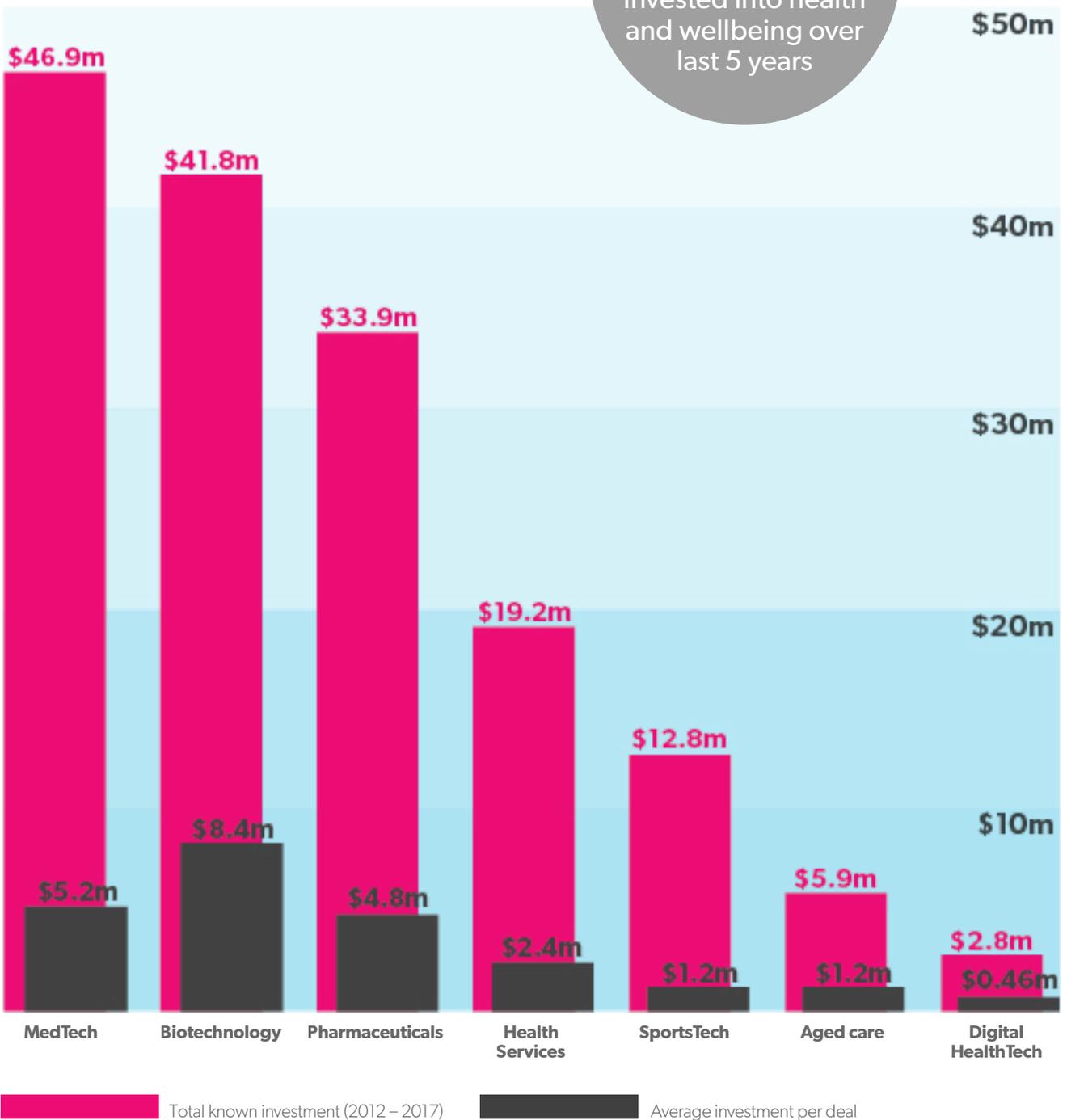
INVESTMENT

Supporting Victorian startups to grow are strong capital markets. Health and wellbeing is the second most heavily invested in sector in Victoria. Medtech and biotech are leading the sector in terms of total investment raised, driven by a few later stage investment deals.



