

2019 FUTURE WORKFORCE REPORT



CONTENTS

1.0 Executive Summary	3
2.0 Introduction	4
3.0 The Exercise and Sports Science Industry	5
3.1 ESSA membership and accreditation	9
3.2 Gender	9
3.3 Age	10
3.4 Location	10
3.5 Primary Work Sector	11
3.6 Main Practice Types	13
4.0 Workforce Trends	14
4.1 Allied Health Workforce	15
4.2 Active Transport	16
4.3 Aged Care	17
4.4 Corporate Health	18
4.5 Digital Health	19
4.6 Disability	20
4.7 Fitness	21
4.8 Hospital	22
4.9 Mental Health	23
4.10 Physical Activity	24
4.11 Preventative Health	25
4.12 Sport	25
5.0 Perspectives from ESSA Professionals	26
6.0 Perspectives from External Stakeholders	29
7.0 The Vision for a Positive Future	31
8.0 Actions for Realising Our Vision	34
9.0 References	36

Disclaimer: The material contained in this publication is of a general nature only and is current as at June 2019. To the extent that this publication has linked to, referred to or republished Third Party material, the information expressed in that material is not produced by ESSA and ESSA does not warrant or endorse its accuracy, nor does it take responsibility for the content of that material.

The material does not constitute the provision of professional advice by ESSA and ESSA accepts no legal liability for any loss or damage suffered as a result of any information in the publication. ESSA recommends that its members seek appropriate independent professional advice prior to relying on or entering into any commitment based on the material published here.

A 9 Hercules Street, Hamilton
Locked Bag 4102, Ascot, QLD 4007

P 07 3171 3335
F 07 3318 7666

E info@essa.org.au
W www.essa.org.au

1.0 EXECUTIVE SUMMARY

The exercise and sports science workforce plays an important role in building a more active and healthier Australia. The workforce is engaged across different sectors and provides a variety of services to the community in various settings across Australia. Through evidence-based practice, including the use of behaviour change processes, accredited exercise and sports science professionals can empower the nation to engage in a cultural shift towards a more active and healthier Australia.

Exercise & Sports Science Australia (ESSA) has reviewed and identified the key themes facing the current exercise and sports science workforce and engaged both exercise professionals and thought leaders across a wide range of industries to explore the future of the workforce and the opportunities and barriers that may arise.

The following actions were recommended to increase growth and opportunities:

- » Increasing the profile of exercise and sports science professionals with:
 - public and consumers
 - allied health and broader health sector
 - all levels of government
- » Building strong linkages with other aligned professional bodies;
- » Establishing collaborative multidisciplinary delivery models; and
- » Growing a presence in:
 - mental health
 - aged care
 - corporate health
 - eHealth
 - sport
 - fitness
 - children's physical activity
 - education and health promotion
 - prevention and early intervention
 - active living

The research findings point to some clear components for an effective future workforce. A vision that the profession, ESSA, stakeholders and the broader community can work towards, inclusive of:

- » Providing core services for the management of illness and injury within Australia's health system;
- » Being a key contributor to future preventative health initiatives in Australia;
- » Playing an important role in maximising the personal and community benefits from sports participation and performance; and

- » Being a vital contributor to an active nation by helping to place exercise at the centre of community values.

To realise this positive vision, ESSA may lead action in three prime areas:

- » Professional upskilling in identified areas of need;
- » Enhanced stakeholder engagement; and
- » Increased community awareness.

These actions would increase the capacity, reach and influence of the exercise and sports science workforce, leading to an expanded range of roles for the profession and the emergence of a more active and healthier Australia.

ACKNOWLEDGEMENTS

ESSA would like to acknowledge and thank members of the project steering committee, Dr Betul Sekendiz, Ms Niamh Mundell and Mr Steven Drury, for their support with survey design and associated data analysis. We also acknowledge and thank the ESSA members, accredited professionals and thought leaders who provided valuable insight into the current workforce and the future of the exercise and sports science industry. ESSA would also like to thank consultant futurist, Ms Gretchen Young, who provided valuable guidance to ESSA throughout the development of this report.

A full-page background image showing a person in a blue shirt and dark shorts running away from the camera on a paved road that curves to the right. The road is bordered by a metal guardrail on the right and a grassy hillside on the left. The sky is a vibrant blue with wispy white clouds, and the sun is low on the horizon to the right, creating a warm, golden glow. A few birds are visible in the sky. The overall mood is one of movement and optimism.

2.0 INTRODUCTION

This report provides detailed discussion and analysis of the future workforce for the exercise and sports science profession and industry in Australia. Exercise & Sports Science Australia (ESSA) accredited professionals currently work in a range of roles and a variety of settings. Even so, both internal industry trends and external societal influences will combine to shape the industry and profession of the future.

The Future Workforce Report provides insight into the trends and opportunities that are emerging for exercise and sports science professionals and considerations of the key drivers for potential change. This perspective in totality provides an indication of how the profession may be positioned in the health and well-being sectors of the future. It also points to the developmental activities that may need to occur for opportunities to be taken.

The development of the report involved a staged approach to research and inquiry and was heavily reliant upon generous input from ESSA members, key stakeholders and thought leaders from a range of allied industries.

3.0 THE EXERCISE AND SPORTS SCIENCE INDUSTRY

The exercise and sports science industry is broad and multifaceted. Industry professionals, services and practices are associated with a variety of peak bodies and organisations. However, ESSA is the national accrediting and membership association for the industry.

In looking to the future, ESSA aims to adopt a leadership role in enhancing the capacity and reach of the industry workforce for community benefit. The following outline of the ESSA membership and its accredited professionals provides a detailed understanding of the current exercise and sports science industry and workforce in Australia.

ESSA ACCREDITED PROFESSIONALS

The exercise and sports science industry workforce comprises of individuals who are accredited with the peak national professional association, ESSA.

All ESSA accredited professionals hold a minimum bachelor's degree qualification (AQF level 7) and can provide services for a wide range of sectors including, but not limited to:

Figure 1: Service Areas for Exercise & Sports Science Professionals

- » Community health (outpatient programs, public health initiatives)
- » Community fitness (prevention of chronic conditions, skill based fitness programs)
- » Corporate health (health checks, education, occupational rehab)
- » Chronic conditions (management of, lifestyle changes, rehabilitation)
- » Aged Care (maintaining mobility and activities of daily living)
- » Disability (maintaining function, improving physical activity and participation in sport)
- » Athletes (sport & high performance)
- » Research (physical activity & exercise)
- » Education (health & well-being, physical activity advice)

ESSA's current accredited professionals consist of:

1. Accredited Exercise Scientists (AES)

Accredited Exercise Scientists (AES) specialise in the assessment, design and delivery of exercise and physical activity programs enabling consumers to undertake exercise interventions to improve health, fitness, well-being, performance or prevention of chronic diseases.

Figure 2: AES Employment Areas

EXAMPLES OF OCCUPATIONS	EXAMPLES OF EMPLOYMENT AREAS
Health Policy/Program planning	Government – local, state and federal, Non Government Organisations (NGOs)
Health Educator	Schools, Government – local, state and federal, Early learning environments
Healthy Ageing roles	Aged Care sector – community settings, residential aged care facilities
Health Promotion roles	Community health and hospitals
Non-clinical Case Management	Private and inter-professional health clinics, Insurance providers
Corporate Health Program roles	Corporate settings, Industrial and mining sectors, Workplace wellbeing programs (employment screening)
Specialised Occupations (Cardiac Technician, Sleep Technician)	Hospitals and health clinics
Sports Coach/Sports Trainer	Sporting teams/events
Fitness Instructor, Trainer, Fitness Centre Manager	Fitness Centre, Gymnasium, Private practice or business

2. Accredited Exercise Physiologists (AEP)

Accredited Exercise Physiologists (AEP) specialise in clinical exercise prescription for the management of a broad range of pathological populations. Consumers utilising AEP services may be at risk of developing chronic conditions or have existing medical conditions and injuries. AEPs are recognised allied health professionals displaying a diverse range of knowledge and skills, working autonomously across a variety of areas and target pathologies. Examples of target pathology include, but are not limited to:

Figure 3: AEP Pathologies

- » Cancer
- » Cardiovascular conditions
- » Kidney disease
- » Mental Health
- » Metabolic conditions
- » Musculoskeletal conditions
- » Neuromuscular/neurological conditions
- » Respiratory/Pulmonary conditions

As reported by ESSA's membership data, AEPs are often employed in the following areas:

Figure 4: AEP Employment Areas

- » Public and private hospital settings
- » Primary, secondary and tertiary health care
- » Within private and multidisciplinary clinics
- » Population health
- » Workplace health and rehabilitation
- » Residential aged care and retirement facilities
- » Sporting settings
- » Respiratory/Pulmonary conditions

3. Accredited Sports Scientists (ASpS)

Accredited Sports Scientists (ASpS) specialise in athlete and team-specific exercise services (e.g. testing, prescription, analysis, injury management) to support and enhance performance. They provide sports science services and conduct research relating to sport in an elite environment such as the Australian Institute of Sport (AIS), state academy or professional sports club.

ASpS can provide a wide range of services in a variety of disciplines as outlined below:

Figure 5: Service Areas & Disciplines for Sports Scientists

DISCIPLINE AREA	TYPE OF WORK UNDERTAKEN
Sports physiology	<ul style="list-style-type: none"> » Investigations into the anthropometric, physiological, metabolic and nutritional demands of sport » Developing sports-specific physiological assessments in consultation with the athlete's coach » Developing individual training goals and priorities in consultation with the athlete's coach, strength and conditioning staff and relevant medical and allied health staff » Evaluating the efficacy of training programs, in consultation with an athlete's coach and/or strength and conditioning staff » Monitoring of the training load and assessment of an athlete's response and adaptation, including the use and application of blood biochemistry » Providing advice on environmental stressors (heat, altitude) and the design of programs to assist adaptation and performance » Monitoring signs of training maladaptation, musculoskeletal injury and illness in consultation with the sports medicine physician and other relevant allied health staff » Providing advice on recovery and regeneration techniques » Researching and evaluating new training programs, ergogenic aids, including nutritional products and environmental adaptations that may improve athlete performance
Sports biomechanics	<ul style="list-style-type: none"> » Assessing sports techniques and efficiency of movement using appropriate reliable and valid technologies to improve an athlete's performance » In consultation with coaches, skill acquisition specialists and sports medicine professionals, developing technical modifications to improve the efficiency of an athlete's performance and/or to reduce the risk of injury » Working with researchers to develop new techniques, sports equipment (e.g. rackets, bats, balls, surfaces) or personal equipment (e.g. helmets, footwear, sportswear) to improve sports performance and/or reduce the risk of injury
Motor control and skill acquisition	<ul style="list-style-type: none"> » Assessing an athlete's motor performance and providing advice on the design of training programs that will enhance an athlete's ability to improve or to learn new skills to improve performance » Assessing an athlete's visual processing, cue recognition and decision making skills » Developing and designing programs to enhance an athlete's learning and decision making abilities and improve skilled performance » In consultation with coaches, biomechanists and/or sports medicine professionals, developing technical modifications to improve the efficiency of athlete's performance or to reduce the risk of injury
Strength and conditioning/ strength science	<ul style="list-style-type: none"> » Developing individual training goals and priorities in consultation with the athlete's coach, the sports physiologist and relevant medical and allied health staff » Designing implementing and modifying individualised training programs following a physical or physiological assessment to enhance an athlete's sports performance » Monitoring the training load and individual athlete responses to evaluate the efficacy of the training program in consultation with other relevant sports science and medicine staff » Working in consultation with the sports science and medicine staff to improve performance, to prevent injury, and to assist in the rehabilitation of injury
Performance analysts	<ul style="list-style-type: none"> » Systematically observing and recording of an athlete's performance during training and competition » In consultation with coaches, providing permanent records of an athlete's performance that augment information about performance during training and competition » Developing protocols for the analysis of performance in consultation with coaches, sport scientists and/or sports medicine professionals » Aggregating and curating records of an athlete's performance » Work closely with coaches, sport scientists and/or sports medicine professionals to monitor an athlete's technical and tactical performance » Using insights gained from observing performance to contribute to multi-disciplinary and inter-disciplinary approaches to athlete development » Researching and implementing innovations in educational technology that may improve the ways in which performance analysis services can be enhanced and shared

