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OUTCOMES



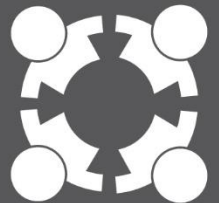
INTEGRITY



BOLDNESS



TEAMWORK



Ambulance and Paramedic  
Industry Reference Committee

Draft 2018 Industry Skills Forecast for Public Consultation

## Skills Forecast

**Name of IRC:** Ambulance and Paramedic IRC

**Name of SSO:** SkillsIQ Limited

### **About SkillsIQ**

SkillsIQ supports 17 Industry Reference Committees representing diverse ‘people-facing’ sectors. These sectors provide services to people in a variety of contexts such as customer, patient or client. The Industry Reference Committees are collectively responsible for overseeing the development and review of training package products, including qualifications, serving the skills needs of industry sectors that comprise almost 50 per cent of the Australian workforce.

## Sector Overview

The Training Package products overseen by the Ambulance and Paramedic IRC support a wide-range of roles across the community which deliver fundamental **pre-hospital and out-of-hospital health care services**. Demand for these services spans a number of sectors, for example health, community services, defence, education, arts and entertainment, mining, and manufacturing. As a result, these Training Package products are unique in their applicability across multiple industries and businesses.

Pre-hospital/out-of-hospital health care services can involve emergency and non-emergency situations, playing a pivotal role in injury/illness prevention and health promotion,<sup>1</sup> as individuals in such roles are commonly the first to interact with a patient and provide primary care and/or support. This primary care can in some cases determine the long-term outcome of a patient and successfully minimise treatment needs and, consequently, demand for hospital and health provider facilities.

Traditionally, the roles and services related to pre-hospital/out-of-hospital care have been referred to under the wider title of Ambulance Services, with ambulance officers and paramedics the main occupational category<sup>2</sup> used to report workforce-related information. The functions and work environments supported by these Training Package products, however, are significantly more varied and go beyond the remit of merely ambulance services. **Figure 1** outlines examples of the breadth of skills, functions and role types which the five (5) qualifications in these Training Package products currently support.

#### **Medical Dictionary Definitions**

**Pre-hospital:** Any initial medical care given to an ill or injured patient by a paramedic or other person before the patient reaches the hospital emergency department.

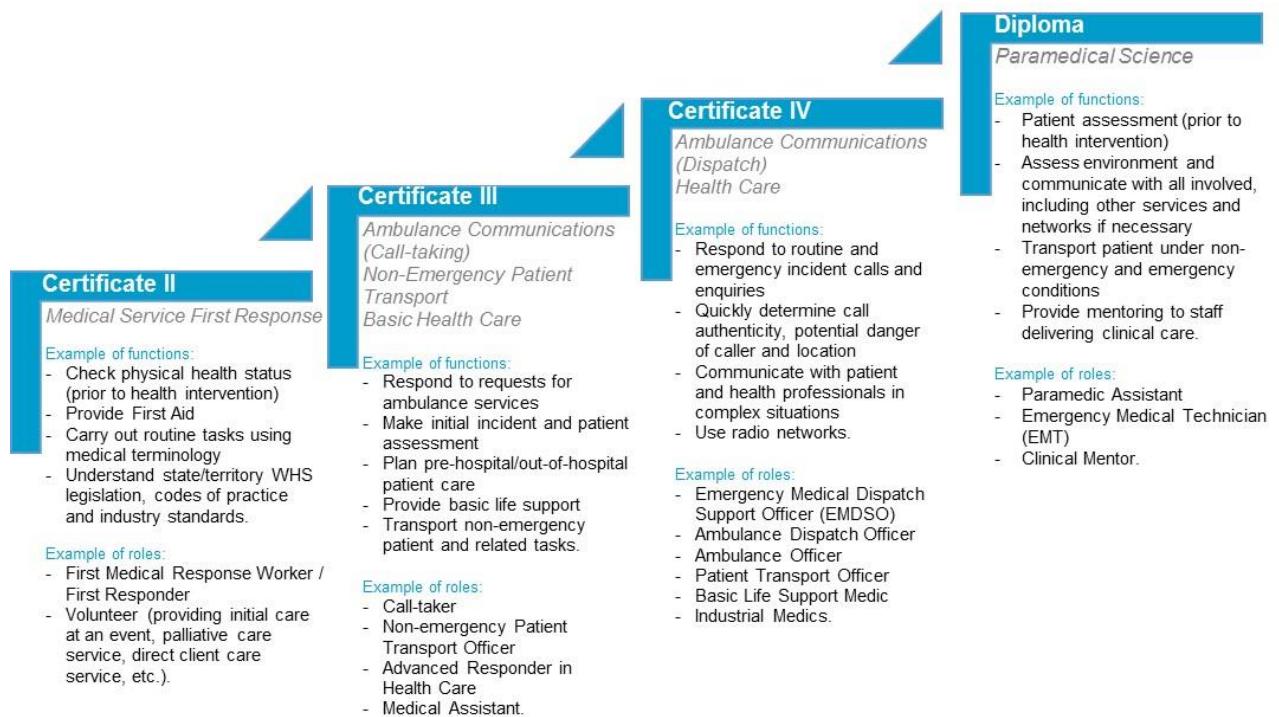
**Out-of-hospital:** A term used in emergency medicine to mean “in the field”, “in the community”, “at the patient’s home or workplace”, or “pre-hospital”. Assessments performed and treatments given out-of-hospital often stabilise a patient or initiate critically-needed care.

<sup>1</sup> Chilton, M. S. *A Brief Analysis of Trends in Prehospital Care Services and a Vision for the Future*. Journal of Emergency Primary Health Care (JEPHC), Vol.2, Issue 1-2, 2004

<sup>2</sup> Australian Bureau of Statistics (ABS) *Australian and New Zealand Standard Classification of Occupation (ANZSCO)* ID4111

**Figure 1:** Examples of functions and roles supported by the various Training Package products.

Note: Descriptions of functions and roles have been extracted from qualification specifications published at training.gov.au



These Training Package products support the workforce to meet the complexity of primary health care service demands in designated roles (as outlined in **Figure 1**). However, the skills areas are also **embedded in broader role types** both within and outside the health services sector. Individuals in roles within the Community and Social Services sector, or whose roles involve Workplace Health and Safety, or who are ‘in the field’ (e.g. mine workers), can be required to be equipped with key skills to conduct basic health checks and assessments in the event of unexpected incidents. The settings can range from mines and manufacturing sites, and agricultural and rural properties, to those where events and cultural activities are held. In regional and rural communities, the qualifications are especially important in preparing the workforce to deal with the multi-disciplinary demands they may face as a result of the remoteness of their situation.

These Training Package products also act as an important catalyst to support individuals’ progress into more advanced learning options and career opportunities. The qualifications **provide learners with pathways** into higher education studies for paramedic roles which require degree-level qualifications (see **Figure 2**). The qualifications are also tiered to support individuals moving into other VET-qualified positions such as ambulance officers. The recognition of qualifications across pathways can differ across states and territories. However, some examples are as follows:

- First Aid → Certificate II → Diploma (including skill set\*) → Degree; or
- First Aid → Certificate III or IV → Diploma (including skill set\*) → Degree.

**Figure 2:** VET Training Package placement with First Aid and Higher Education learning



Note: \* The Advanced Paramedical Science skill set provides a pathway for Paramedical Science Emergency Workers to articulate into higher education. It is suitable for individuals who hold the Diploma of Paramedical Science. (Source: Training.gov.au)

The paramedic workforce landscape is currently undergoing significant changes, with new national registration requirements due to be implemented in late 2018. More information on this is available in this report in the section entitled *Workforce Challenges and Opportunities*. The role of these Training Package products will need to evolve accordingly to continue providing adequate pathways in the new regulated environment.

In practice, the workforce is **distributed across both the public sector and private sector enterprises**. Historically, services such as patient transport, first response and life support service work have been provided by state and territory governments via state ambulance services. However, there has been a gradual split in the delivery of these function areas, with some formerly ambulance-specific services now being outsourced by governments to non-ambulance service providers. For example, in New South Wales, the NSW Patient Transport Services (formerly known as Non-Emergency Patient Transport or NEPT) uses HealthShare NSW to deliver the patient transport function. State and territory governments are also increasingly outsourcing the delivery of these services to private enterprise and today a large proportion of the workforce supported by these Training Package products is in the private sector.