\$163m
Invested into health and wellbeing over last 5 years

Investment 2012-2017



EXPORTING

The majority of startups are exporting and are predominantly targeting the US, UK and Europe as export markets. Penetration of Asia as a health export market is modest.

Exporting



The United States is the largest market targeted by firms

Europe and the UK are the second largest target markets

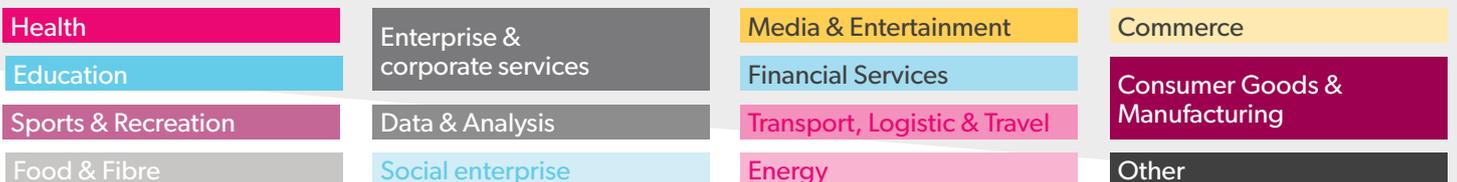
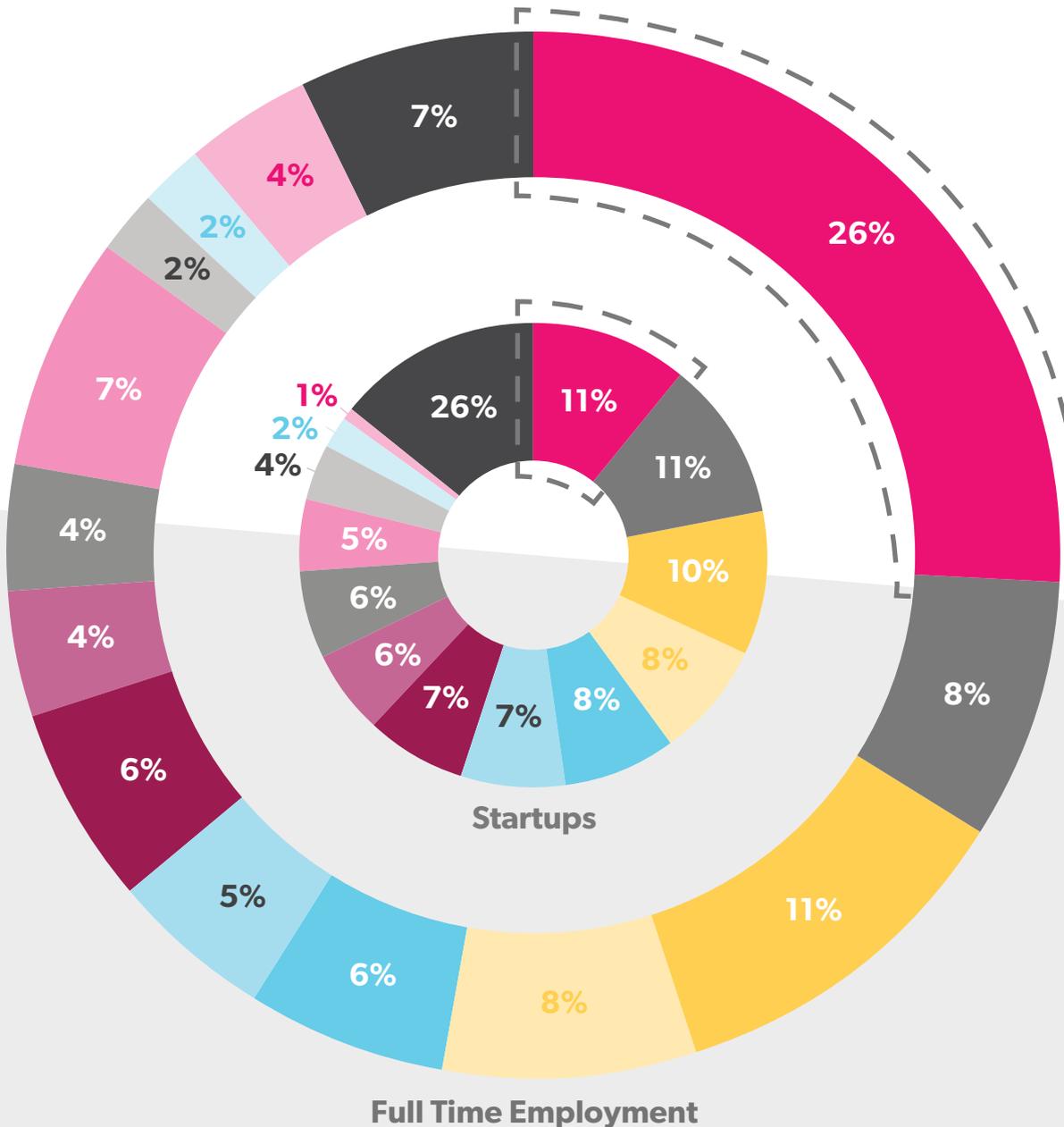
Firms are three times less likely to target Asia than the US, UK and Europe