In December 2017, the [Australian Sports Commission](#) (ASC) endorsed national accreditation schemes for sports scientists to ensure rigorous governance measures that will protect athletes and the integrity of Australian sport. The ASC recommended that ESSA be the accrediting body for sports scientists which could include, but is not limited to: physiologists, biomechanists, performance analysts, skill acquisition specialists and strength scientists. Most sports scientists in Australia work in elite or high performance sport, with some also working in semi-elite and grassroots level sport.

4. Accredited High Performance Managers

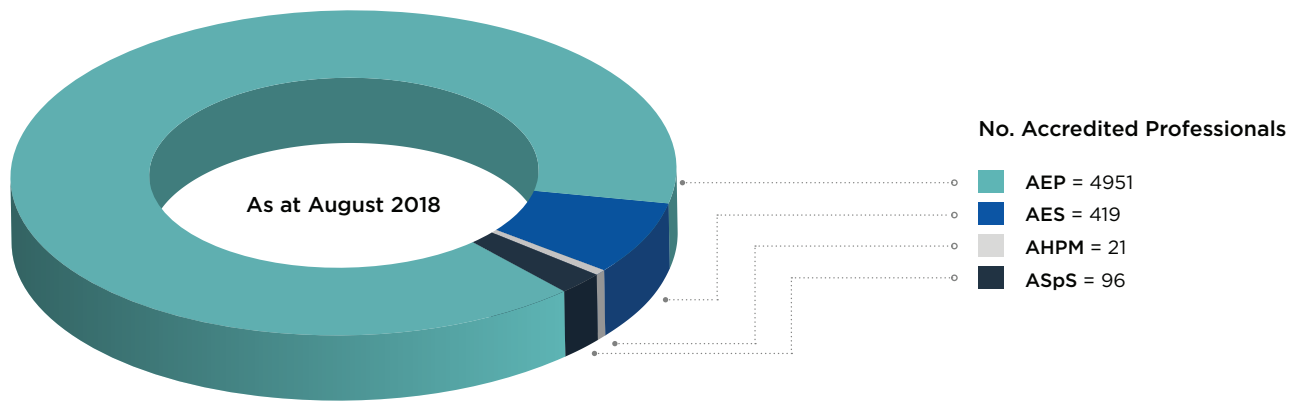
An Accredited High Performance Manager (AHPM) specialises in applying leadership skills, scientific principles and techniques to assist coaches, sports professionals and athletes. An AHPM will typically work with teams and usually in an elite sport context. They may also apply their knowledge and skills to relevant projects within the sports industry. An AHPM makes the well-being of the athlete, the team and other service users their primary concern by providing diligent duty of care and not recommending the use of any substance or practice that might knowingly cause harm to the service user.



3.1 ESSA MEMBERSHIP AND ACCREDITATION

In August 2018, ESSA had 8,368 members, accredited professionals and students. At this time, a total of 5,487 professionals comprised ESSA's accredited workforce.

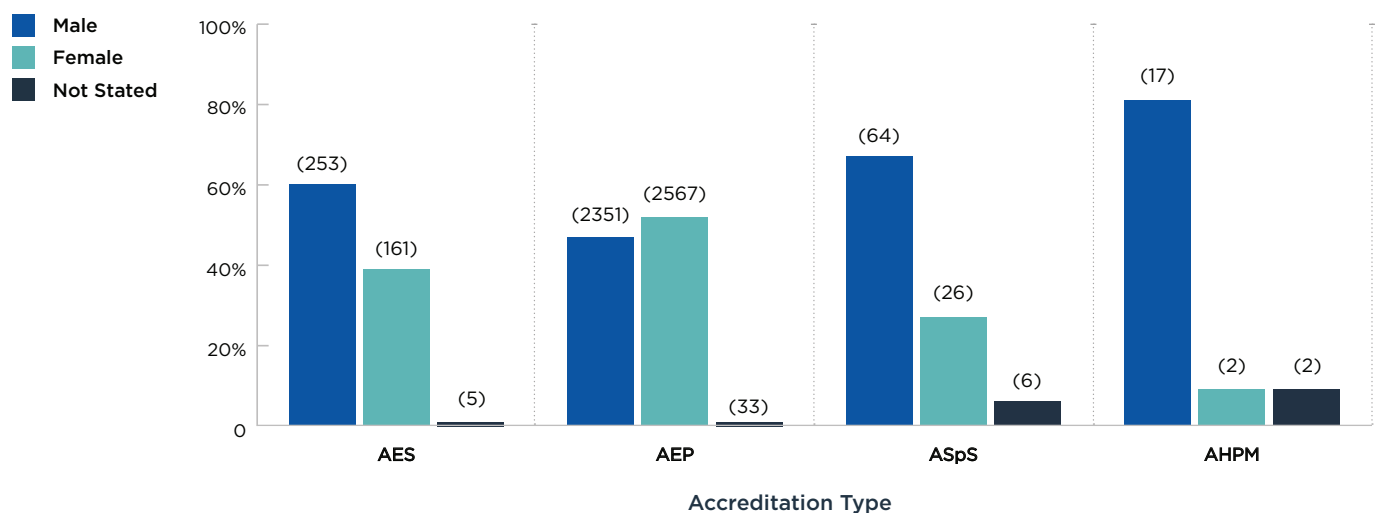
Figure 6: ESSA Accredited Professions (2018)



3.2 GENDER

In 2019, the gender representation in the member database was 49.7% females and 48% males and 0.2% not specifying their gender.

Figure 7: ESSA Accredited Professions Gender Representation (2018)

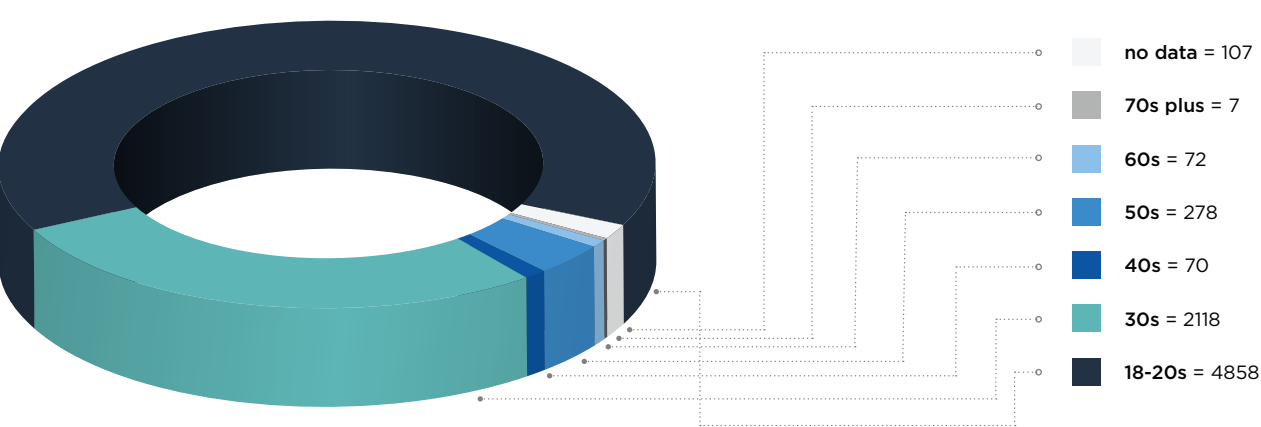


Exercise and sports science graduate data (ESSA, 2017) indicated that 53% of graduates across 32 institutions were male. Concurrently, males represented 49% of ESSA accredited professionals. In the clinical role of an AEP, females represented 52% of the total, yet in the roles of ASpS and AHPM, males had higher representation with 67% and 81% respectively.

3.3 AGE

A recent Graduate Destination Report (ESSA, 2017) indicated that 58% of exercise and sports science students were between the ages of 19-21 and 30% between 22-25 years. Most ESSA members are reported to be aged between 20-29 years and this is likely to encompass a recent rise in student memberships. There has also been a recent rise in the number of members aged in their 30s, however there is a relatively lower number of members aged in their 40s and older.

Figure 8: ESSA Student Age Brackets



3.4 LOCATION

In 2019, ESSA members and accredited professionals were predominantly located in the eastern states of New South Wales (34%), Queensland (24%) and Victoria (20%). This aligns with the location of the majority of exercise science university courses in Australia.

In 2015, ESSA captured data from the membership base including representation by rural and remote location:

Figure 9: Taken from 2015 ESSA Workforce Report		
DESCRIPTION	POPULATION	PERCENTAGE
Capital city		56
Other metropolitan	More than 100,000	22
Large rural centre	25,000 to 99,999	10
Small rural centre	10,000 to 24,999	4.8
Other rural centre	Less than 10,000	2.4
Remote centre	5,000 to 9,999	1.5
Other remote centre	Less than 5,000	1.2
International		0.3
Not currently working		0.9

A more recent survey (*ESSA, 2018*) revealed slightly higher results.

Figure 10: Members Location (2018 survey)

DESCRIPTION	PERCENTAGE OF RESPONDENTS
Inner Metro	39%
Outer Metro	29%
Inner Regional	14%
Outer Regional	5%
Rural	12%
Remote	1.5%

When comparing this to the 37 national Primary Health Networks (PHNs), ESSA professionals are spread throughout the country. However, they are most heavily represented within the eastern coast metropolitan areas of Australia. The spread across the country also highlights the wide area that ESSA professionals cover and can provide health, well-being and other exercise services throughout Australia.

3.5 PRIMARY WORK SECTOR

In 2018, ESSA members self-reported their primary work sector.