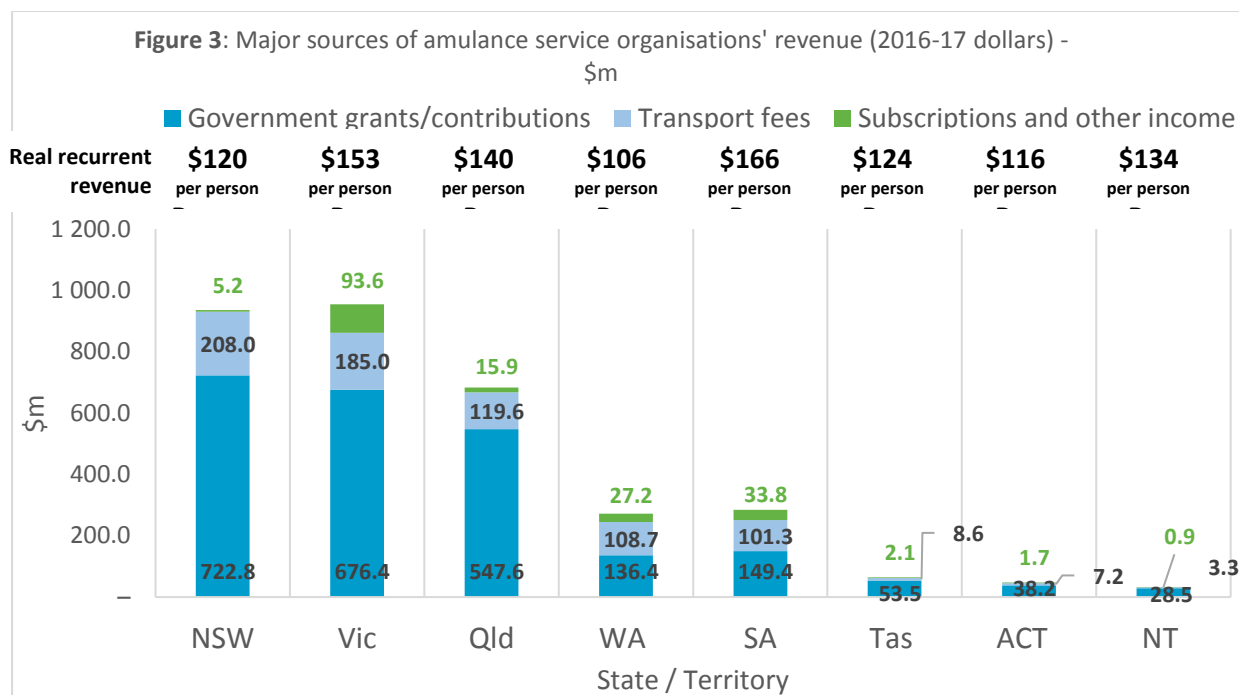
In an attempt to measure the potential size of the sector to which these Training Package products cater, the Productivity Commission's *Report on Ambulance Services* has been used to identify minimum measures as it defines the service areas as including:<sup>3</sup>

- emergency and non-emergency pre-hospital and out-of-hospital patient care and transport
- inter-hospital patient transport, including the movement of critical patients
- specialised rescue services
- the ambulance component of multi-casualty events
- the community's capacity to respond to emergencies.

**Total national revenue from ambulance services was \$3.3 billion** in 2016-17, with revenue sources comprised of government grants and contributions, transport fees, subscriptions and other income streams. Funding models differ across jurisdictions. However, government grants and contributions make up the bulk of ambulance service organisations' funding, representing a national average of 71.8%. Victoria registered the highest revenue amount (of \$954.9 million) followed by New South Wales (\$936.0 million) and Queensland (\$683.1 million) (see **Figure 3**). South Australia noted the highest real recurrent revenue per person of \$166 and Western Australia the lowest (of \$106 per person).

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<sup>3</sup> Report on Government Services 2018 – Ambulance Services (Part E, Chapter 11).



Source: Report on Government Services 2018 – Ambulance Services (Part E, Chapter 11, Table 11A.1).

Note: NSW has a subscription scheme but funds are deposited to the consolidated revenue of the NSW Treasury.

ACT revenue reported reflects direct revenue to the ACT Ambulance Service. No attributions have been made for the umbrella department or supporting services.

The scope of activities covered by the ambulance services workforce is vast, and the latest figures show that in 2016-17:

- 3.5 million incidents were reported
- 3.3 million patients were assessed, treated or transported by ambulance service organisations
- 4.4 million responses involved an ambulance being sent to an incident
- 1,761 first responder locations involved the use of an ambulance
- 3,671 ambulance general transport and patient transport vehicles were used.

The ambulance services' workforce size is 16,980 (FTE salaried personnel) with 13,735 (80.9%) in operative ambulance roles. Further information regarding workforce trends and estimates is provided in the section of this document titled *Employment Skills and Outlook*.

Volunteering is a significant component supported by these Training Package products, which involves qualified individuals actively applying their skills in basic health care, communication and patient transport across different unpaid roles. These roles can include community transport volunteers, volunteer ambulance officers, volunteer first medical responders at events, and other health service support roles. There is no central data source which provides a count of volunteers involved in all these roles, and it is therefore difficult to accurately measure the size of the relevant volunteer workforce supported by these Training Package products. Previous reports published by Volunteering Australia show that, in 2010, 7% of adult volunteers worked in emergency service organisations, 22% in welfare/community organisations and 9% in health organisations (which equates to over two million adults<sup>4</sup>). The Productivity Commission's report on ambulance services indicates that there are approximately 6,100 volunteers registered in ambulance-operative roles.

<sup>4</sup> Volunteering Australia (2010) *Key facts and statistics about volunteering in Australia* (Published 16 April 2015)

With the demand for health services increasing, so the attendant demand for ancillary services<sup>5</sup> supporting the delivery of pre-hospital/out-of-hospital health care is also increasing. These Training Package products are integral to ensuring a suitably skilled workforce is available to meet the increasing emergency and non-emergency health care demands of Australian residents.

## Ambulance and Paramedics Qualifications - Current at January 2018

The VET qualifications that cater to this sector include:

- *HLT21015 Certificate II in Medical Service First Response*
- *HLT31015 Certificate III in Ambulance Communications (Call-taking)*
- *HLT31115 Certificate III in Non-Emergency Patient Transport*
- *HLT31215 Certificate III in Basic Health Care*
- *HLT41015 Certificate IV in Ambulance Communications (Dispatch)*
- *HLT41115 Certificate IV in Health Care*
- *HLT51015 Diploma of Paramedical Science.*

### Registered Training Organisations - Scope of Registration

**Table 1** indicates the number of Registered Training Providers (RTOs) with Ambulance and Paramedic qualifications on scope. This data is current as at 16 January 2018, per the listing on the National Register of VET ([www.training.gov.au](http://www.training.gov.au)).

**Table 1:** Number of RTOs by nationally recognised qualifications on scope – Ambulance and Paramedic Training Package products

Code	Qualification Title	No. of RTOs with Qualifications on Scope
HLT21015	<i>Certificate II in Medical Service First Response</i>	20
HLT31015	<i>Certificate III in Ambulance Communications (Call-taking)</i>	5
HLT31115	<i>Certificate III in Non-Emergency Patient Transport</i>	17
HLT31215	<i>Certificate III in Basic Health Care</i>	12
HLT41015	<i>Certificate IV in Ambulance Communications (Dispatch)</i>	6
HLT41115	<i>Certificate IV in Health Care</i>	19
HLT51015	<i>Diploma of Paramedical Science</i>	17

Source: [Training.gov.au](http://Training.gov.au). RTOs approved to deliver this qualification. Accessed 16 January 2018.

Note: Although an RTO may have a qualification on scope for delivery, it may not be delivering any nationally recognised training for that qualification. As a result, the count may not be a complete reflection of the extent of delivery.

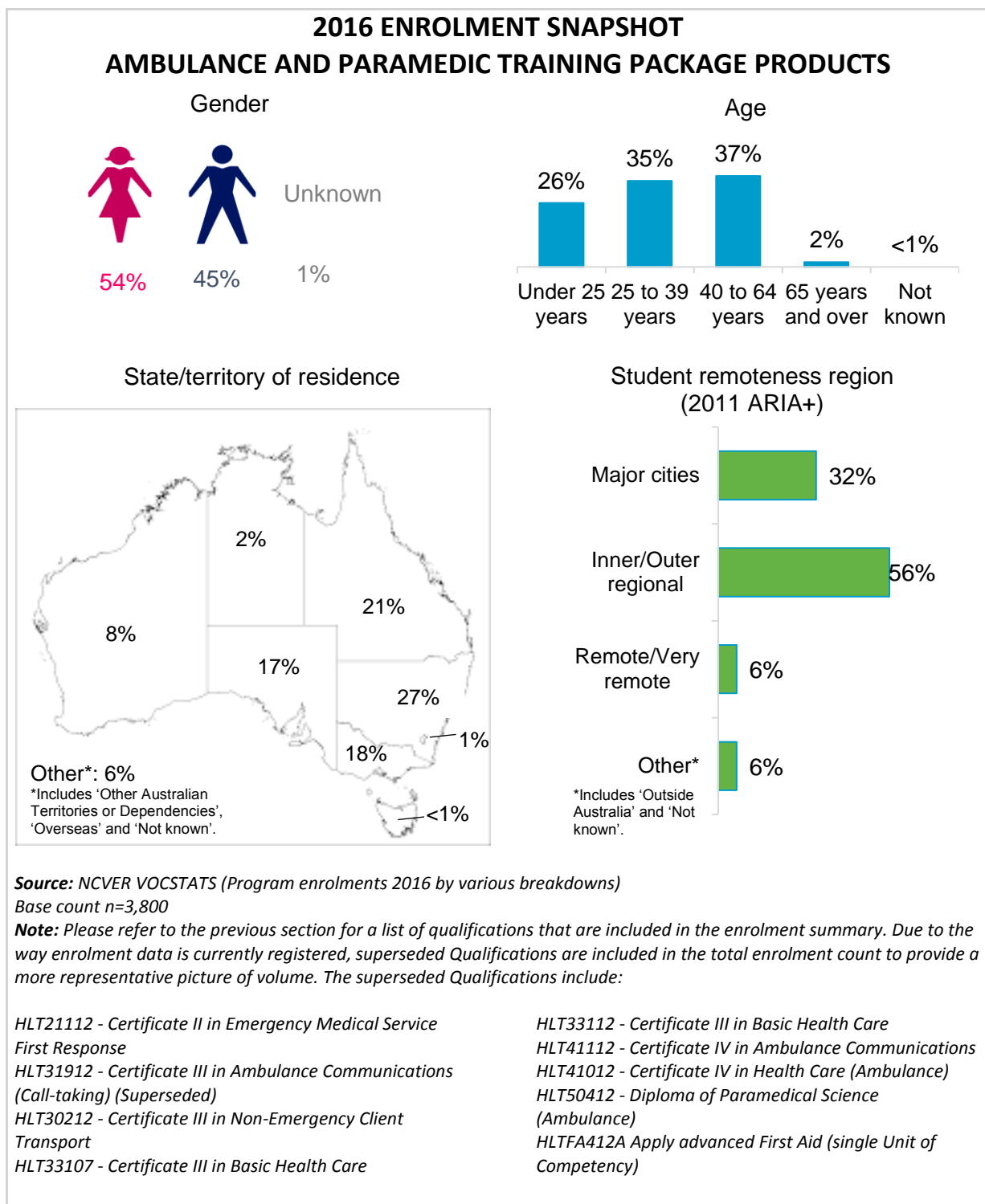
### Qualification Enrolments

In 2016, there were just under 3,800 enrolments across all VET qualifications catered to by the Ambulance and Paramedic Training Package products. The most popular qualifications in 2016 were the *Certificate II in Emergency Medical Service First Response*, now superseded (representing just under 32% of all Ambulance and Paramedic Training Package qualifications and equivalent to 1,200

<sup>5</sup> IBISWorld Industry Report Q8591 Ambulance Services in Australia (May 2017)

enrolments), and the *Certificate IV in Health Care (Ambulance)*, also now superseded (representing 24% and equivalent to 900 enrolments).