EMPLOYMENT

Health and wellbeing startups represent 11% of all startups and scaleups in Victoria, but are producing 26% of employment. This is disproportionately larger than any other industry in Victoria's startup ecosystem.

dandolopartners, 2017. Victorian Startup Ecosystem Mapping

Employment



FOUNDERS' EXPERIENCE

Founders are the driving force of new health and wellbeing startups and are gaining experience in a variety of fields both in and outside the health and wellbeing sector.

Founders' Experience

Corporations

52%

Other medical, health or wellbeing companies

45%

Educational institutions (e.g. Universities)

33%

Hospitals or healthcare services

31%

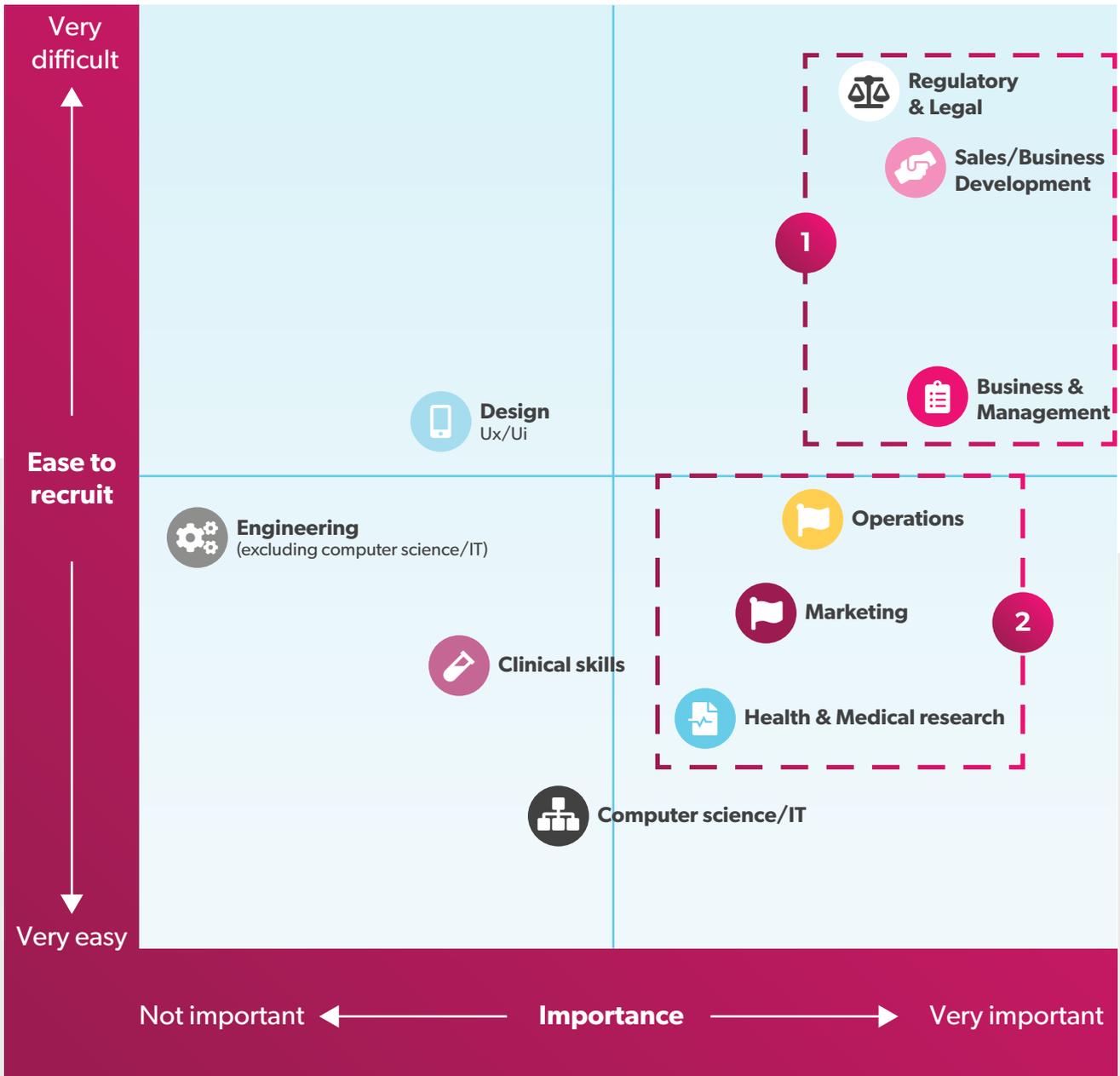
Medical research institutes

17%

0% 20% 40% 60% 80% 100%

STARTUPS' RECRUITMENT NEEDS