Figure 11: Work Sector Primary

WORK SECTOR	FREQUENCY	PERCENT	VALID PERCENT	CUMULATIVE PERCENT
VALID	3023	55.7	55.7	55.7
Federal government organisation	42	.8	.8	56.4
Fitness club or institution	356	6.6	6.6	63.0
Health care organisation	377	6.9	6.9	69.9
Hospital	135	2.5	2.5	72.4
Leave of Absence	1	.0	.0	72.4
Mining	15	.3	.3	72.7
Not working	66	1.2	1.2	73.9
Private company	913	16.8	16.8	90.7
Research or education institution	149	2.7	2.7	93.5
Sporting club or institution	110	2.0	2.0	95.5
State government organisation	47	.9	.9	96.4
Student	117	2.2	2.2	98.5
Workers compensation agency	80	1.5	1.5	100.0
Rural	5431	100.0	100.0	

In 2018, ESSA members self-reported their primary work sector.

Figure 12: Work Sector Secondary

WORK SECTOR	FREQUENCY	PERCENT	VALID PERCENT	CUMULATIVE PERCENT
VALID	4368	80.4	80.4	80.4
Federal government organisation	17	.3	.3	80.7
Fitness club or institution	202	3.7	3.7	84.5
Health care organisation	153	2.8	2.8	87.3
Hospital	59	1.1	1.1	88.4
Leave of Absence	1	.0	.0	88.4
Mining	11	.2	.2	88.6
Not working	13	.2	.2	88.8
On leave	2	.0	.0	88.9
Private company	230	4.2	4.2	93.1
Research or education institution	99	1.8	1.8	94.9
Sporting club or institution	157	2.9	2.9	97.8
State government organisation	19	.3	.3	98.2
Student	72	1.3	1.3	99.5
Workers compensation agency	28	.5	.5	100.0
Total	5431	100.0	100.0	

Comparatively, graduate destination data reported in 2017 indicated that 70% of graduates were employed in the exercise and sports science workforce.

Comparing this to graduate data in 2017, 70% of graduates were employed in the exercise and sports science workforce. With the following representing the majority of employed graduates:

Figure 13: Table of Graduates

OCCUPATION	PERCENTAGE OF GRADUATES
Accredited Exercise Physiologists	29%
Personal trainers/fitness instructors	9%
Teacher/academic	8%
Occupational rehabilitation consultants	5%
Strength & conditioning coaches	4%
Exercise scientists	3%
Sports scientists	3%

3.6 MAIN PRACTICE TYPES

Most ESSA accredited professionals are AEPs who engage in a variety of practice models. Data collected through Victorian Allied Health Workforce Research (2018) presents the varied uptake of practice models of AEPs in Victoria. Half of the respondents reported they were working in the private sector, which is representative of the national AEP workforce. Nationally this includes sole traders, single or multidisciplinary practices.

Whilst hospital jobs are in demand, the availability of these positions are limited. Despite there being over 90 AEPs in Victoria working in the hospital and community health setting, one respondent reported that only two new full time jobs were advertised in the hospital setting in the last three years. Other states have significantly less AEPs working in the hospital system (e.g. QLD = 28).

Figure 14: Victorian Allied Health Workforce Research regarding workforce ‘models’ of practice



4.0 WORKFORCE TRENDS

METHOD

To examine the workforce trends, a comprehensive literature review was conducted. The initial literature review was based on previous ESSA membership surveys reviewing common areas and sectors that ESSA professionals work within. The steering committee also provided a wide range of literature that included areas of growth where exercise services were emerging and could be provided within the future. Allied health, fitness and closely related professional groups were contacted to share their workforce literature.

RESULTS

An examination of workforce literature as related to the exercise and sports science industry revealed some common themes.

Some consistent themes were:

- » The presence of an ageing population;
- » A lower average age for the workforce due to a higher volume of millennials;
- » Increased use of technology in all areas;
- » Increased focus on health promotion, prevention and well-being; and
- » Increased multidisciplinary and collaborative approaches to work.

The literature indicates that the culture of the Australian workforce is changing (ATOS, 2017). Workforce and industry development in a dynamic environment relies upon the emergence of new skills and behaviours which in turn foster growth and opportunities for a profession. For example, even though the Australian population is ageing, an increased number of younger, technologically advanced workers are entering the workforce and are seeking a 'connection' to the future (ATOS, 2017).

The impact of health on the future workforce is considerable. The Australian Institute of Health & Welfare (AIHW, 2011) reported that 31% of disease burden in Australia was preventable, with 1.7 times the rate of disease burden in remote areas compared to metropolitan areas, and 2.3 times greater in the Indigenous population of Australia. The five disease groups causing the most burden are cancer, cardiovascular diseases, mental and substance use disorders, musculoskeletal conditions and injuries, which in combination account for 66% of the

total burden (AIHW, 2011). With at least 31% of the five major disease groups being preventable, the importance of increased government and industry support for preventative health initiatives inclusive of exercise science services is compelling.

A Future Workforce Report conducted by ATOS (2017) predicted the drivers for change in the next decade would include:

- » 44% changing work environments and flexible working arrangements
- » 26% advances in computing power and big data
- » 34% mobile internet and cloud technology
- » 23% rise of the middle class in emerging markets
- » Increase in artificial intelligence in the workplace
- » By 2050, millennials will make up 50% of the workforce
- » New employees will offer a stark contrast to baby-boomers with millennials supporting horizontal organisational structures i.e. authority-less leadership
- » Employees will be more tech-savvy and educated
- » Increased demand for more flexible workplaces including working remotely
- » Soft skills will be emphasised over hard skills
- » Younger employees will crave immediate, substantive feedback
- » Wellness programs will take on added significance, using wearables and complex systems of sensors in the workplace to assist with work-life balance and decreasing stress in the workplace

A search for specific workforce data for the titles of Accredited Exercise Scientist, Accredited Exercise Physiologist, Accredited Sports Scientist and Accredited High Performance Managers yielded limited results. However, research on specific settings and role specialisations provided an indication of the current trends and potential areas of growth for the industry.

The following sections outline specific industry settings and specialisations in more detail and the possible changes and roles that may emerge for ESSA accredited professionals.

4.1 ALLIED HEALTH WORKFORCE

Accredited Exercise Physiologists (AEPs) are considered a part of the Australian allied health workforce with the other ESSA professions (AES, ASpS and AHPM) and contribute to the wider health and well-being, exercise and sports science industries.

Despite AEPs providing services within the private and public health sectors across Australia, allied health data to date has been limited in capturing exercise physiology services. Exercise physiology is often reported to be a service, however there is little to no data to highlight their representation in the workforce.

One exception was the Allied Health Research Program conducted by the Victorian Government Department of Health (2018). This research profiled 26 professions (including exercise physiology) representing 42,000 allied health professionals across Victoria. The data indicated that most Victorian allied health professionals were under 35 years of age, lived in metropolitan areas, had permanent employment status and were employed in the community, medical/private practice or hospitals. It also showed that half of all professionals

were employed in the public-sector and the other half were employed in private sector positions. Of the total cohort in Victoria, 641 professionals were AEPs and 54% of AEPs were female. This data only represents a proportion of the national story and is dependent on each state's health system.

Within the Australian health sector, AEPs provide services within all compensation schemes (Medicare, Department of Veterans' Affairs (DVA), National Disability Insurance Scheme (NDIS), workers compensation schemes and private health insurance). The introductions of the NDIS and reforms to private health insurance are responses to an ageing society and the increased prevalence of chronic disease. Exercise interventions have been shown to support the management, treatment and prevention of many chronic conditions such as diabetes, obesity, heart disease and mental health. It is evident that the recent rise in preventable diseases and conditions in Australia will place an added demand on allied health services in the future and that exercise physiology and exercise science services will form part of a solution.



4.2 ACTIVE TRANSPORT

Active transport refers to unassisted travel (i.e. walking) or the use of non-motorised transport (i.e. bicycle) to reach an intended destination (*Clearinghouse, 2018*). Active transport demonstrates a wide range of benefits including improvement in health and well-being, social connectedness, reduction of carbon footprints and reduced economic burden particularly on the health system (*Clearinghouse, 2018*).

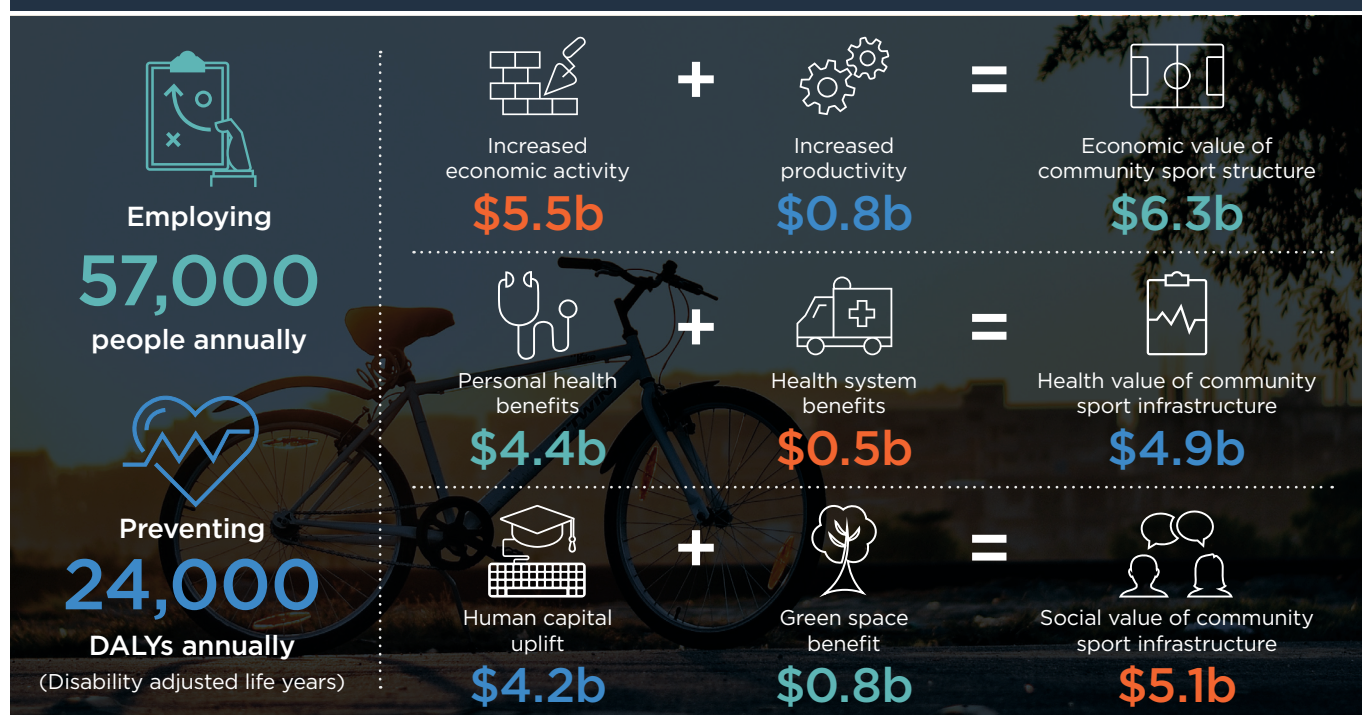
Evidence shows that the increase in non-communicable diseases globally (*WHO, 2018; Brown, et.al., 2017*) is associated with physical inactivity. Approximately 57% of the Australian adult population do not meet recommended physical activity targets as recommended by the physical activity guidelines of Australia (*ABS, 2013*). In 2012, only 4% of Australian adults walked, 2% cycled and 16% used public transport to travel to work or full-time study (*Brown, et.al., 2017*).