An overview of key metrics for the Ambulance and Paramedic Training Package enrolments for 2016 is provided below, followed by a breakdown of enrolments for individual qualifications (see **Table 2** below).



General notes on statistics:

1. Enrolment and completion data is sourced from NCVER VOCSTATS (program enrolments and completions 2016), accessed October 2017.
2. It is important to note that not all training providers are currently required to submit enrolment and completion data and some figures presented may therefore underrepresent the true count of enrolments and completions for a qualification. From 2018, all training providers will be required to submit data. Current discrepancies noted in the national NCVER figures versus actual attendance should therefore be minimal in future releases. The data presented in this report is shown for indicative purposes.
3. Figures reflect public and private RTO data.
4. Superseded qualifications, and their respective enrolment and completion data, are not tabled, unless otherwise indicated.

**Table 2:** Total number of enrolments (Total VET Activity, TVA) by nationally recognised qualifications in scope – Ambulance and Paramedic Training Package products (2016)

Qualification	2016 Enrolments
<b>HLT21015 Certificate II in Medical Service First Response</b>	<b>80</b>
<i>HLT21112 - Certificate II in Emergency Medical Service First Response (Superseded)</i>	1,203
<b>HLT31015 Certificate III in Ambulance Communication (Call-taking)</b>	<b>33</b>
<i>HLT31912 - Certificate III in Ambulance Communications (Call-taking) (Superseded)</i>	59
<b>HLT31115 Certificate III in Non-Emergency Patient Transport</b>	<b>2</b>
<i>HLT30212 - Certificate III in Non-Emergency Client Transport (Superseded)</i>	222
<b>HLT31215 Certificate III in Basic Health Care</b>	<b>34</b>
<i>HLT33107 - Certificate III in Basic Health Care (Superseded)</i>	371
<i>HLT33112 - Certificate III in Basic Health Care (Superseded)</i>	241
<b>HLT41015 Certificate IV in Ambulance Communications (Dispatch)</b>	<b>5</b>
<i>HLT41112 - Certificate IV in Ambulance Communications (Superseded)</i>	50
<b>HLT41115 Certificate IV in Health Care</b>	<b>100</b>
<i>HLT41012 - Certificate IV in Health Care (Ambulance) (Superseded)</i>	902
<b>HLT51015 Diploma of Paramedical Science</b>	<b>56</b>
<i>HLT50412 - Diploma of Paramedical Science (Ambulance) (Superseded)</i>	388

Note: Due to extended implementation and transition periods for qualifications, enrolment data may be registered under superseded qualification codes.

In addition to the qualifications above, the skill set *HLTSS00063 Advanced Paramedical Science* offers a pathway for paramedical science emergency workers to move into higher education. In 2016, this skills set registered 13 enrolments, and comprised the following Units of Competency:

- *HLTAMB004 Conduct advanced clinical assessment*
- *HLTAMB009 Deliver intensive clinical care*
- *HLTHPS008 Provide clinical mentoring in the work environment.*



## Businesses Involved

As stated earlier, the workforce is distributed across both **public and private sector enterprises, and multiple industries**. Pre-hospital/out-of-hospital care services can be delivered by organisations which have on scope one or multiple health care services, and while they represent the majority of providers who are the users of these Training Package products, qualified individuals will also be employed in non-health related organisations, such as mining or manufacturing companies. A breakdown of the key organisation types who use these qualifications include:

- **National/state/territory governments.** These are the main funders of ambulance services and Non-Emergency Patient Transport (NEPT), as well as employers of personnel for the Department of Defence.
- **Out of hospital service providers.** These are the primary providers of ambulance services, although in most states and territories the use of the term Ambulance Service is regulated by legislation. The latest count of Australian businesses provided by the Australian Bureau of Statistics (ABS)<sup>6</sup> shows that there are 49 operating businesses providing emergency and urgent response services across the country. Emergency and urgent response providers are predominantly dominated by large government-funded organisations, typically state- or territory-led (e.g. NSW Ambulance, Ambulance Victoria, Queensland Ambulance Services, etc.). However, over time an increasingly large volume of previously state-based ambulance service functions, such as Events, Medical Services, and Occupational and Patient Transport, has been transferred to non-state-based (i.e. private) ambulance service providers.
- **Non-Emergency Patient Transport (NEPT) providers.** This function has been traditionally delivered by state-based ambulance and health service areas. However, as indicated earlier, the sector's trend has involved outsourcing non-emergency functions and transport to private providers. Today a majority of businesses involved in non-emergency responses are private operators.<sup>7</sup> Examples include Paramedical Services, St John Ambulance and Royal Flying Doctors.
- **Medical and Allied Health Care Service providers.** These can include a breadth of organisation types, including:
  - Hospitals
  - Private Medical Centres
  - Community Health Centres
  - Mental Health Centres
  - Aged Care Homes
  - Rehabilitation Centres.

The Australian Bureau of Statistics' latest national count of businesses showed that in 2016 there were 1,068 hospitals (including psychiatric hospitals) and 875 businesses involved in Other Health Services and 19,500 businesses across Australia providing Other Allied Health Services.<sup>8</sup>

Overall, the breadth and type of potential employing organisations are growing significantly as businesses involved in community and personal support services, as well as those implementing Workplace Health and Safety practices in the workplace and the Defence Force, are included within the sector.

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<sup>6</sup> Australian Bureau of Statistics (ABS) 8165.0 Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016, Table: Businesses by Main State by Industry Class by Employment Size Ranges, June 2016 (a)

<sup>7</sup> IBISWorld Industry Report Q8591 Ambulance Services in Australia (May 2017)

<sup>8</sup> Australian Bureau of Statistics (ABS) 8165.0 Counts of Australian Businesses, including Entries and Exits, Jun 2012 to Jun 2016, Table: Businesses by Main State by Industry Class by Employment Size Ranges, June 2016 (a)

## National Peak Bodies and Key Industry Players

The list below represents a range of organisations that perform a variety of key roles in this sector. These organisations and their networks are well placed to offer industry insights at the time of Training Package product review. Industry engagement will include a broad and inclusive range of stakeholders beyond those included in this list, as relevant.

- **Government departments and agencies**
- **Peak and industry associations**
  - The Council of Ambulance Authorities
  - Paramedics Australasia
  - Australian and New Zealand College of Paramedicine
- **Employee associations**
  - Health Services Union (TAS and NSW)
  - United Voice (VIC, QLD, NT and WA)
  - National Council of Ambulance Unions (Aus)
  - Ambulance Employees Association (SA)
  - Transport Workers' Union (ACT)
  - Australian Paramedics Association
  - Health and Community Services Union
- **State and territory service providers**
  - Australian Capital Territory Ambulance Service
  - Ambulance Tasmania
  - Ambulance Victoria
  - NSW Ambulance
  - Queensland Ambulance Service
  - SA Ambulance Service
  - St. John Ambulance Northern Territory
  - St. John Ambulance Western Australia
- **Not-for-profit organisations**
- **Private employers**
- **Department of Defence**
- **Public and Private Registered Training Organisations**

## Workforce Challenges and Opportunities

### Regulation and Registration

The pre-hospital/out-of-hospital health care services sector, including ambulance and paramedic services, is governed by a number of national and state- and territory-based laws and regulations, each outlining lawful instructions regarding the conduct of employees and management, service delivery and performance, and registration and qualification requirements. The range of legislative instruments include the *Health Practitioners Regulation National Law Act 2009* (with equivalent state and territory adaptations) – ('the National Law'), the *Ambulance Services Act* and the *Ambulance Services Regulations* (with adaptations of each also made by different states and territories).

A recent and significant regulatory change for the sector has been the **national registration for paramedics** as part of the National Registration and Accreditation Scheme ('the National Scheme'). The *Health Practitioner Regulation National Law and Other Legislation Amendment Bill 2017* which prescribes the registration requirements was first passed in September 2017 by the Queensland Parliament, and applies in all states and territories except Western Australia, where an equivalent Bill, the *Health Practitioner Regulation National Law (WA) Amendment Bill (2017)* was passed outlining registration requirements.<sup>9</sup> Consequently, the Paramedicine Board of Australia ('the Board') was established in October 2017 and, together with the Australian Health Practitioners Regulation Agency (AHPRA), has been tasked with developing and establishing registration standards, codes and guidelines. Registrations are expected to open in mid-2018, with National Regulation expected to take effect in late 2018.