Startups are able to access the essential clinical skills and health and medical research expertise they need to be internationally competitive. However, startups report an immediate need for Regulatory & Legal, Sales & Business Development and Business & Management expertise, which is considered difficult to recruit for.



1 Regulatory & Legal, Sales & Business Development and Business & Management expertise are high priority talent areas for firms, but are also considered to be the most difficult to recruit for.

2 Operations, Marketing and Health & Medical research are also considered high priority areas, but firms are a lot more confident about their ability to recruit for them.



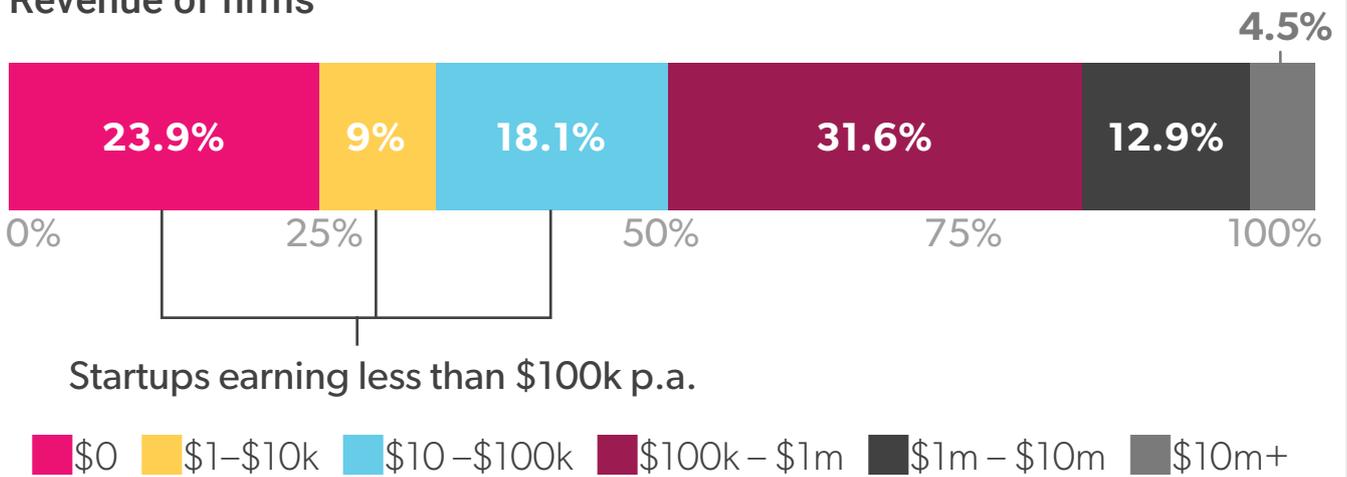
Challenges facing Victoria

While Victoria has a substantial asset base and a strong pipeline of startups, there are some areas we need to focus on to create a thriving environment for startups to grow and scale.