Governments are increasingly implementing policies and interventions that encourage people to be more physically active. This has included recognition of the important role that the transportation sector plays in incorporating incidental exercise and physical activity into the daily lives through cycling, walking and increased use of public transport. Additionally, all Australian states and territories have endorsed some form of active transport policy or position statement (*Brown, et.al., 2017*) demonstrating a national commitment to the promotion and support for active transport.

Australian initiatives such as the National Cycling Strategy 2011-2016 and individual state based initiatives such as [Queensland's Cycling Strategy](#) (2017-2027), [NSW Walking Strategy](#) (2011) and Victoria's [Walk to School](#) (2016) are examples of effective active transport initiatives. An Infrastructure Report developed by KPMG (2018a) further profiled the health benefits (decreased risk of chronic diseases, savings in health system, reduced risk of accidents) and social improvements (social inclusion, community pride and positive role modelling) realised through improved infrastructure. Furthermore, research conducted by CDM (2016) for the Queensland Department of Transport & Main Roads recommended that physical activity be adopted via active transport modalities to produce positive health outcomes.

While transport departments typically engage public health consultants to help inform infrastructure development, a review of active transport reports indicates that Accredited Exercise Scientists are not generally consulted (*CDM, 2016; Brown, et.al., 2017*). If infrastructure developments are to be successful in engaging sedentary people in active transport, relevant components should be based on evidence spanning the psycho-social and biological sciences as relevant to exercise. Engaging Accredited Exercise Scientists to advise on active transport options during the planning and implementation of infrastructure developments could enhance effectiveness and ultimately lead to a higher community-wide uptake of active transport.

Figure 15: Active Transport - Taken from *Community Sport Infrastructure Report* (2018)



4.3 AGED CARE

The Australian population is ageing with 15% of the Australian population over 65 years of age (*ABS, 2015*). With ageing comes a greater incidence of chronic illness and disease with more than three-quarters of Australians aged over 65 having at least one chronic condition (*AIHW, 2018b*). Increasing physical activity levels of older adults effectively prevents and manages many chronic health problems, improves and prolongs physical function, independence and quality of life, and reduces cognitive decline.

Aged care is a continuing spectrum that requires a continuum of services and service providers. In the context of exercise and sports science, the service provision required includes services providers working within (a) general physical activity, (b) the prevention of chronic disease, and (c) treatment and management of chronic disease and conditions associated with ageing. There is currently a shift away from residential aged care in Australia with more older adults remaining in their homes, requiring increased community and family involvement and engagement (*Department of Health, 2017a*).

Presently, ageing Australians can access AEP services through Federal Government initiatives such as [home care packages](#) or [Commonwealth Home Support Program](#) (CHSP). These programs help ageing Australians access the allied health services required to support independent living. The Aged Care Funding Instrument (ACFI) assesses the needs of residents in aged care facilities and is the process that determines Federal Government subsidies to aged care providers. Currently, AEPs are not listed on the ACFI, however the [2017](#)

[review](#) and recommendations make reference to Accredited Exercise Physiologists (AEPs) and the role they play in aged care.

The Department of Health (*2017a*) has stated that by 2022 their vision is that Australia's aged care system will:

- » be sustainable and affordable, long into the future;
- » offer greater choice and flexibility for consumers;
- » support people to stay at home and a part of their communities, for as long as possible;
- » encourage aged care businesses to invest and grow; and
- » provide diverse and rewarding career options.

To achieve the above vision, the aged care workforce will need to adapt to meet future demand. It is reasonable to assume that the current aim to prolong independence for the ageing population will require a shift in focus to prevention and 'wellness'. Health care models across the spectrum of services are moving towards more significant involvement of multidisciplinary care and an increased focus on consumer-centred care. Increased prevention and wellness services in aged care would present numerous opportunities for exercise and sports science professionals to provide education and services to optimise health and well-being. This would be in stark contrast to the traditional focus on treatment of conditions and disease in the elderly (*NOUS group, 2013*).



4.4 CORPORATE HEALTH

The corporate health and wellness sector primarily consists of workplace programs and activities that are implemented to improve the physical and mental well-being of employees. They contribute to a healthy work-life balance for the individual (IBIS, 2016) and help to improve staff morale, absenteeism and productivity for the employing organisation. The range of services and service providers is extensive and includes onsite fitness facilities, off-site activities, health screening services, online health promotion and sport/recreation/fitness event participation.

Australian workers are at risk of chronic disease (Corporate Bodies, 2016a) and absenteeism is reported to cost Australian businesses \$7 billion per year (Corporate Bodies International, 2016b). Industry reports (IBIS, 2016; Corporate Bodies, 2016a) indicate that there has been a shift to professional based services in Australia, thus leading to a less active work environment. Corporate Bodies (2016a) reported that in 2008, physical inactivity contributed to \$9.3 billion in lost productivity.

Importantly, the introduction of corporate health and wellness programs help to increase employee physical activity through health education and awareness raising (Corporate Bodies, 2016a; IBIS, 2016). The benefits of these programs are clear, and it has been reported that employees who perform moderate and vigorous levels of physical activity compared to sedentary employees achieve higher overall job performance which in turn increases productivity and staff retention (Corporate Bodies, 2016a).

The 2016 IBIS Report outlined the statistics on the right for the corporate health and wellness sector in Australia.

While the sustainability of the services and sector have been traditionally challenged by affordability, there is evidence that technological change and the increase in online programs will be a growth area in corporate health and wellness (IBIS, 2016).

A range of opportunities exist for accredited exercise professionals to be engaged in delivering the corporate health and well-being programs of the future. This includes exercise services across the full spectrum of health promotion, preventative health measures and treatment for those with existing conditions.

Figure 16: Key Statistics Snapshot

REVENUE

\$48.7m

WAGES

\$20.4m

ANNUAL GROWTH 12-17

-0.5%

ANNUAL GROWTH 17-22

0.9%

PROFIT

\$4.6m

BUSINESSES

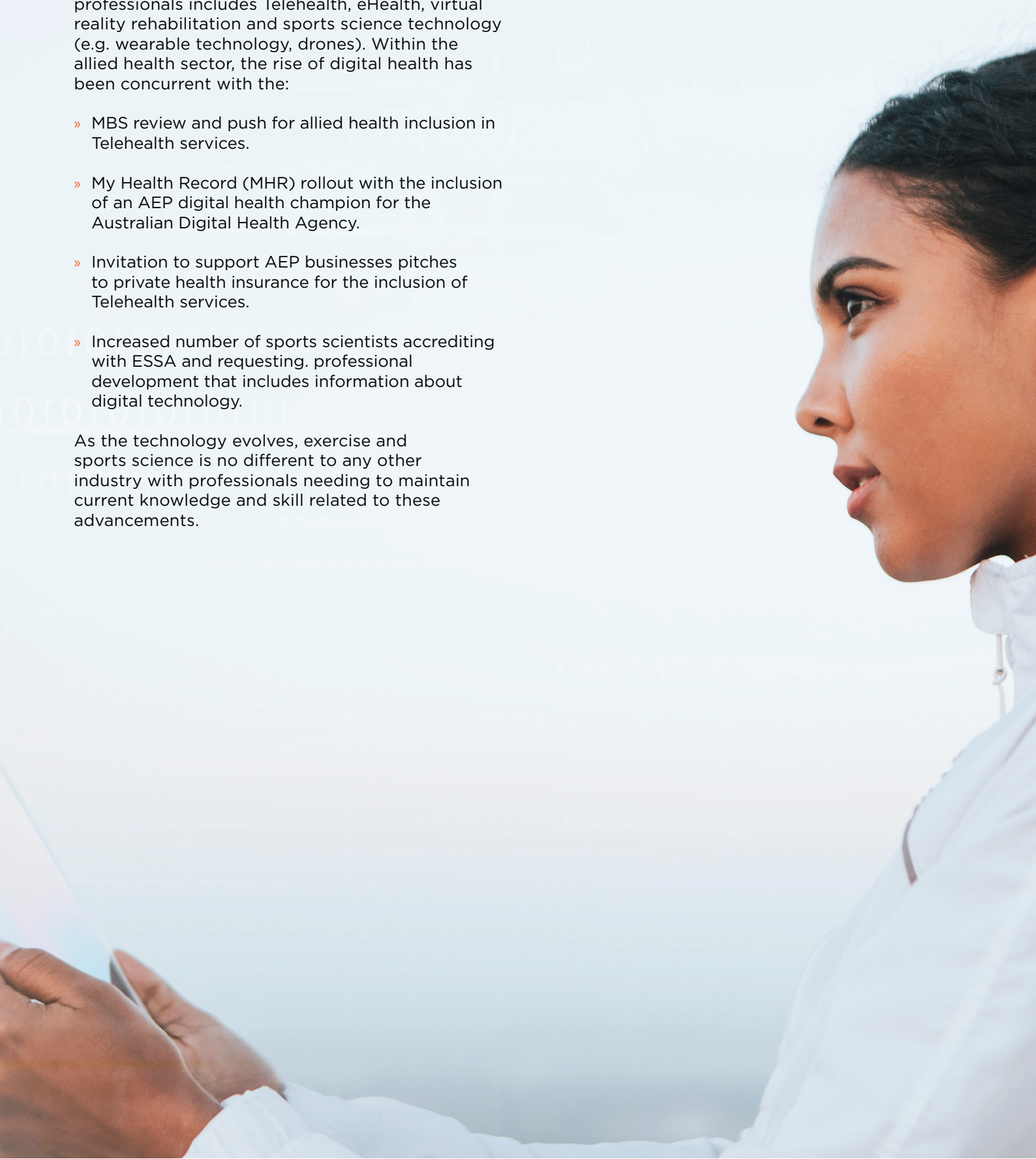
62

4.5 DIGITAL HEALTH

Digital health for exercise and sports science professionals includes Telehealth, eHealth, virtual reality rehabilitation and sports science technology (e.g. wearable technology, drones). Within the allied health sector, the rise of digital health has been concurrent with the:

- » MBS review and push for allied health inclusion in Telehealth services.
- » My Health Record (MHR) rollout with the inclusion of an AEP digital health champion for the Australian Digital Health Agency.
- » Invitation to support AEP businesses pitches to private health insurance for the inclusion of Telehealth services.
- » Increased number of sports scientists accrediting with ESSA and requesting professional development that includes information about digital technology.

As the technology evolves, exercise and sports science is no different to any other industry with professionals needing to maintain current knowledge and skill related to these advancements.