The Board is in the process of reviewing qualification requirements to be approved for registration purposes and has currently identified three main pathways for general registration:

- **Pathway 1** – paramedics hold an approved qualification or otherwise qualify for registration, because, for example, they hold a qualification that is equivalent to, or based on, similar competencies required to gain an approved qualification
- **Pathway 2** – 'grandparenting' arrangements (which will be available for people to submit an application for general registration within three years from the 'participation day').
- **Pathway 3** – individuals hold a Diploma of Paramedical Science issued by NSW Ambulance.

The outcomes of the consultation regarding qualification requirements for registration will to some extent impact the role of VET qualifications in supporting individuals moving into paramedicine and ambulance-related positions. Mapping VET qualifications across registration requirements and, more widely, across the post-registration occupational environment will be important in order to gain an understanding of the supportive ways in which the Training Package products can contribute to facilitating career pathways.

The aim of the national registration for paramedics is to:

- Protect the public by establishing five mandated registration standards (i.e. criminal history, English language skills, continuing professional development, recency of practice and professional indemnity insurance arrangements)
- Protect the title 'paramedic' under the National Law
- Enhance national mobility for paramedics
- Make paramedicine a registered health profession which would come under the same national regulation as 15 other professions
- Establish approved programs of study that provide qualifications for registration as a paramedic.

Source: Paramedicine Board of Australia

<sup>9</sup> Paramedicine Board of Australia (<http://www.paramedicineboard.gov.au/Registration/FAQ-for-paramedics.aspx> Accessed 29 January 2018)

The IRC will continue to monitor developments announced by the Board to ensure that outcomes are considered in the context of the individual Training Package products.

## Population Ageing and Growth

Australia, like most developed nations, is experiencing a long-term ageing of its population. The Australian Government's *Intergenerational Report* (IGR) shows that both the number and proportion of Australians aged 65–84 and 85 years and over are projected to grow substantially. In 2015, approximately 3 million people, or 13% of the population, were aged 65–84, and 500,000 people, or 2% of the population, were aged 85 years and over<sup>10</sup>. By 2054–55, the 65–84 year-old cohort is projected to be around 7 million people, or just under 18% of the population. The population 85 years and over is projected to be around two million people, or 5% of the population<sup>11</sup>. Such substantial changes in the age of the population will certainly put increasing pressures on health services as the prevalence of chronic pain conditions rises. Ambulance services are among the many health services which are expected to significantly increase due to the growing ageing population and the related trends for senior Australians to continue living independently at home.<sup>12</sup>

While Australia's senior population is growing steadily, so too is Australia's general population. Overall, the population grew by 1.6% during the year ended 30 June 2017.<sup>13</sup> Approximately 37% of this growth was due to natural increases while 63.2% was due to net overseas immigration. Based on medium-level growth assumptions, Australia's population is projected to increase to 41.5 million people in 2061 and 53.6 million in 2101.<sup>14</sup>

Demand for emergency and non-emergency health care services both in pre-hospital and out-of-hospital settings has been growing steadily, and the latest statistics show 3,241,275 patients were transported and/or treated by ambulance services in Australia in the twelve-month period from 2015-16 which represents an increase in patient numbers of just over 41,100 from the previous twelve-month period.<sup>15</sup> With population trends of ageing and growth expected to continue steadily, managing the demand for pre-hospital and out-of-hospital services will be a priority, and will include the need for workforce planning to ensure staff volume and skills are in line with demand trends. In addition, the growth of the private sector providing first responder, patient transport and related emergency and non-emergency health services will also influence workforce needs for the sector, as skill and qualification requirements can differ to those required by state providers.

## The Rise of Chronic Conditions

As mentioned earlier, an ageing population will mean that the prevalence of chronic conditions across the country will grow, and subsequently put additional pressures on health care services. The latest self-reported statistics (2014-15) indicate that one in every two Australians (50%) suffer from at least one chronic condition. 60% of the population aged over 65 years have two or more chronic conditions.

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<sup>10</sup> Australian Government, Department of Treasury 2015, *Intergenerational Report*

<sup>11</sup> Australian Government, Department of Treasury 2015, *Intergenerational Report*

<sup>12</sup> IBISWorld Industry Report Q8591 Ambulance Services in Australia (May 2017)

<sup>13</sup> Australian Bureau of Statistics (ABS) 3101.0 - *Australian Demographic Statistics, Jun 2017*

<sup>14</sup> Australian Bureau of Statistics (ABS) 3222.0 - *Population Projections, Australia, 2012 (base) to 2101 (Released 2013)*

<sup>15</sup> Report on Government Services 2017, *Ambulance Services*, Table 11A.3 Reported ambulance incidents, responses, patients and transport

Chronic conditions can include:<sup>16</sup>

- Arthritis
- Asthma
- Back pain
- Cancer
- Cardiovascular disease
- Chronic obstructive pulmonary disease
- Diabetes
- Mental health conditions

The Commonwealth Government's Department of Health has developed a *National Strategic Framework for Chronic Conditions* (2017) to provide guidance for the development and implementation of policies, strategies, actions and services to reduce the impact of chronic conditions in Australia. The Framework acknowledges that conditions may be triggered by common underlying factors and therefore focuses on prevention as well as the management of conditions. As health service providers review this Framework and work to develop suitable strategies and programs to address chronic conditions in their communities, staff in the range of roles supported by these Training Package products (i.e. first responders, patient transport officers, call takers and dispatchers, medic assistants, etc.) may require additional training to ensure they can conduct adequate assessments and provide advice for chronic conditions.

## Occupational Violence

Workplace violence is unfortunately prevalent across most industries, and first responders in an emergency, such as police, paramedics, emergency hospital staff, security officers and fire fighters, as well as other staff in the health and aged care sectors, are most likely to be exposed to violence in their roles.<sup>17</sup> In South Australia alone, the staff of the ambulance and paramedic services sector, which include ambulance officer and first responder roles, have been identified as most at risk compared to staff in other health sector roles.<sup>18</sup> This is because they operate in high-risk unpredictable work environments involving providing care to people who are in distress, afraid, ill or incarcerated, and therefore the types of violence can range from physical assault to verbal and physical threats. Some key statistics of occupational violence across the country show that:

- In Australia, 92.2% of emergency nurses and doctors experienced alcohol-related physical aggression from patients in 2016.<sup>19</sup>
- In Victoria in 2015/16, paramedics were exposed to some form of violence or aggression in 5,000 emergency cases, which is equivalent to 13 cases per day.<sup>20</sup>
- In Queensland, 216 assaults were reported on ambulance officers between July 2015 and January 2016.<sup>21</sup>

Over the years, the likelihood of being exposed to an assault as an emergency services worker has become a characteristic of the role and some triggers have been directly related to the rise in crystal methamphetamine ('ice') and alcohol-fuelled violence. For example, in New South Wales, 22% and 15% of occupational violence-related incidents between 1 July and 13 December 2014 were related to alcohol and illicit substances.<sup>22</sup> Between 2010 and 2016 there was a 36% increase in regular ice

<sup>16</sup> Australian Institute of Health and Welfare 2016. *Australia's health 2016*. Australia's health no. 15. Cat. no. AUS 199. Canberra: AIHW.

<sup>17</sup> Safe Work Australia, Workplace violence (<https://www.safeworkaustralia.gov.au/workplace-violence> Accessed 30 January 2018)

<sup>18</sup> Australasian Ambulance Magazine (Spring 2016 Awards Edition) ([http://caa.net.au/~caanet/images/documents/CAA\\_Magazine/CAA\\_Magazine\\_2016\\_Awards\\_Edition.pdf](http://caa.net.au/~caanet/images/documents/CAA_Magazine/CAA_Magazine_2016_Awards_Edition.pdf) Accessed 30 January 2018)

<sup>19</sup> Australasian College for Emergency Medicine (ACEM)

<sup>20</sup> Victorian Government Health Information (July 2017) *Body cams to protect paramedics on the job* (<http://www.health.vic.gov.au/healthvictoria/jul17/bodycam.htm> Accessed 30 January 2018)

<sup>21</sup> Legal Affairs and Community Safety Committee (2016) Tackling Alcohol-fuelled Violence Legislation Amendment Bill 2015 (p. 18) (<https://www.parliament.qld.gov.au/documents/tableOffice/TabledPapers/2016/5516T44.pdf> Accessed 30 January 2018)

<sup>22</sup> NSW Ambulance (2016) *Occupational Violence Prevention Strategic Advisory Group Report* (<http://zerotoleranceworldwide.com/wp-content/uploads/2017/02/Occupational-Violence-Prevention-Report-2016.pdf> Accessed 30 January 2018)

users and the harms related to ice use have subsequently increased. Demands on health services have involved increases in the numbers of methamphetamine-related Helpline calls, drug and alcohol treatment episodes and hospital admissions for methamphetamine abuse, dependence and psychosis.<sup>23</sup>

In an attempt to combat the growing issues of occupational violence in the sector, state and territory governments have implemented key campaigns and training initiatives. Some have involved educating the community, while others have concentrated on enhancing education and training programs to better equip the workforce to deal with potential threats of violence or injury. Examples include the following:

#### *Campaigns*

- SA Ambulance Service (SAAS) and SA Health – *Keep your hands off our Ambos!* - public awareness campaign.
- Queensland Ambulance Services (QAS) - *Zero Tolerance: No Excuse for Abuse* - public awareness campaign and Occupational Safety Training (OST) – violence prevention program to increase the safety of QAS paramedic providers in out-of-hospital operational environments.
- NSW Ambulance – *No Excuse for Triple Zero (000) Call Taker Abuse* - public awareness campaign to address abuse directed by the public to call takers
- Victoria Government – *Ice Action Plan* - a strategy which outlines investment to reduce the harm of ice use across Victoria through a review of regulations, law enforcement, prevention, education and treatment responses.
- Ambulance Tasmania – *Keep your hands off our Ambos!* - public awareness campaign targeting 20-29 year olds.