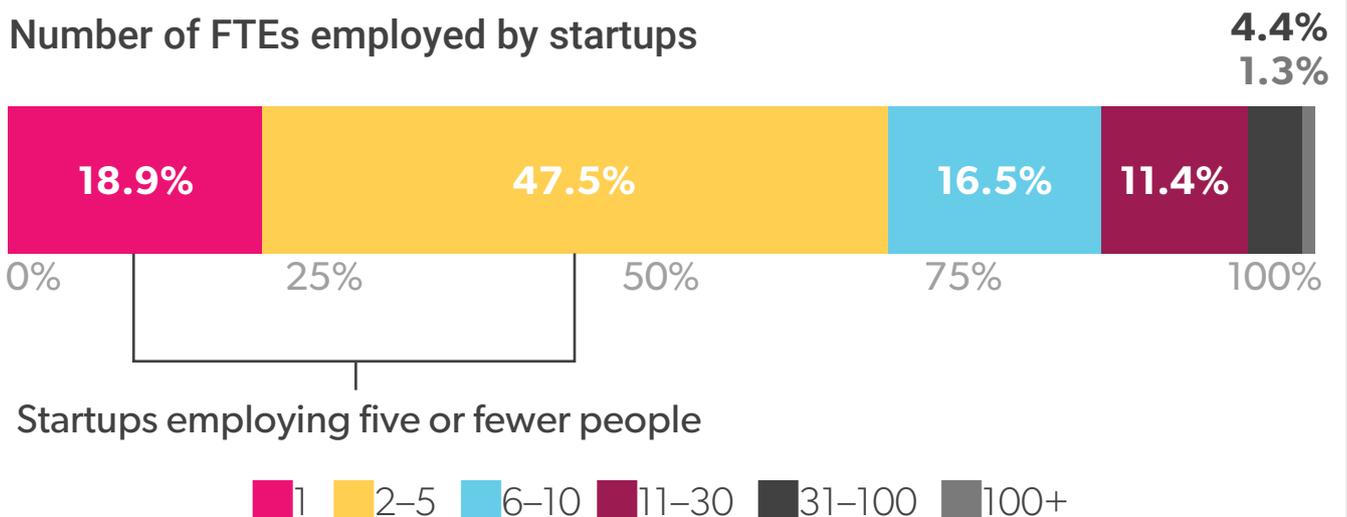
REVENUE AND SIZE

Relative to other health startup ecosystems, Victoria's health and wellbeing ecosystem is characterised by a long tail of high-growth potential startups with only a few substantially sized companies. Overall, the majority of Victoria's health and wellbeing startups are earning less than \$100k per annum and employing five or fewer people.

Revenue of firms



Number of FTEs employed by startups

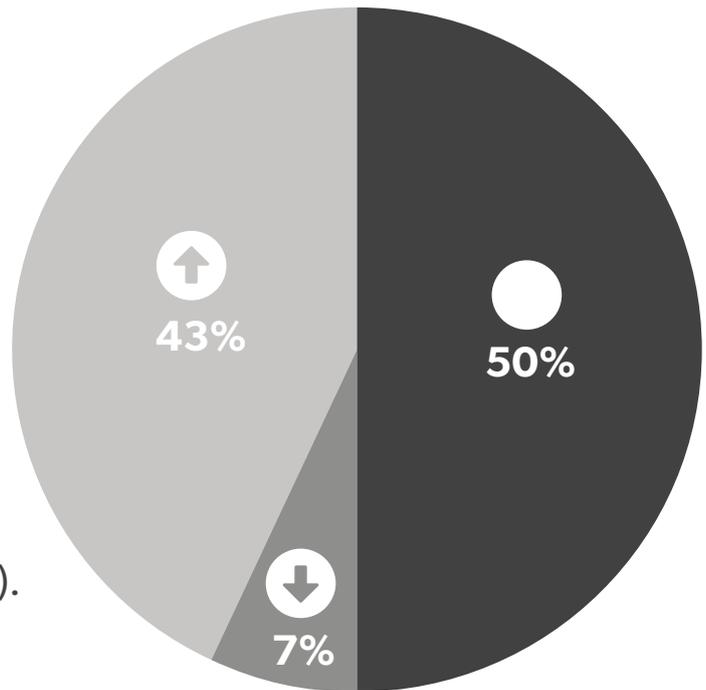


STARTUP GROWTH

Most startups have grown over the last three years. However, growing startups tend to be new and adding less than five employees or moving from no revenue to moderate revenue (\$100k - \$1m).