4.6 DISABILITY

Disability affects the wider Australian community with 1 in 5 Australians (18.3% or 4.3million Australians) (ABS, 2018a) reporting they have a disability. In 2018, 78.5% of Australians with a disability report having a physical condition and 21.5% report mental and behavioural disorders (ABS, 2018a). Of people who identify as being of Aboriginal and Torres Strait Islander descent, 23.9% report living with a disability compared to 17.5% of non-Indigenous Australians (ABS, 2018b).

People with a disability also experience poorer physical health. Based on reports from people living with a severe or profound disability:

- » 46% undertake no physical activity versus 31% for those without disability (AIHW, 2018c)
- » They are 1.7 times more likely to be obese (AIHW, 2018c)
- » They have a higher prevalence of long-term health conditions (AIHW, 2018c)
- » They are 3.3 times more likely to have three or more long-term health conditions (74% versus 23%) (AIHW, 2018c)

Participation in physical activity in sport was reported to be:

- » 59% for 5 to 14 year old's (ABS, 2018c)
- » 20% for 15 to 64 year old's (ABS, 2018c)
- » 12% for people aged 65 years and older (ABS, 2018c)

Participation in physical activity for exercise or recreation was reported to be:

- » 66% for children and young adolescents aged 5 to 14 year old's (ABS, 2018c)
- » 50% for 15 to 64 year old's (ABS, 2018c)
- » 36% for people aged 65 years and older (ABS, 2018c)

Significant barriers to participation in physical activity and sport for people with disability include lack of inclusion, negative societal attitudes and lack of local opportunities (Clearinghouse, 2018b).

The National Disability Insurance Agency (NDIA) has reported that 460,000 Australians with a disability will have access to services under the National Disability Insurance Scheme (NDIS). In February 2018, there were 140,000 Australians benefitting from the NDIS (NDIS, 2018). Full roll-out across Australia will be complete by July 2019. To support the expansion of the NDIS, the disability workforce will need to increase. The Australian Disability Workforce Report (National Disability Services, 2018) reported that the overall Australian workforce increased by 1.6% in 2016. In contrast, the broader social assistance, personal assistance and residential care workforce grew by 9.5% and the disability sector increased by 11.1%.

Accredited Exercise Physiologists can currently register as NDIS service providers under the *Improved Health & Well-being* funding category. Even so, there is the capacity for the role of the exercise science profession to engage in the NDIS on a much broader scale. Exercise and sports science professionals also have the expertise to contribute to physical activity, sport participation and social inclusion. As referred to in the Intergenerational Review of Australian Sport (Boston, 2017), sport can play a key role in changing the perceptions of disability. The profile of major events such as the Paralympics and Commonwealth Games have and do increase participation for people with a disability at an elite and grassroots level (CSIRO, 2013). A multidisciplinary approach to exercise and physical activity participation is required for people with a disability and should be implemented in the future through the engagement of accredited exercise and sports science professionals.

4.7 FITNESS

The fitness industry has a wide range of professionals working across a variety of facilities and environments. Considering the size and breadth of fitness industry services, the industry is well placed to positively influence public health due to:

- » The potential to reach a wide population;
- » The existence of a significant number of established facilities with equipment; and
- » The large number of accredited or registered exercise professionals able to prescribe exercise (Bennie, 2014).

Fitness industry businesses typically employ exercise professionals who are registered or accredited with an appropriate peak organisation. The largest registration scheme for the industry is administered by Fitness Australia, the national industry association, and another smaller registration scheme is operated by Physical Activity Australia. Exercise science professionals who are accredited with ESSA are also employed in the fitness industry.

The most common roles in the fitness industry are:

- » Personal trainer
- » Group exercise instructor
- » Gym instructor
- » Exercise scientist
- » Exercise physiologist
- » Strength & conditioning coach

The fitness industry collectively provides services in a wide range of facilities including, but not limited to:

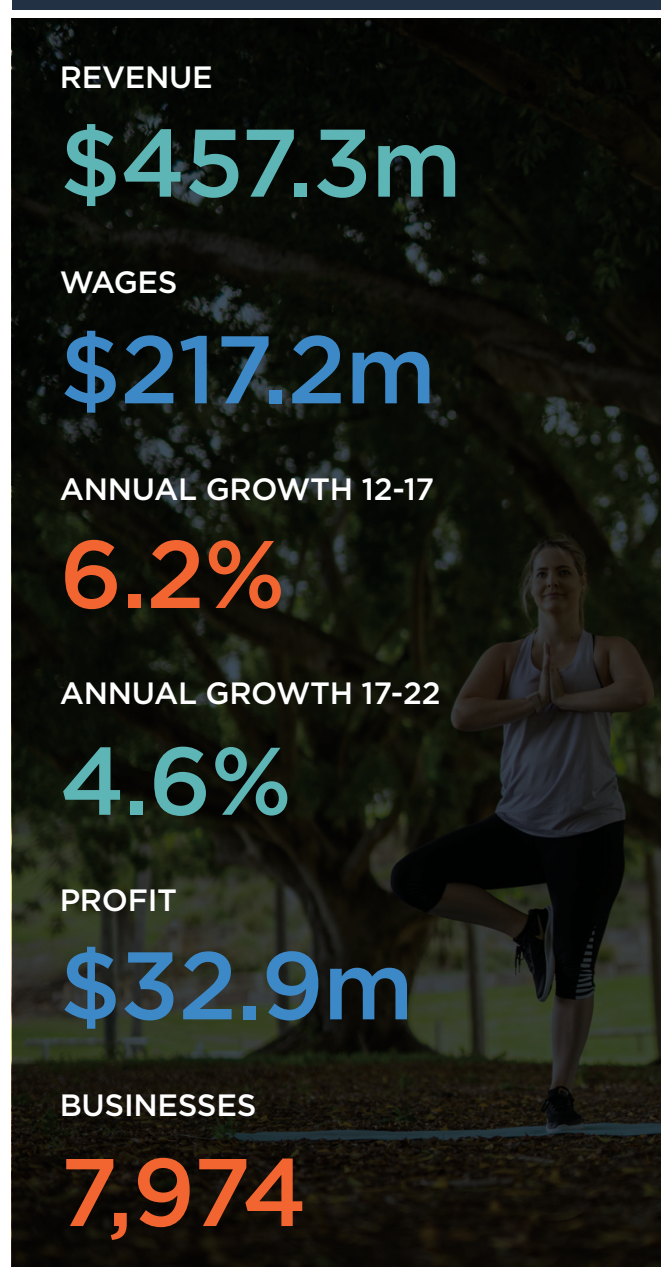
- » Gym facilities
- » Sport and recreation facilities
- » Pool facilities
- » Community centres
- » Workplace fitness facilities
- » Schools

Due to the wide variety of services offered, the opportunity for future engagement of exercise and sports science professionals in the fitness industry is extensive. Additionally, the anticipated increased

demand for effective evidence-based programming for a society that has escalating chronic disease and obesity means that the employment of exercise science professionals will more effectively meet consumer demand and provide important value to the fitness businesses of the future. The engagement of multidisciplinary teams and use of referral pathways would optimise this opportunity for the fitness industry.

The following statistics taken from the 2017 IBIS report highlights the opportunity and growth within the fitness industry.

Figure 17: Key Statistics Snapshot



4.8 HOSPITAL

The hospital sector in Australia comprises of inpatient hospital settings and outpatient settings including community health. Accredited Exercise Physiologists are slowly being incorporated to the hospital inpatient and outpatient services due to the increased knowledge and research for the benefits of exercise in chronic conditions.

Historically, most outpatient programs have been run by physiotherapists, nurses and other hospital staff. Accredited Exercise Physiologists are now involved in cardiac rehabilitation programs and more recently pulmonary rehabilitation and in some states neurological and musculoskeletal outpatient programs. With the rise of chronic diseases, community health settings are also providing diabetes awareness programs as well as health and well-being programs. A small proportion of Accredited Exercise Scientists have been employed to assist with facilitation of educational and well-being programs however this data is not yet available.

The National AEP Hospital Network reported the following figures in public hospitals and community settings: QLD = 27; VIC = 98; NSW = 70; SA = 25; TAS = 0; WA = 9. Other states do not have any data to report at this stage. Accredited Exercise Physiologists are also employed in private hospital settings, but this data is not available.



4.9 MENTAL HEALTH

It is reported that 20% of the Australian population aged 18 to 65 have experienced mental illness within the last 12 months and 45% of Australians will experience mental illness within their lifetime (AIHW, 2018d). People with severe mental illness live up to 15 years less than the general population (Rosenbaum, et.al., 2015). A major contributing factor to the lower life expectancy is poor physical health and higher rates of chronic illnesses, such as cardiovascular disease and diabetes.

People with mental illness experience poorer physical health. Physical inactivity is the cause of approximately 9% of premature mortality worldwide, with people experiencing a mental illness particularly susceptible.

Limited dedicated funding exists to support people to exercise when they are experiencing a mental illness. Notably, for every case of depression that is averted through exercise, society saves AUD\$10,062 per year. The direct savings to the consumer is approximately AUD\$6,025 per year. KPMG's report (2018b) on the mental health of Australia stated that mental ill-health costs the Australian economy almost \$60 billion per year.

Workforce reports for mental health don't appear to include exercise professionals. However, the importance of promoting mental health and well-being by the inclusion of physical activity and exercise is often reported (Victorian Government, 2011; KPMG, 2018b).

With the evidence to support the impact of exercise and physical activity on mental health, Accredited Exercise Physiologists (AEPs) are increasingly working in mental health services, both in private practice and the public health sector including within inpatient and outpatient services.

Accredited Exercise Scientists (AES) and AEPs also have an important future role to play in the prevention of mental health conditions through engagement in the continuum of care. The recent international consensus statement for mental illness (Rosenbaum, et.al., 2018) reports that people living with a mental illness are at high risk of poor lifestyle factors including physical inactivity and experience an unacceptable level of early mortality between 15 and 25 years of age. The statement also emphasises the importance of exercise practitioners' role in educating and facilitating behavioural change.

Recent examples within elite sport also highlight the importance of implementing behaviour change for athletes with sports scientists and high performance managers also working collectively to manage the stressors of competition for athletes.

The recent development of programs such as the National Rugby League's (NRL) [State of Mind](#) program also demonstrates the commitment sporting organisations can provide to assist with education and support for individuals across the Australian population.

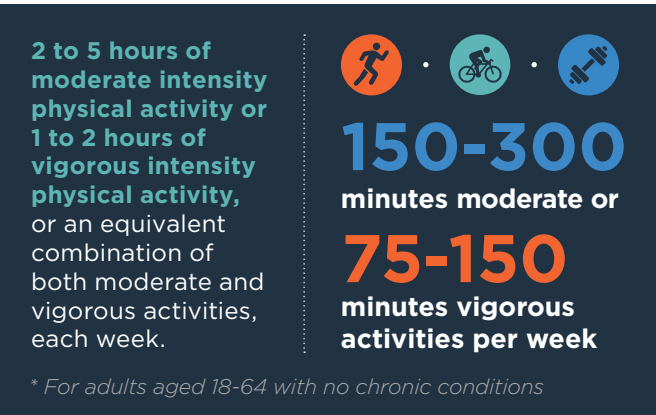
As can be seen in the aged care and disability sectors, the opportunity for accredited exercise professionals to be employed in the future continuum of care, from prevention through to treatment and management of mental health conditions, is clear.