#### *Education and Training*

- Department of Health and Human Services (Victoria) – *Guide for violence and aggression training in Victorian health services*, which provides a suite of training principles for different staff tiers.
- Ambulance Victoria – Occupational violence education program which involves training to equip paramedics with the behavioural, tactical and communication skills to reduce their exposure to violence, using virtual reality technology.
- Queensland Ambulance Services (QAS) via the QAS Paramedic Safety Taskforce – Development of a new *Situational Awareness for Everyday Encounters (SAFE2)* program involving online and face-to-face practical modules to better support paramedics in identifying and de-escalating certain confronting situations.
- SA Ambulance Service (SAAS) – Operational safety program which includes training in scene assessment, tactical communication and conflict resolution, and techniques for managing scene safety, including evacuation, de-escalation and disengagement.
- Ambulance Tasmania with the Tasmanian Police - Occupational violence program delivered as Continual Professional Development (CPD) to all staff.

While raising community awareness has seen some positive trends in reducing incidents, occupational violence is currently (and is forecasted to be) a significant ongoing consideration for the workforce. Workforce training is a fundamental component for addressing the issues, and Training Package products will therefore need to ensure they evolve to include key skills for assessing potential incidents of violence, and strategies to address them.

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<sup>23</sup> Australian Institute of Health and Welfare (2017) *2016 National Drug Strategy Household Survey*

## Mental Health

Mental illness affects many Australians. In Australia, over 2 million people received Medicare-subsidised mental health-specific services, with \$8.5 billion spent on mental health-related services and 7.8% of total health expenditure spent on mental health-related services and programs.<sup>24</sup>

Research conducted by the drug research centre Turning Point indicates that one in five emergency call-outs are linked to a mental health condition<sup>25</sup> and so, in this sector, mental health is a critical issue influencing occupational tasks and responsibilities. The increase in occupational violence faced by the health sector workforce as a result of dealing with individuals with mental illnesses means that staff need appropriate skills to address a range of conditions triggered as a result of the illnesses, including anxiety-related conditions, affective disorders and substance abuse.

Supporting the mental health of the workforce has also been an increasingly important issue which service providers are recognising. First responders to emergency situations and other health care workers are at risk of developing mental health conditions such as anxiety and depression due to the unpredictable and, at times, traumatic situations to which they are exposed. Figures show that in Victoria, suicide rates among paramedics are approximately four times higher than the average for other state jobs.<sup>26</sup> In response to the growing concerns in Victoria regarding the mental health of the workforce, Ambulance Victoria has partnered with *beyondblue* to deliver a \$1.2 million mental health training program for paramedics and managers in the sector. It involves two online components and a four-hour face-to-face workshop.<sup>27</sup> As mental health issues grow in prevalence across both the general population and the ambulance and paramedic workforce, workforce mental health strategies will increasingly become important, and these will include the provision of relevant training to ensure individuals are provided with appropriate mechanisms to deal with the difficulties they face in their work.

## Wellbeing and Resilience of the Workforce (public and private sector)

The nature of pre-hospital/out-of-hospital health care, especially when responding to emergency situations, comes with a range of everyday stressors such as long hours on shift work schedules, possibly heavy workloads and difficult shifts. In addition to these common workplace risks the staff in ambulance-service related roles, who are often the first to respond to the front line of an emergency, or communicate with distressed patients, has an increased risk of being repeatedly exposed to traumatic events such as death or violence,<sup>28</sup> and these can trigger mental health illnesses as discussed earlier. This is particularly relevant to the workforce in roles such as first responder, call-takers and dispatchers, and patient transport officers who are involved directly with patients. Experiencing cumulative trauma is an unavoidable and unique consequence of the first responder role.<sup>29</sup> These experiences can greatly increase the risk of developing a mental health illness or make an underlying issue worse, and can either have an immediate effect or may build up over weeks, months or years.

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<sup>24</sup> Australian Government, Australian Institute of Health and Welfare 2017, *Mental health services, in brief 2017*

<sup>25</sup> Turning Point (2015) *Self Harm and Mental Health-related Ambulance Attendances in Australia – 2013 Data*

<sup>26</sup> State Government Victoria, Minister for Health and Minister for Ambulance Services (2015) *Working Together to Improve Paramedic Mental Health* (Media Release)(Accessed 31 January 2018)

<sup>27</sup> Ambulance Victoria (June 2016) *Ambulance Victoria and beyondblue join forces to improve staff mental health*

(<https://www.ambulance.vic.gov.au/ambulance-victoria-and-beyondblue-join-forces-to-improve-staff-mental-health> Accessed 31 January 2018)

<sup>28</sup> *beyondblue*, Good practice framework for mental health and wellbeing in first responder organisations

<sup>29</sup> NSW Government (2016) *Mental health and wellbeing strategy for first responder organisation in NSW*

*beyondblue*, with the support of the Commonwealth Department of Health, has established a *Good practice framework for mental health and wellbeing in first responder organisations* to support organisations in improving workplace conditions and addressing workforce issues including suicide (see **Figure 4**). Core elements of the framework focus on training and development for management (*Core action area 3: Develop leadership capability*) as well as the workforce (*Core action area 5: Educate and prepare your workforce*). They include pre-trauma education and training as well as education and training from the recruitment stage through to retirement, and cover a broad range of mental health topics.

*beyondblue's National Mental Health and Wellbeing Study of Police and Emergency Services* also involves developing strategies to

improve the mental health of police and emergency services workers and volunteers. This study commenced in 2017 and aimed to survey up to 20,000 current and former personnel to better measure the extent of the mental health issues in the workforce.<sup>30</sup>

The NSW Government has also established a *Mental Health and Wellbeing Strategy for First Responder Organisations in NSW* outlining key strategies to reduce barriers to first responders seeking help. Mental health and wellbeing education will assist first responder organisations in helping to achieve this.

The importance of training first responders to develop a range of skills to build resilience and cope with the demands of their jobs is paramount, and Training Package products should evolve with the strategies as outlined in these Good Practice frameworks to maximise workforce wellbeing.

### Technology and Digital Health

Digital health technologies have the potential for improving health and medical care. These technologies can effectively provide information, support and social networks for health consumers and improve health care access and delivery. Examples of these technologies include self-monitoring wearable devices, such as Fitbits and smartwatches, or applications such as Telehealth technologies and electronic health records and patient portals. The use of electronic information can help with communication via shared access to electronic health records in order to facilitate continuity of care.

<sup>31</sup>

Health technologies will likely lead to greater sharing of data and information. This is where real value is created for both the consumer and the health providers. Software that links health data across health care and social services, such as the National Disability Insurance Scheme (NDIS) and aged care,

**Figure 4:** Good practice model for mental health and wellbeing in first responders



<sup>30</sup> beyondblue, <https://www.beyondblue.org.au/connect-with-others/news/news/2017/04/12/world-first-research-into-australian-police-and-emergency-services-personnels-mental-health> (Accessed 20 February 2-18)

<sup>31</sup> Australian Health Review, Vol 41, Number 5, 2017, *Effectiveness and efficiency of training in digital healthcare packages: training doctors to use digital medical record keeping software*



provides greater information to deliver appropriate health care to connect communities. It will improve care provision and data integration and decrease silos<sup>32</sup>. This can also have an impact on safety within the health system. The increase in the provision of clear and detailed information to clinicians, including routine data and patient-experience data, will allow clinical teams to see how they are performing compared with their peers, and how they can improve<sup>33</sup>.

Technological advancements within the Ambulance and Paramedic sector have meant that the skills needs of the workforce have been shifting to adapt to the digitalisation of functions. Current and upcoming technologies within the sector include:

- **Computer Aided Dispatch (CAD)** - centralised emergency and patient transport call-taking and dispatch system that utilises software for logging and allocating resources to Triple Zero (000) calls. It can also display vehicle and incident information in real time through the use of GPS tracking of all frontline ambulances to assist in the dispatch process.<sup>34</sup>
- **Automatic Vehicle Location (AVL) and Mobile Data Terminals (MDTs)** - systems to track the location of ambulance and service vehicles for improved efficiencies in transport allocations.
- **Smart Ambulance** - ambulance vehicles equipped with technology to facilitate sharing real-time patient data from an ambulance to the hospital emergency department to better track a patient's condition.<sup>35</sup>
- **Emergency Vehicle Priority** - technology that enables emergency vehicles to automatically trigger traffic light sequences to change along the most direct route when responding to an emergency call.
- **Virtual Reality (VR) training** - Virtual Reality goggles are being used as part of training to enhance situational awareness of ambulance officers, paramedics and other emergency support staff, and provide more virtual experience of difficult scenarios.
- **High Fidelity training** – high-fidelity patient simulation (HPS) refers to the use of computerised mannequins that simulate real-life scenarios. Long used in medical schools and the military, HPS is quickly becoming essential in the training of ambulance officers and paramedics.
- **Electronic Patient Care Records (ePCR)** - accurate, consistent and real-time patient records are accessible via electronic devices such as iPads and enable officers to submit information efficiently and remotely.
- **Body Cameras** - high-tech body cameras are being trialled with paramedics in order to improve safety and reduce incidents of occupational violence.
- **Telehealth** - to support health assessment and treatment, particularly in remote areas.