Startups' changes in revenue

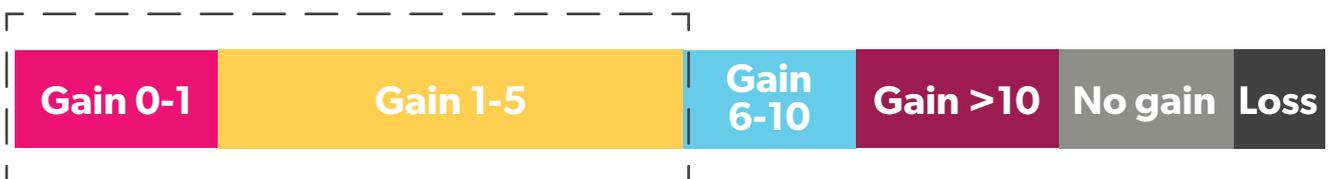
In the last three years, around 50% of firms remained in the same revenue bracket and 7% fell down to lower revenue brackets. While 43% of firms did grow their revenue, most were moving from no revenue to moderate revenue (\$100k-\$1m). There was limited growth into higher revenue brackets (i.e. \$1m+).



Change in FTE



Size of FTE gain



Nearly two-thirds of growing startups were adding less than five employees

WHAT WE HEARD FROM YOU

The challenge for our ecosystem is to create the right environment for more startups with high-growth potential to grow and scale into larger health and wellbeing companies. Achieving this requires us to address the issues that matter most to startups. To grow successfully, startups need access to experienced talent, fit-for-purpose infrastructure, with capital and robust and reliable regulatory and policy environments. Through our consultation with industry, we have identified a strong level of consensus about the challenges, gaps and issues impacting startups across each of these areas.

| Factors critical to Startup growth | What we heard from industry | Why this matters? |
|---|--|---|
|  <p>Talent</p> | <ul style="list-style-type: none"> • Victoria has limited access to commercial talent with international experience of scaling health and wellbeing startups to a successful exit. • Access to big data analytics, artificial intelligence and machine learning expertise is scarce. Australia has an AI-related talent pool of 3,370 people, most of them located in Sydney. By comparison, the United States has 42,000, the United Kingdom has 12,000, and Canada has 7,000. | <ul style="list-style-type: none"> • The importance of international commercial experience is particularly acute in healthcare. Health is a complex sector which requires deep knowledge of global markets, reimbursement strategies, regulation and capital. • Data analytics and artificial intelligence will increasingly underpin growth in many subsectors and startups, including health (for example, by allowing the immense tracts of data captured from patient records, IoT sensors, insurance information and other types of information to be processed and visualised, creating vital insights for healthcare). |
|  <p>Industry structure & colocation</p> | <ul style="list-style-type: none"> • There are opportunities for more startups to be colocated with relevant support services and infrastructure. Currently there are four clusters of intensive firm activity in Melbourne: Melbourne CBD, Parkville, Clayton and Prahran, with a long tail of companies dispersed across a sprawling city. • Startups have limited visibility of the support services and infrastructure available to them. For example, 57% of startups report that they do not know where to go to access the support they need to grow. | <ul style="list-style-type: none"> • Evidence shows that greater levels of colocation stimulates higher levels of collaboration and networking across the ecosystem. • The ability of startups to navigate the ecosystem – and know what services and infrastructure exists – is a precondition to them being able to access the inputs they need at each stage of their development. <p style="text-align: right;">Continued ></p> |

WHAT WE HEARD FROM YOU CONTINUED



Capital

- Some startups have difficulty knowing how to access capital. For example, 42% of startups report they do not know how to identify and locate investors, with a further 25% reporting they do not know what investors are looking for or how to pitch to them.
- Access to the right capital at the right time is critical to startups being able to develop, validate and scale their product or service.