4.10 PHYSICAL ACTIVITY

Australia’s Physical Activity and Sedentary Behaviour Guidelines as published by the Department of Health recommends that adults aged 18 to 64 with no chronic conditions undertake 150-300 minutes of moderate intensity physical activity or 75-150 minutes of vigorous activity per week as well as muscle strengthening on at least two days per week (*Department of Health, 2017b*).

Figure 18: Australian Physical Activity & Sedentary Guidelines for Adults



Research conducted by the Australian Bureau of Statistics in 2018 highlighted that 31% of Australian adults were obese, an increase from 28% in 2015. A total of 67% of Australians aged 18 and over were overweight or obese, compared to 63% in 2015.

Research conducted by the Heart Foundation (2018) shows that only 7% of Australian adults contribute the reduction in chronic conditions to physical activity, indicating that public education and implementation of appropriate physical activity programs is required.

The Commonwealth Government recently launched the National Sports Plan (2018) which highlights the need to increase national community physical activity levels across the life stages. Subsequent government funding has been provided to support participation in physical activity for over 65 year old’s, sports participation for children and for further general physical activity programs.

The physical activity sector is inclusive of sport, active recreation, structured exercise, physical education and active living. There is little doubt that accredited exercise professionals have a key role to play in the future of these separate domains and the composite objectives to increase community physical activity levels in Australia.



4.11 PREVENTATIVE HEALTH

With 50% of Australians having at least 1 of 8 common chronic conditions (cancer, cardiovascular disease, mental health, arthritis, back pain, lung disease, asthma and diabetes), and 23% having at least 2 or more, \$467 million is spent on health every year (AIHW, 2018e). This equates to AUD\$19 per person, per day. Of Australia's total burden of disease, 32% is attributed to modifiable risk factors. However, only 2% of Australia's health expenditure goes towards preventative health.

The World Health Organisation's (WHO) goal to reduce physical inactivity by 15% by 2030 has been highlighted in their recent [Global Action Plan on Physical Activity 2018-2030](#). WHO's plan encourages countries to increase levels of physical activity through strengthening their response with evidence-based policy solutions, guidelines and implementation tools.

Although the leading causes of death in Australia range from coronary heart disease to dementia and Alzheimer's disease, and lung cancer and lung disease (AIHW, 2018e) most are preventable with exercise assisting in the prevention, management and treatment for all conditions.

Campaigns and national strategies such as the Heart Foundation's 'Move More, Sit Less' Canberra Communique (Heart Foundation, 2015), Obesity Policy Coalition's 'Tipping the Scales' (2017) and the recent National Sports Plan (Department of Health, 2018) highlight the importance of health promotion and the role that the exercise and sports science industry can play across a wide variety of settings to assist in combating physical inactivity. Exercise professionals will be best placed in environments and work places such as active transport, corporate health, health promotion and community health projects, however the Australian Government has an important role to play in initiating support to implement these community partnerships.

4.12 SPORT

Australia's National Sport Plan (Department of Health, 2018) highlighted the need for businesses, infrastructure and the workforce to evolve to meet future demand. The plan also identified the role that volunteers contribute to the sports workforce and the need to improve the capability of the workforce to support athletes and sporting organisations. The plan highlighted that \$12 billion is spent on sport and the related infrastructure each year which supports a workforce of more than 220,000 people contributing 2-3% of Australia's annual GDP.

The ESSA Graduate Destination Report (2017) highlighted that 5% of graduates define themselves as working as a sports scientist. With the Australian Sports Commissions requirement for sports scientists to be accredited, there is an anticipated rise in Accredited Sports Scientists. In December 2018, ESSA reported that 190 sports scientists and 21 high performance managers were accredited with ESSA compared to 50 in December 2017.

Sport is multifaceted and based across community, amateur and elite realms. With the requirement of accreditation and the recent release of the National Sports Plan, it is envisaged that with future government support and investment, the role of Accredited Sports Scientists will become more pronounced and influential in positively impacting performance and quality of life for participants.



5.0 PERSPECTIVES FROM ESSA PROFESSIONALS

The perspectives of ESSA accredited professionals, students and members about the future trends and needs of the exercise and sports science workforce were collected through a specifically designed survey. The survey was developed and administered with the expert guidance of a steering committee representative of ESSA stakeholders and a specialist futurist consultant, using the Survey Monkey Enterprise software.

METHOD

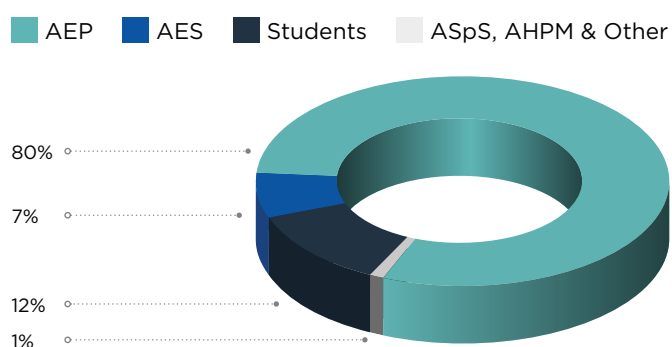
A cross-sectional online survey of ESSA members and accredited professionals was conducted between 13 June – 13 July 2018 using direct email invitations and social media promotions through ESSA's marketing unit. A total of 590 responses were received.

A mixed methods approach was utilised for the analysis of the qualitative and quantitative survey responses. First, the demographic and quantitative survey questions were coded and analysed using descriptive statistics in SPSS. Next, the qualitative open-ended survey questions were analysed using NVivo by coding and sorting the responses according to themes. Finally, non-parametric tests on SPSS were used to look for any significant differences between groups according to demographic variables such as geographic location, membership type and age group.

RESULTS

From the 590 responses received, 80% (472) were AEPs, 7% were AES and 12% were students, with the remainder a mix of ASpS, AHPM and other. Most respondents were female (60%) and 6 identified as Aboriginal and/or Torres Strait Islander.

Figure 19: ESSA Accreditation Areas



Most respondents (70%) were working in metro areas, and the largest proportion of respondents from individual states were NSW (35%), QLD (24%) and VIC (19%). Half (50%) of the sample reported working in private practice or business with another 13% reporting they work as sole traders. Some (14%) work in the university or higher education sector with the remainder in a mix of State and Commonwealth Government or not-for-profit organisations.

A wide range of open-ended questions were asked to determine the thoughts of ESSA professionals about their individual roles as well as the future of their industry.

KEY FINDINGS

Qualitative survey responses showed that the main **barriers and challenges** for the current workforce were perceived to be:

- » Competition in the market (with other allied health and fitness professionals)
'Other disciplines are wanting to take our bread and butter. We're fledgling as it is, we don't want anyone else to lend themselves within the health sphere as exercise specialists too.'
- » Lack of funding
'Not establishing itself as a critical player in the health prevention and health treatment sector, as recognised by government funding and support.'
- » Lack of understanding of their role or skills
'The inability to be seen as the premier exercise provider for general health and chronic disease.'
- » Low employment opportunities and poor remuneration
'The award rates are quite pitiful - after a 4-year degree and several years' experience I would still earn more working in an unqualified job.'
- » Lack of recognition from other allied health providers
'Continue to support and fight for quality and skills of EPs and not to be pushed into second class health care provider status behind physiotherapists.'

However, the following areas were identified as the main opportunities for **growth**:

- » Becoming a better recognised profession in allied health and aged care
'Aged care has to be the area that has the greatest growth and employment potential.'
- » Corporate health and well-being
'Increased influence and adoption in workplace/corporate health sector.'
- » Mental health
'Targeting mental illnesses and finding more practical ways to identify and help it.'
- » Preventative health promotion
'Health promotion, prevention and education for active transport and active communities.'
- » Sport performance
'I see the opportunity for more AES to progress to ASpS and gain roles. I also see a lot of scope for EPs in the sports rehabilitation field that is currently dominated by physiotherapists.'
- » Technology use
'Integrating evolving technologies into routine practice in a meaningful way.'

The following professional **skill sets** and expertise were considered future requisites to enhance employment opportunities and growth:

- » Business and management skills
'I think it's more about the non-clinical skills, managing people in large workplaces, interpersonal relationships, motivational interviewing and influencing skills.'
- » Gait analysis
'Improved balance and gait assessments.'
- » Mental health
'Knowledge of mental health conditions, medications and considerations.'
- » Advanced assessment (pulmonary and cardiac)
'Improved echocardiography skills - sonography, advanced pulmonary testing.'
- » Technology use
'Health technology: e-health, telemetry, remote servicing.'
- » Workplace assessment
'Work place assessments/work station assessments.'

Specific **models of care** were also identified as areas of growth, but would be reliant upon further support for development:

- » Multidisciplinary clinical models
'Multidisciplinary clinical models and community health care.'
- » Gym models
'Gym models with clearer risk stratification and understanding between PTs and ESSA staff.'
- » Community health care
'Community health care - group and private sessions.'
- » Aged care models
'Aged care facilities and roles.'

The key industry changes and opportunities observed within the **last 10 years** were:

- » Corporate health consulting
'More job opportunities in occupational rehabilitation and corporate health for AEPs.'
- » Increased recognition of the professions in health care
'More job opportunities, more community awareness and medical recognition.'
- » Multidisciplinary care and job opportunities
'Greater multidisciplinary care and better recognition by GPs and other allied health professionals.'
- » Limitations to job opportunities (due to low profile and competition)
'EPs continue to be under employed with multiple jobs and needing to fight to be paid correctly (private and public health).'

Respondents predicted that the biggest changes in their roles over the **next 5 years** will be:

- » Increased requirement/emphasis on being an education provider
'More as a provider of education than physical intervention.'
- » Increased exercise prescription for ageing population
'Exercise for ageing populations with chronic diseases, continuing to grow our evidence base with longer interventions.'

- » Increased recognition and referrals by allied health professionals
'I expect there will be an increase in referrals due to the ageing population and the increases in chronic conditions.'
- » Increased recognition in public and private health care and compensation schemes
'Aim to have a broad range of clientele from private, MVA, WorkCover, DVA and NDIS supporting enhanced functional conditioning.'
- » Decreased recognition within workers' compensation schemes
'Different legislation around workers compensation.'

It was also thought that in **10 years' time** the industry has opportunities for success in:

- » Exercise as medicine for chronic disease prevention and management
'Be a major government/private sector player in the national strategy to combat obesity and chronic disease.'
- » Increased recognition and referrals in health care
'An EP in every public cancer hospital, GST taken off exercise physiology, EP rebates through private health insurance, recognition and advocacy with the Australian population.'
- » Increased recognition in aged-care
'Aged care has to be the area that has the greatest growth and employment potential.'
- » Increased recognition in the sport and recreation industries
'Contributing to health, exercise, physical activity and organised sport.'