With new technology comes the need for training to ensure skills are sufficient to implement technologies to their full capacity.

### Rural and Remote Communities and Environments

There are many areas of concern with regard to the health and access to services of people in rural and remote communities in Australia. Health concerns include higher mortality rates and lower life expectancy; high reported rates of high blood pressure, diabetes and obesity; higher death rates from chronic disease; a higher prevalence of mental health problems; poorer dental health; a higher

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<sup>32</sup> Deborah Lupton, Smart Technology Living Lab, University of Canberra, July 2017, *Digital Health in Australia: What works, and future directions*

<sup>33</sup> Duckett, S and Jorm, C, 'Strengthening safety statistics: how to make hospitals' safety data more useful', Grattan Institute 2017

<sup>34</sup> NSW Ambulance (2015) NSW Ambulance Computer-Aided Dispatch (CAD) Data Request Form

<sup>35</sup> Byron Group (October 2016) Smart ambulance boasts improved comms (<http://www.criticalcomms.com.au/content/public-safety/article/smart-ambulance-boasts-improved-comms-365146250#axzz55iN7xpma> Accessed 31 January 2018)

incidence of poor ante-natal and post-natal health; and a higher incidence of babies being born with low birth-weight<sup>36</sup>.

For health planners, minimising barriers to access to primary health care (PHC) has long been, and remains, one of the most important issues facing health service planners charged with ensuring adequate and equitable health care services for residents in rural and remote areas. This includes ambulance and paramedic services which are the primary providers of 24/7 responses to emergency and non-emergency medical and trauma-related incidents. Factors impacting both service delivery and the skills needs of a PHC workforce in these areas include a harsh climate, a lack of economic opportunities, the demographic structure and geographical isolation. These communities also often lack a critical population mass needed to support sustainable health services, which in turn leads to difficulties in attracting and retaining PHC workers.<sup>37</sup>

In order to improve resource planning for rural and remote areas a new measurement of access to health services through an Index of Access has been proposed which can improve the planning and targeting and the resource allocation of PHC services.<sup>38</sup> Health service planning strategies based on inadequate measures of access risk prolonging or even exacerbating existing inequities in access to PHC services, particularly those that are most evident in rural and remote areas. Employing a fit-for-purpose access measure such as the Index of Access enables improved planning and distribution of health resources, including ambulance and paramedic services.

Once areas are identified for the allocation of resources there need to be strategies in place to encourage the PHC workforce to take up positions in these areas. A range of programs has been implemented over the years to encourage practice outside the major cities. These programs target students through scholarships and access to bonded places, early practice and specialist training through pre-vocational and rural and remote health placements, and by return of service obligations and established practitioners through a range of incentive programs.<sup>39</sup> It is important to consider articulation from qualifications in this package for those wishing to pursue a path to AQF level 7 programs in related health fields as one way of increasing the uptake of qualifications in these training package products. For example, the Indigenous Cadet scheme offered by the Queensland Ambulance Service enables students to complete the *Certificate III in Non-Emergency Patient Transport* and *Certificate IV in Health Care* as a pathway to a Bachelor of Paramedic Science degree.

In addition to health concerns in rural and remote communities, clinical work in remote and extremely remote environments such as offshore oil rigs, mine sites and the Defence force, is heavily relied upon. Due to the extreme remoteness of these environments where immediate assistance retrieval, and helicopter or fixed-wing aircraft may not be considered an option for more than 24 hours due to reasons such as geography and weather, medical staff may be working alone for several hours before assistance arrives and require a multidisciplinary approach to their training.

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<sup>36</sup> National Rural Health Alliance INC 2017, Australian Journal of Rural Health, Discussion Paper; *Why we need a new rural and remote health strategy*

<sup>37</sup> Australian Health Review, Vol 41, Number 5, 2017, *Index of Access: a new innovative and dynamic tool for rural health services and workforce planning*

<sup>38</sup> Australian Health Review, Vol 41, Number 5, 2017, *Index of Access: a new innovative and dynamic tool for rural health services and workforce planning*

<sup>39</sup> National Rural Health Alliance INC 2017, Australian Journal of Rural Health, Discussion Paper; *Why we need a new rural and remote health strategy*

## Services delivered by private providers

This sector has seen a considerable shift in non-emergency ambulance services moving into the private sector.

The Victorian Government de-regulated the market for non-emergency services in the mid-nineties. This led to the development of a significant private sector which delivers patient transport services under sub-contract arrangements to Ambulance Victoria and directly contracted services to a range of health facilities. Other states and territories have followed Victoria's lead and contracted private operators to provide transport for non-emergency hospital incidents, accidents and workers compensation cases, thereby increasing competition among private providers. However, some states such as NSW, for example, have separated patient transport and event services from the ambulance service to other parts of government. In NSW this comes under the remit of HealthShare NSW. It is important to understand how the Training Package products can support the requirements of these sectors.

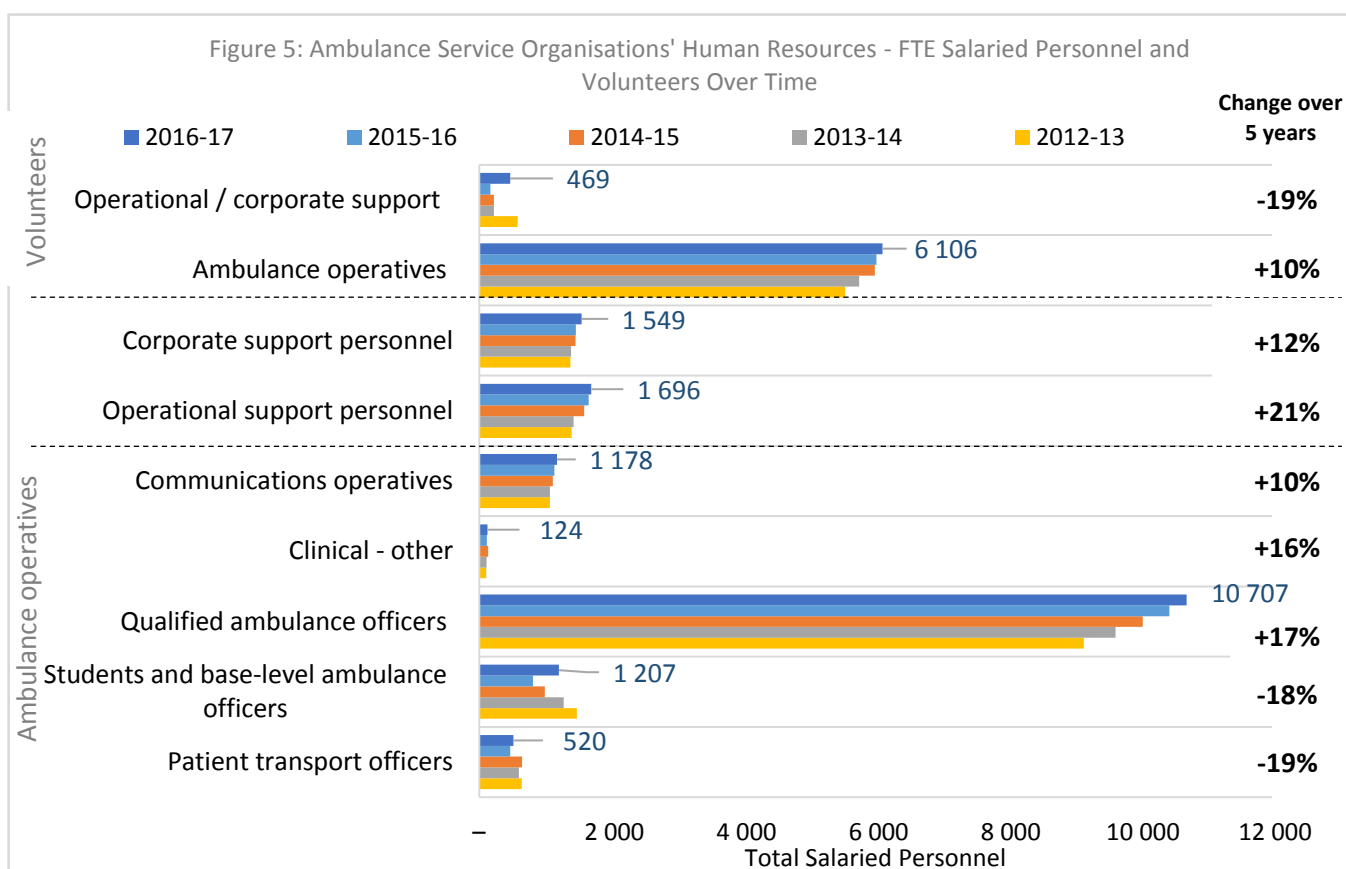
## Employment Skills and Outlook

### Labour Force Data

Ambulance and Paramedic Training Package qualifications can lead to employment in a wide range of roles that involve multiple emergency and non-emergency medical support responsibilities. The role titles can be as varied as the responsibilities with which workers are tasked. Examples of occupation titles include ambulance officer, community-based first responder (CFR), workplace first responder, emergency medical responder, radio dispatcher, personal service worker, emergency service worker and volunteer first aider.<sup>40</sup>

The Productivity Commission's *Report on Ambulance Services*<sup>41</sup> shows that the total FTE salaried workforce in ambulance services is 16,980 (2016-17). 81% are in operative ambulance roles, with the remaining 19% in corporate and operational support roles (see **Figure 5**). The number of qualified ambulance officers and communication operatives which these Training Package products support (either directly with qualifications or by providing career pathways) has grown noticeably over the past five years (17% and 10% respectively). Within the ambulance services sector, the number of patient transport officers and student or base-level ambulance officers has fallen (decreases of 19% and 18% respectively). However, this trend is more likely to represent a shift out of the ambulance-related services sector, and into private enterprise provision as discussed above.