Regulation & Policy

- Victoria's health and wellbeing ecosystem lacks a brand and co-ordination.
- Startups report difficulties navigating regulatory environments. 35% of startups report that they do not understand how to navigate the domestic regulatory environment, and a further 45% do not understand how to navigate international regulatory environments.
- Anecdotal evidence suggests that there are limited opportunities for startups to clinically validate their problem/solution design with experts in healthcare settings.
- Leading jurisdictions have a coordinated and joined up voice for the ecosystem, which is used to build their profile on a global stage.
- Health is a globally regulated industry. Startups need to be able to understand how to navigate regulatory environments in Australia and offshore in order to sell into multiple markets.
- Clinical validation is essential to ensuring that the problem/solution design startups are focused on will achieve product/market fit.



Priorities for Victoria

We have identified a clear set of priorities for transforming Victoria into a globally leading centre for health and wellbeing startups.

STARTUP ECOSYSTEM

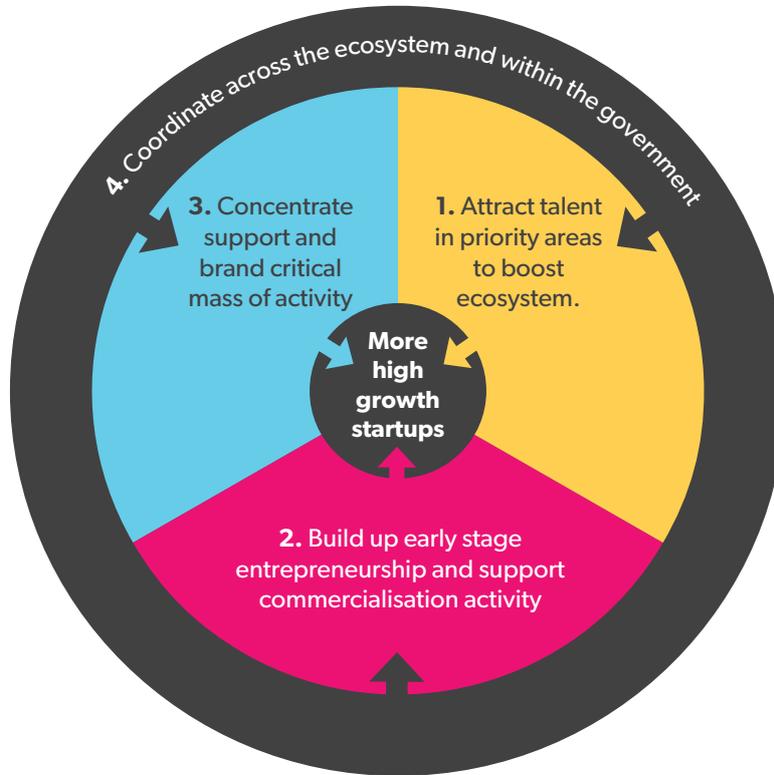
4. Priorities:

More opportunities for health startups and ecosystem players to network and collaborate, including through colocation.

Startups have the capacity to better navigate the health startup ecosystem.

3. Priorities:

A recognisable ecosystem brand that can be leveraged to simulate local activity and attract international interest.



1. Priorities:

Experienced entrepreneurs and experts with a history of scaling health and wellbeing firms in other jurisdictions.

A deep local talent pool in priority skills areas such as dig data analytics, AI and machine learning.

2. Priorities:

A culture and knowledge of commercialisation amongst researchers and clinicians.

More opportunities for startups to obtain clinical validation through linkages between startups, hospitals and health services.

As a critical first step in accelerating the growth of Victoria's health and wellbeing ecosystem, we invite you to update our database of information about the startups and supporting infrastructure of our ecosystem. The information included in this database is being used to create an ecosystem directory. It will be used by startups to navigate the ecosystem and help them understand where they can go to get support at each stage of their development.

[Click here to view the database](#)

[Click here to make a submission](#)

We would like to thank you for your support in helping us to develop and keep this database up-to-date.

Acknowledgements

We would like to thank the many contributors to this project, including:

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