The potential failure to achieve these successes were attributed to:

- » Lack of education and awareness in public and private health care
'Not being more forceful in educating the community about the role of AES and AEPs with respect to physiotherapists who are already well-established and understood.'
- » Lack of funding
'Loss of Medicare or private health. We need more funding not less.'
- » Lack of recognition in health care and fitness industry
'Members not recognised as leaders of the health and fitness within the Australian community.'

In looking to the future, respondents thought that **ESSA's priorities** over the next 5 years should be:

- » Lobbying to government and industry
'Lobbying Federal Government to ensure AEPs are integral personnel involved in chronic disease management.'
- » Education
'Educate the population as to our role, not just for chronic conditions but our expertise in exercise prescription for prevention as well.'
- » Organised and elite sport
'Mandatory ESSA accreditation for those working in elite sport.'



6.0 PERSPECTIVES FROM EXTERNAL STAKEHOLDERS

The exercise and sports science industry connects with multiple sectors, inclusive of health, education and community. To follow on from the internal professional perspective and to more fully explore the future of the exercise and sports science workforce, perspectives from external stakeholders were sought. This research was undertaken through the conduct of an External Stakeholder Thought Leader Forum and the dissemination of a dedicated external stakeholder survey.

METHOD

A Thought Leader Forum held in Brisbane was conducted on 26 September 2018. Invited thought leaders were nominated by the steering committee and were representative of key industries highlighted in the ESSA professionals survey in stage 2 and other key industry stakeholders. Each invitee was asked to nominate another thought leader through their industry or professional connections to invite to the event.

The Thought Leader Forum was designed and facilitated by futurist, Gretchen Young, who has worked on a number of future workforce projects for allied health across Australia.

Following the forum, a cross-sectional online survey of ESSA stakeholders, attendees of the thought leader forum and their network was conducted between 3 September and 26 November 2018. The survey used direct email invitations and social media promotions through ESSA's marketing unit with repeat prompts. A total of 495 individuals and organisations were contacted, 49 responses were received.

A mixed methods approach was utilised for the analysis of the qualitative and quantitative survey responses with the same process being utilised as the ESSA professionals' survey.

KEY FINDINGS

The Thought Leader Forum provided a depth and breadth of information concerning the past, the present and the ideal image of the future for the professions.

Attendees believed that elements of the past that should be left behind included what was perceived as an over-medicalisation of exercise, an over-emphasis on risk management, the focus on body image and overly structured exercise. Conversely, they identified some important legacies to carry forward including the value and application of research, lifetime enjoyment of sport and exercise and unstructured physical activity in natural environments.

In considering the present, the forum attendees thought that characteristics that should be resisted included non-evidence-based exercise programming, limiting the image of exercise to sport, limiting the settings for physical activity and making exercise inaccessible and unaffordable. They felt that current features that should be harnessed and used in the future were the mobility of the workforce, the flexibility of work conditions, the social connection and sense of community that can arise from exercise and the community appetite for and desire to increase physical activity.

Attendees then considered the image of an ideal future for the professions and the environment they will operate in. They thought that our future population will be better informed about exercise and that there may be more emphasis on broader physical activity in environments that are more conducive to movement through improved planning and design. It was also thought that the use of technology will be highly influential. This would include virtual reality to engage people in exercise; technology for self-monitoring and tracking through wearable technologies and advanced data collection and analyse capabilities.

Further elements of an ideal future for the attendees included GPs consistently prescribing exercise before pills, more allied health multidisciplinary hubs, preventative healthcare funded by private health insurers and more flexible MBS codes.

In combination, the results from both the Thought Leader Forum and stakeholder survey highlighted the following barriers and opportunities for growth of the exercise and sports science professions.

Barriers to Growth:

External stakeholders identified that the primary barriers for exercise and sports science professionals have been:

- » Inadequate funding (government, health funds, sporting)
- » Lack of industry awareness among consumers
- » Competition with other allied health or fitness professionals

Opportunities for Growth:

Attendees at the Thought Leader Forum identified the following workforce domains as being prominent in the future and offer the greatest potential for growth:

- » Health prevention / promotion / education (schools and community education)
- » National Sports Organisations and Non-Government Organisations
- » Community settings (e.g. fitness centres, outdoor/active exercise spaces)
- » Active Living (active transport, urban planning)
- » Technology and innovative practices

The survey respondents reported that opportunities for growth exist in:

- » Aged care programs
- » Technology use
- » Research

The broad range of growth areas identified by external stakeholders highlights the significant role that exercise and sports science professionals could play in enhancing health, education and community development in Australian society. The qualitative responses provided through the forum and survey results emphasise that the profession has been under-utilised in the past and that there are clear opportunities for it to impact positively on individual quality of life and the Australian culture.

Stakeholders also highlighted the opportunity for the workforce to have increased influence in addressing existing population health concerns and to apply exercise science more liberally throughout the community to advance preventive health and wellness.



7.0 THE VISION FOR A POSITIVE FUTURE

The composite information derived from the workforce literature review, the ESSA professional and member survey and the external stakeholder consultations provides clear sign posts for the future of the exercise and sports science professions.

Thought leaders, professionals and external stakeholders have identified several areas they believe have potential for growth. They have also revealed and discussed the challenges that need to be overcome to ensure the future progress for the exercise and sports science industries.

Key drivers of societal change, including an ageing population, increasing chronic disease, continuous technological advancement, changes to our built environment and concerns regarding environmental sustainability, combine to present a heightened need for expertise, services and systems to promote and improve the health and quality of life of Australians. The services provided by accredited exercise and sports science professionals are undoubtedly representative of the expertise required.

To envisage and achieve a positive future for the exercise and sports science workforce requires acknowledging the existing barriers, appreciating the opportunities for growth, and working collectively across the sector to adopt changes to better position these professions and increase their capacity in the areas of greatest need.

The research findings identified the following directions to be taken to achieve positive outcomes for the future exercise and sports science workforce:

- » Increasing the profile with:
 - public and consumers
 - allied health and broader health sector
 - all levels of government
 - » Building strong linkages with other aligned professions
 - » Establishing collaborative multidisciplinary delivery models
 - » Growing a presence in:
 - mental health
 - aged care
 - corporate health
 - eHealth
 - sport
- fitness
 - children's physical activity
 - education and health promotion
 - prevention and early intervention
- » Increasing knowledge and skills within the professions in business and management, technology, and active living.

There is little doubt that realising these combined changes would improve the reach and effectiveness of exercise services for the prevention and treatment of injury and illness. In turn, this will provide a platform from which behavioural and cultural change can be achieved for elevating Australians' valuing of and commitment to exercise in their daily lives.

A Vision for Treatment and Management

A positive future will be shaped by a multidisciplinary approach to primary care, inclusive of exercise therapy. General practitioners and other allied health professionals will be well-informed regarding the benefits of evidence-based exercise prescription and will routinely refer patients to suitable exercise services.

Exercise interventions to support the treatment and management of many chronic conditions such as diabetes, obesity, heart disease and mental health will be core services in our health system. Hospital-based models of care will include access to exercise services and across the aged care sector exercise therapy and general exercise services will be provided to improve the health and well-being of older Australians. The disability sector will provide access to and maximise the value of exercise services for all Australians living with disability.

Importantly, the effectiveness and value of all future health sector funding models and compensation schemes will improve by including and prioritising exercise services. This will be supported by future health technology platforms that allow for efficiencies in data collection and management that are currently unimagined.

The exercise and sports science profession will provide core services for the management of illness and injury within Australia's health system.

A Vision for Preventative Health

The future role of structured exercise in preventing injury and illness will increase through broader access to exercise services for population groups across life stages in various community settings such as schools, workplaces, community centres, fitness industry, health promotion programs and beyond.

Structured exercise will also have greater influence and application across other physical activity modalities such as physical education, sport, active recreation and active living. To have exercise interspersed in these activities and settings will further enhance the capacity to prevent injury and illness.

Relevant policy-makers will be aware of the extensive evidence base that supports the application of structured exercise for the prevention of illness and injury and will adapt funding models to maximise community access. For example, exercise will be a key component in the Commonwealth Government's National Obesity Strategy, helping to reduce the number of Australians that are overweight or obese.

The exercise and sports science profession will be a key contributor to future preventative health initiatives in Australia.

A Vision for Sports Performance

The sports sector will be serviced by an increased volume of accredited exercise and sports science professionals. This will include an increased presence in elite sport and a larger number of professionals employed across community sport.

Future government policy inclusive of the National Sports Plan and further advances in related technologies will fuel opportunities for the exercise and sports science profession to apply their expertise for improved sports performance from the elite setting to the broader community interface. Key components of engagement will include performance conditioning and analysis, rehabilitation, strength and conditioning, and children's sport.

The exercise and sports science profession will play an important role in maximising the personal and community benefits from sports participation and performance.

A Vision for an Active Nation

Australia in 2019 faces the challenge of rising inactivity levels across the population, however the opportunity exists for a whole of community approach to achieve increased awareness, understanding and uptake of exercise to directly benefit individuals, our community and our future society. The future exercise and sports science workforce will be a vital contributor to this process and the potential for a positive future.

Widespread use of behavioural change technique in the planning, implementation and evaluation of exercise services will be a catalyst for societal change. The exercise and sports science workforce will be positioned to apply expertise in behavioural change on a large scale. This will benefit all population segments including those that traditionally indicate low levels of physical activity.

To maximise the impact of the workforce as behavioural change agents, emerging drivers for societal change will routinely be considered in the planning and delivery of services. For example, ongoing advancements in technology will create opportunities for the exercise and sports science professions to improve communication, delivery of services and use of information and systems across the health, education and community sectors. Technology advancements will also enable the delivery of exercise services to regional and remote areas providing valuable health services to disadvantaged communities.

Additionally, increasing population density in our cities will be placing a new set of demands on the use of space and the way in which this influences our behaviour, including physical activity. Strategies will be implemented to enhance walkability, active transport and physical activity in open space and the design of our built environment will be more conducive to physical activity.

Exercise and sports science professionals will be engaged to effectively develop and implement these active living strategies. This demand would logically lead to an increase in the number of occupations and roles across related research, development, education, promotion and planning for government and non-government organisations.

As outlined, the future environment and improvements in positioning, and capacity of, the exercise and sports science professions would certainly have a positive influence on public health, however the likelihood of success would be further

enhanced through community education. Increased community awareness on the value and importance of exercise will create an environment in which the function and impact of professional services would be optimised.

A positive future will feature distinct characteristics:

- » Injury and illness will be prevented or managed more effectively through exercise.
- » The environment will provide easy access for exercise.

- » Future governments will prioritise exercise in their planning and policy.
- » The community will be aware and well informed of the importance of exercise.

In combination, these outcomes will lead to behaviour and cultural change with regular exercise placed at the centre of community values.

The exercise and sports science profession will be a vital contributor to an Active Nation.



8.0 ACTIONS FOR REALISING OUR VISION

To realise our vision for the exercise and sports science workforce, the following actions are recommended:

Professional Upskilling

The future exercise and sports science workforce will need to possess knowledge and skills that will satisfy anticipated demand. For example, further capacity will be required to meet the future requirements in aged care, mental health and other chronic diseases. The continued emergence of digital health platforms will necessitate related competencies including the ability to deliver Telehealth services.