Just over 6,500 volunteers were involved in ambulance services with the majority (92.9%) active in operative roles rather than administrative and operational function areas. Volunteering in this area has been increasing steadily over the past five years.



<sup>40</sup> Occupation titles listed in Training.gov.au for various relevant qualifications (<https://training.gov.au> Accessed 16 January 2018)

<sup>41</sup> Report on Government Services 2018 – Ambulance Services (Part E, Chapter 11).

## Workforce Data Note:

Employment data collected and published by the Department of Employment does not include trends across all occupations supported by the Training Package products but instead combines counts with other VET- and non-VET-supported roles. For example, employment data for ambulance officers is currently reported jointly with that for paramedics (under the title Intensive Care Ambulance Paramedics) and categorised under the Australian and New Zealand Standard Classification of Occupations (ANZSCO) as the occupation code of *4111: Ambulance Officers and Paramedics*. To supplement the trends provided above, an overview of *Ambulance Officer and Paramedic* data published by the Department is provided below. Please note that this is presented as an indicative snapshot only of a small proportion of the workforce, including paramedic roles to which the Training Package products provide pathways. It does not include other key occupations such as first medical responder, patient transport officer or volunteers.

Ambulance and paramedic roles can involve attending accidents, emergencies and requests for medical assistance; assessing the health of patients and determining their need for assistance; transporting sick and disabled persons to and from medical facilities; and instructing community groups and essential service workers in First Aid. Key skills requirements involve predominantly soft skills, especially critical thinking and active listening. The main characteristics of the workforce are as follows:<sup>42</sup>

- The average age of the **workforce is 43** years, just over the national age average of 40 years.
- A significantly **higher proportion of workers are male** (62.7%) compared to females (37.3%).
- The majority of workers are **employed full-time**, representing 83.8% of workforce contracts.
- Nearly all (94.9%) workers are **employed in the Health Care and Social Assistance sector**, with the remaining workforce employed in Public Administration and Safety and the Education and Training sectors.
- The most common qualifications obtained are a **Bachelor degree** (43.8%) or an **Advanced Diploma/Diploma** (42.2%).
- Over the next five years, the number of ambulance officer and paramedic jobs are expected to grow by 24.5% (equivalent to an additional 4,200 jobs) across Australia, to reach a workforce level of 21,400

17,100

employed

+ 24.5%

+ 4,200 jobs

(2017 – 2022)

### Top Skills Areas

- ✓ Critical Thinking
- ✓ Active Listening
- ✓ Coordination
- ✓ Speaking
- ✓ Service Orientation

### Top Knowledge Areas

- ✓ Customer and Personal Service
- ✓ Medicine and Dentistry
- ✓ Public Safety and Security
- ✓ English Language
- ✓ Education and Training

Other role types supported by the Training Package products are distributed across different ANZSCO codes related to health, community and personal service workers. **The spread and ambiguous nature of role titles means that it is difficult to determine the true size and nature of the workforce.** Examples of roles for which it is difficult to quantify the public and private sector workforce include:

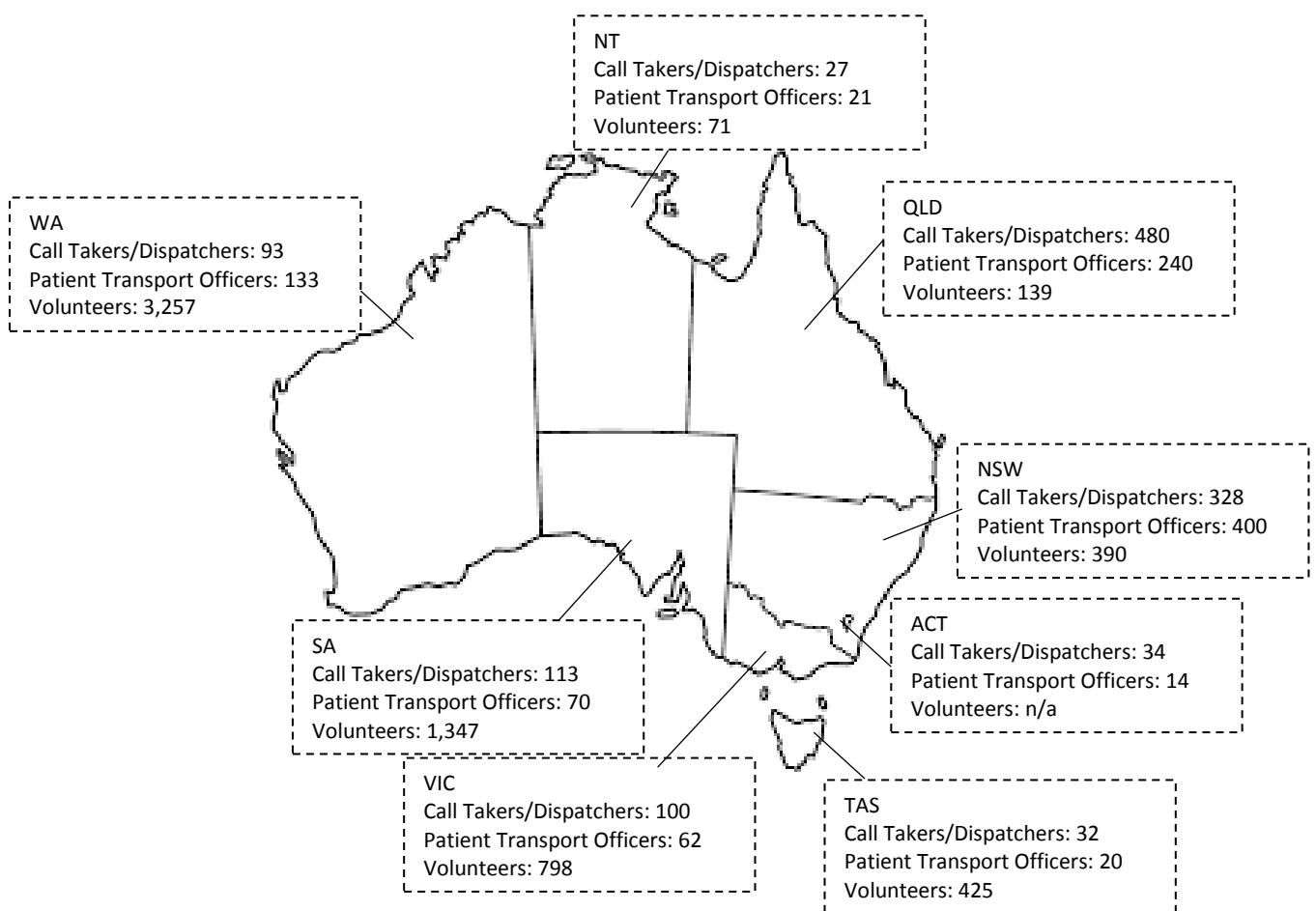
- **First responders** - The majority of people who undertake this role are volunteers or individuals who undertake this role as part of other duties in their workplace. The *Certificate II in Medical Service First Response* is primarily designed to assist in training people for this function. St John Ambulance Australia has approximately 10,000 volunteers who are first responders. Community first respondents are also role types in this category.

<sup>42</sup> Australian Government, Department of Employment, Job Outlook, Sales Assistants (General): ANZSCO code: 4111 (<http://joboutlook.gov.au/Occupation.aspx?search=Career&code=4111> Accessed 31 January 2018)

- **Advanced Responders** - many workplaces (particularly mining and industrial sites) employ people to provide a level of service which is above that of first responder roles. Their scope of practice will vary depending on organisational needs and relevant state/territory legislation. The *Certificate III in Basic Health Care* and *Certificate IV in Health Care* provide relevant training for these positions.

A preliminary breakdown of specific roles representing call takers and dispatchers (i.e. communications operatives), patient transport officers and volunteers (in a range of roles such as first responders, ambulance officers, etc.) as provided by ambulance service organisations is mapped below (see **Figure 6**). **These figures represent minimum workforce counts** as neither private sector participation nor that in non-ambulance service-related providers is included. Actual numbers will be significantly higher.

**Figure 6: Ambulance Service Organisations’ Human Resources - total number of FTE Salaried Personnel and Volunteers by Role Types (2016-17)**



Source: Report on Government Services 2018 – Ambulance Services (Part E, Chapter 11, Table 11A.8), and IRC contribution

## Future Skills Needs

### Science, Technology, Engineering and Mathematics (STEM) Skills

With the constant evolution of technology through automation, artificial intelligence (AI) and robots, the skills needed in the coming years will be vastly different to those required yesterday and today. It is imperative that this be factored in to Training Packages as they are developed, adapted and updated. Technological disruption, as it has done in the past, will replace some industries, companies and workers, especially those that lack the flexibility to adapt.