Similarly, new skills will be required to provide the broad based educative services needed to curb escalating chronic disease and to position exercise at the centre of community values. This would include knowledge and skill in behavioural change protocols and active living strategies. Additionally, the profession would benefit from a grounding in advocacy and leadership skills to further enhance their capacity as behavioural change agents. More specifically, educational pathways for specific professional roles should be clear so that professionals can choose and plan the progressive steps in their career with greater confidence.

ESSA as the accrediting organisation for the profession can identify and encourage the implementation of specific education in university curriculum and through the continuing professional development (CPD) platform for accredited professionals. Additionally, the development and maintenance of a future workforce skills framework could profile anticipated requirements for the professionals of the future.

Stakeholder Engagement

The exercise and sports science industry is expansive and it operates in multiple settings which typically exist within the health, community or education sectors. To achieve our vision for exercise to be at the centre of community values, broader stakeholder engagement will be required.

Government departments and organisations from additional sectors and industries such as transport, planning, building, tourism and technology will need to play their role in supporting the education,

connection and unveiling of new employment pathways for exercise and sports science professionals. Consumer groups should also be consulted with regularly to ensure that community needs are fully understood and integrated in the development and implementation of services.

Increased stakeholder engagement will:

- » Extend the reach and influence of the exercise science discipline
- » Identify opportunities for new professional roles and career pathways
- » Improve the position of the profession in the health system
- » Position the profession for greater relevance in preventative health
- » Raise and maintain profile and engagement with governments
- » Assist the education sector in maintaining relevant professional qualifications and programs

ESSA as the membership association for exercise and sports science professionals is ideally positioned to undertake a leadership role in stakeholder engagement on behalf of the profession.

Community Awareness

Exercise and sports science professionals are an important part of allied health and play a vital role in public health education and the health of the Australian population. However, in comparison to other allied health professionals they attract limited coverage in the media and have a relatively low profile.

To enhance the profile of the profession, a community awareness campaign could be undertaken. ESSA as the national peak body for exercise is well-placed to provide public education and resources that will clearly outline the important role exercise plays in enabling good health for every Australian. ESSA could seek to partner with government and influential stakeholders to create broader promotional activity. The campaign would also be mobilised

through the direct actions of individual professionals who could have access to relevant information and resources.

In addition, ESSA could promote the value of exercise science and professional services and provide a level of quality assurance by establishing a community-wide exercise science business recognition scheme and a clinical practice accreditation scheme. These schemes could enable a more thorough recognition and understanding of the discipline and profession at a localised level and contribute to raising the national profile and community awareness over time.

A dedicated long term consumer awareness campaign delivered through ESSA would provide a foundation for improved community understanding and engagement in exercise. This could be supported by establishing an exercise science recognition scheme for businesses and practices.

In combination, these three actions would increase the capacity, reach and influence of the exercise and sports science workforce, leading to an expanded range of roles for the profession and the emergence of a more active and healthier Australia.



9.0 REFERENCES

- ABS. (2015). *Feature article: Population by age and sex, Australia, states and territories*. Australian Bureau of Statistics. Retrieved May 17, 2018 from <http://www.abs.gov.au/ausstats/abs@.nsf/featurearticlesbyCatalogue/7A40A407211F35F4CA257A2200120EAA?OpenDocument>
- ABS. (2018). National Health Survey. First Results 2017-18.
- ABS. (2018a). *4430.0 – Disability, Ageing and Carers, Australia: Summary of Findings, 2015*. [Accessed 20 Feb. 2018].
- ABS. (2018b). *4430.0 – Disability, Ageing and Carers, Australia: Summary of Findings, 2015*. [Accessed 20 Feb. 2018].
- ABS. (2018c). *4156.0.55.001 – Perspectives on Sport, April 2014*. [Accessed 20 Feb. 2018].
- ABS. (2018d). *4177.0 – Participation in Sport and Physical Recreation, Australia, 2013-14*. [Accessed 20 Feb. 2018].
- AIHW. (2011). *Australian Burden of Disease and Study: Impact and causes of illness and death in Australia 2011*. Australian Institute of Health and Welfare, Canberra.
- AIHW. (2017). *An interactive insight into overweight and obesity in Australia*. Retrieved on 18 May, 2018 from <https://www.aihw.gov.au/reports/overweight-obesity/interactive-insight-into-overweight-and-obesity/contents/how-many-people-are-overweight-or-obese>
- AIHW. (2018b). *Chronic Disease*. Australian Institute of Health & Welfare, Canberra. Retrieved on 15th January, 2019, from <https://www.aihw.gov.au/reports-data/health-conditions-disability-deaths/chronic-disease/overview>
- AIHW. (2018c). *Significant health gap remains between Australians with disability and those without disability*. [Accessed 20 Feb. 2018].
- AIHW. (2018d). *Mental Health Services in Australia*. Retrieved on 19 January, 2019 from <https://www.aihw.gov.au/reports/mental-health-services/mental-health-services-in-australia/report-contents/summary/prevalence-and-policies>
- AIHW. (2018e). *Australia's Health 2018 in Brief*. Retrieved on 15 January, 2019 from <https://www.aihw.gov.au/getmedia/fe037cf1-0cd0-4663-a8c0-67cd09b1f30c/aihw-aus-222.pdf.aspx?inline=true>
- ATOS. (2017). *The Future of Work*. ATOS.
- Bennie, J. (2014). *Australian Fitness Professionals Current Practices – Summary Report*. ISEAL.
- Boston Consulting Group. (2017). *Intergenerational Review of Australian Sport 2017*. Australian Sports Commission. Retrieved 13 March, 2018 from https://www.sportaus.gov.au/nationalsportsplan/downloads/Intergenerational_Review_of_Australian_Sport_2017.pdf
- Brown, V., et. al. (2017). *Obesity-related health impacts of active transport policies in Australia – a policy review and health impact modelling study*. Australian and New Zealand Journal of Public Health, 41(6), p611-616. doi: 10.1111/1753-6405.12726
- CDM research. (2016). *Measuring the Benefits of Active Travel*.
- Clearinghouse for Sport. (2018a). *Active Transport*. Retrieved on 27 August, 2018 from https://www.clearinghouseforsport.gov.au/knowledge_base/organised_sport/sport_and_government_policy_objectives/active_transport
- Clearinghouse. (2018b). *Clearinghouse: Persons with Disability and Sport*. [Accessed 20 Feb. 2018].
- Corporate Bodies International. (2016a). *Employee Health: An opportunity to benefit your employees & business*. Retrieved May 4, 2018 from http://www.corporatebodies.com.au/assets/employee_health_3rd-edition_2016.pdf
- Corporate Bodies International. (2016b). *Putting the 'health' in workplace health and safety*. Corporate Bodies International. Retrieved May 4, 2018 from http://www.corporatebodies.com.au/assets/putting_the_health_in_wns.pdf
- CSIRO. (2013). *The Future of Australian Sport*. CSIRO. Retrieved 13 March, 2018 from https://www.clearinghouseforsport.gov.au/_data/assets/pdf_file/0007/564073/The_Future_of_Australian_Sport_-_Full_Report.pdf
- Department of Health. (2017a). *Why is aged care changing?* Department of Health. Retrieved May 17, 2018 from <https://agedcare.health.gov.au/ageing-and-aged-care-aged-care-reform/why-is-aged-care-changing>
- Department of Health. (2017b). *Australia's Physical Activity and Sedentary Behaviour Guidelines*. Retrieved 18 May, 2018 from <http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-phys-act-guidelines>
- Department of Health. (2018). *Sport 2030*. Retrieved on 31 August, 2018 from <https://www.ausport.gov.au/nationalsportplan>
- ESSA. (2015). *2015 Workforce Survey: Final Report*. Exercise & Sports Science Australia. Retrieved on 18 May, 2018 from <https://www.essa.org.au/wp-content/uploads/2015/06/Workforce-report-2015.pdf>
- ESSA. (2017). *The Exercise & Sports Science Australia Graduate Destination Report*. Exercise & Sports Science Australia. Retrieved on 18 May, 2018 from https://www.essa.org.au/wp-content/uploads/2016/04/Graduate-destination-report_final_LR.pdf
- Heart Foundation. (2015). *Move More Sit Less*. Retrieved on 15 January, 2019 from http://activation.org.au/wp-content/uploads/2018/03/Canberra_communique-1.pdf
- Heart Foundation. (2018). *Physical activity: wonder drug that most Aussies don't recognise*. Retrieved on 18 May, 2018 from <https://www.heartfoundation.org.au/news/physical-activity-wonder-drug-that-most-aussies-dont-recognise>
- IBIS World. (2016). *Corporate Wellness Services in Australia*. IBIS World.
- IBIS World. (2017). *Personal Trainers in Australia Industry Report*. IBIS World.
- KPMG. (2018a). *The Value of Community Sport Infrastructure*.
- KPMG. (2018b). *Investing to Save: The Economic Benefits for Australia of Investment in Mental Health Reform*. KPMG International.
- National Disability Services. (2018). *Australian Disability Workforce Report*. Workforce Wizard. Retrieved May 4, 2018 from <https://www.nds.org.au/policy/australian-disability-workforce-report-second-edition-highlights-workforce-risks1>
- NDIS. (2018). *140,000 Australians now benefitting from the NDIS: latest data released. Media release 22 February 2018*. Retrieved May 18, 2018 from <https://www.ndis.gov.au/news/media/quarterly-report-q2-2017>
- NOUS group. (2013). *InPractice 2025: Final Report*. Australian Physiotherapy Association. Retrieved on 18 May, 2018 from https://www.physiotherapy.asn.au/DocumentsFolder/APAWCM/Resources/InPractice_2025.pdf
- Obesity Policy Coalition. (2017). *Tipping the Scales*. Retrieved on 15 January, 2019 from <http://www.opc.org.au/what-we-do/tipping-the-scales>
- Rosenbaum, S., et. al. (2018). *The role of sport, exercise, and physical activity in closing life expectancy gap for people with mental illness: An international consensus statement by Exercise and Sports Science Australia, American College of Sports Medicine, British Association of Sport and Exercise Science, and Sport and Exercise Science New Zealand*. Translational Journal of the American College of Sports Medicine, 3(10): 72-73. doi: 10.1249/TJX.0000000000000061
- Rosenbaum, S., Tiedemann, A., Ward, P. B., Curtis, J., & Sherrington, C. (2015). *Physical activity interventions: an essential component in recovery from mental illness*.
- Victorian Allied Health Workforce Report – www.health.vic.gov.au/health-workforce/allied-health-workforce/allied-health-research
- Victorian Government. (2011). *National mental health workforce strategy*. Victorian Government Department of Health.
- WHO. (2018). *Pacific leadership in new WHO global commission on noncommunicable diseases*. World Health Organisation 2018. Retrieved May 17, 2018, from http://www.wpro.who.int/southpacific/mediacentre/releases/2018/commission_noncommunicable/en/