Australians are generally welcoming of technology and most believe that innovation and new technology development is vital for Australia's future prosperity<sup>43</sup>. There are some claims that, solely as a result of new technologies, approximately 40% of the workforce will be replaced by computers in the next 10 to 15 years<sup>44</sup>. In the case of the ambulance and paramedic sector, driverless ambulance vehicles are being studied in relation to transporting low-risk patients.<sup>45</sup>

New technology can also pave the way for new jobs and often replaces inefficient processes. In order to succeed in the age of automation many believe that STEM (Science, Technology, Engineering and Maths) skills are part of the answer when it comes to preparing workers for jobs of the future. The focus on STEM, while not new, is crucial to building a 21st century knowledge-based economy underpinned by data, digital technologies and innovation, which are essential for growth<sup>46</sup>. Digital literacy and being competent in the use of different technology platforms will also be essential skills in the future. Without basic digital competencies a person will not have the skills to negotiate the digitally-connected world which is now the norm<sup>47</sup>. Workers will need the ability to use digital technology in their jobs to develop, access and use information and digital content; communicate and collaborate through digital technologies; manage their digital identity, and use and protect their digital devices, personal and organisational data and privacy<sup>48</sup>. This will be important for the ambulance workforce as in the future the delivery of health services and the collection of related data will involve technology and digital literacy.

While STEM skills are critical for future skill needs, other **softer skills are just as important**. Soft skills include things like communication, teamwork, problem solving, emotional judgement, professional ethics and global citizenship. *Deloitte Access Economics* forecasts that two-thirds of jobs will be soft skill-intensive by 2030.<sup>49</sup> Megatrends like technology advancement and globalisation will contribute to more demand for people with soft skills as the geographical barriers fall due to technology, making it easier to connect people across countries.<sup>50</sup>

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<sup>43</sup> Australian Information Industry Association 2017, *Jobs for Tomorrow 2017*

<sup>44</sup> See for example [http://adminpanel.ceda.com.au/FOLDERS/Service/Files/Documents/26792~Futureworkforce\\_June2015.pdf](http://adminpanel.ceda.com.au/FOLDERS/Service/Files/Documents/26792~Futureworkforce_June2015.pdf), <https://startupaus.org/startups-and-tech-companies-are-the-engine-room-for-australias-future-workforce/> and <http://reports.weforum.org/future-of-jobs-2016/chapter-1-the-future-of-jobs-and-skills/>

<sup>45</sup> UK Parliament Science and Technology Committee (2017) *Connected and Autonomous Vehicles: The future?* (<https://publications.parliament.uk/pa/ld201617/ldselect/ldsctech/115/11505.htm> Accessed 31 January 2018)

<sup>46</sup> Australian Information Industry Association 2017, *Jobs for Tomorrow 2017*

<sup>47</sup> Australian Information Industry Association 2017, *Jobs for Tomorrow 2017*

<sup>48</sup> Australian Information Industry Association 2017, *Jobs for Tomorrow 2017*

<sup>49</sup> Deloitte Access Economics 2017, *Soft skills for business success, DeakinCo, May 2017*

<sup>50</sup> Deloitte Access Economics 2017, *Soft skills for business success, DeakinCo, May 2017*

## Key Generic Skills – Ranked in Order of Importance

The 12 generic skills listed below, including the descriptors, were provided by the Department of Education and Training to be ranked by industry. For the 2018 ranking exercise, an ‘Other’ generic skill option was included in the list to capture any additional key skills considered to be of importance to industry respondents. Please note that, in the case of this Industry Skills Forecast, no additional generic skills were identified.

1	LEARNING AGILITY / INFORMATION LITERACY / INTELLECTUAL AUTONOMY	Ability to identify a need for information. Ability to identify, locate, evaluate, and effectively use and cite the information. Ability to develop a working knowledge of new systems. Ability to work without direct leadership and independently.
2	COMMUNICATION / COLLABORATION / SOCIAL INTELLIGENCE	Ability to understand/apply principles of creating more value for customers, and collaborative skills. Ability to critically assess and develop content with new media forms and persuasive communications. Ability to connect in a deep and direct way.
3	MANAGERIAL / LEADERSHIP	Ability to effectively communicate with all functional areas in the organisation. Ability to develop tasks and processes for desired outcomes. Ability to oversee processes, guide initiatives and steer employees toward achievement of goals.
4	TECHNOLOGY AND APPLICATION	Ability to create or use technical applications, understand their interrelation with life, society, and the environment. Ability to understand/apply scientific or industrial processes, inventions, methods. Ability to deal with mechanisation/automation
5	DESIGN MINDSET/ THINKING CRITICALLY / SYSTEM THINKING / PROBLEM SOLVING	Ability to adapt products to rapidly shifting consumer tastes and trends. Ability to determine the deeper meaning or significance of what is being expressed via technology. Ability to understand how things that are regarded as systems influence one another within a complete entity, or larger system. Ability to think holistically.
6	LANGUAGE, LITERACY & NUMERACY (LLN)	Foundation skills of literacy and numeracy.
7	DATA ANALYSIS	Ability to translate vast amounts of data into abstract concepts and understand data-based reasoning. Ability to use data effectively to improve programs, processes and business outcomes. Ability to work with large amounts of data.
8	CUSTOMER SERVICE / MARKETING	Ability to interact with other people, whether helping them find, choose or buy something. Ability to supply customers' wants and needs. Ability to manage online sales and marketing. Ability to understand and manage digital products.
9	STEM Science, Technology, Engineering and Maths (STEM)	Sciences, mathematics and scientific literacy.
10	ENTREPRENEURIAL	Ability to take any idea and turn that concept into reality / make it a viable product and/or service. Ability to focus on the next step /move closer to the ultimate goal. Ability to sell ideas, products or services to customers, investors or employees, etc.
11	FINANCIAL	Ability to understand and apply core financial literacy concepts and metrics, streamlining processes such as budgeting, forecasting, and reporting, and stepping up compliance. Ability to manage costs and resources, and drive efficiency.
12	ENVIRONMENTAL / SUSTAINABILITY	Ability to focus on problem solving and the development of applied solutions to environmental issues and resource pressures at local, national and international levels.



## Key Drivers for Change and Proposed Responses

### Regulation and Registration

A recent and significant regulatory change for the sector has been the national registration for paramedics as part of the National Registration and Accreditation Scheme. The Paramedicine Board of Australia was established in October 2017 and, together with the Australian Health Practitioners Regulation Agency (AHPRA), has been tasked with developing and establishing registration standards including qualification requirements, codes and guidelines. Registrations are expected to open in mid-2018, with National Regulation expected to take effect in late 2018.

The outcomes of the consultation regarding qualification requirements for registration will to some extent impact the role of VET qualifications in supporting individuals moving into paramedicine and ambulance-related positions. Mapping VET qualifications across registration requirements and, more widely, across the post-registration occupational environment will be important to gain an understanding of the supportive ways in which the Training Package products can contribute to facilitating career pathways.

### Rural and Remote Communities and Environments

A range of programs have been implemented over the years to encourage practice outside the major cities. These programs target students through scholarships and access to bonded places, early practice and specialist training through pre-vocational and rural and remote health placements, and by return of service obligations and established practitioners through a range of incentive programs. It is important to consider articulation from qualifications in this Training Package for those wishing to pursue a path to AQF level 7 programs in related health fields as one way of increasing the uptake of these qualifications.

### Privatisation

In practice, the workforce is distributed across both the public sector and private sector. Historically, services such as patient transport, emergency response and life support services have been provided by state and territory governments via state ambulance services. However, there has been a gradual split in the delivery of these function areas, with some formerly ambulance-specific services now being outsourced by governments to non-ambulance service providers, particularly in the area of non-emergency patient transport. State and territory governments are also increasingly outsourcing the delivery of these services to private enterprise and today a large proportion of the workforce supported by these Training Package products is located in the private sector. As previously noted, the inclusion of paramedics in the National Registration and Accreditation Scheme under the Health Practitioner Regulation National Law will see a significant regulatory change for the sector - this may also have a further flow-on effect of growing the demand for privately operated services with a correlating increase in demand for these Training Package products in direct and/or supporting roles. It is important to understand how the Training Package products can support the requirements of these sectors.

### Technology

Technological advancements within the ambulance and paramedic sector have meant that the skills needs of the workforce have been shifting to adapt to the digitalisation of functions. Current and upcoming technologies of the sector include:

- Computer-Aided Dispatch (CAD)
- Automatic Vehicle Location (AVL) and Mobile Data Terminals (MDTs)

- Smart Ambulances
- Emergency Vehicle Priority
- Virtual Reality (VR) Training
- High-Fidelity Training
- Electronic Patient Care Records (ePCR)
- Body Cameras
- Telehealth.

With new technology comes the need for training to ensure skills are sufficient to implement technologies to their full capacity.

## Workforce Issues

### **Occupational Violence**

Over the years, the likelihood of being exposed to an assault as an emergency services worker has become a characteristic of the role and some triggers have been directly related to the rise in crystal methamphetamine ('ice') and alcohol-fuelled violence.

While raising community awareness has seen some positive trends in reducing incidents, occupational violence is currently (and is forecasted to be) a significant ongoing consideration for the workforce. Workforce training is a fundamental component for addressing the issues and Training Package products will therefore need to ensure they evolve to include key skills for assessing potential incidents of violence, and strategies to address them.

### **Mental Health**

As mental health issues grow in prevalence across both the general population and the ambulance and paramedic workforce, workforce mental health strategies will become increasingly important, and these will include the provision of relevant training to ensure individuals are provided with appropriate mechanisms to deal with the difficulties they face in their work.

### **Wellbeing and Resilience**

Experiencing cumulative trauma is an unavoidable and unique consequence of the out of hospital role. These experiences can greatly increase the risk of developing a mental health illness or make an underlying issue worse, and can either have an immediate effect or may build up over weeks, months or years.

The importance of training out of hospital workers to develop a range of skills to build resilience and cope with the demands of their jobs is paramount, and Training Package products should evolve to maximise workforce wellbeing.

## Proposed Schedule of Work

### Ambulance and Paramedic IRC - Proposed Schedule of Work

Year	Project Title	Description
2018-19	Medical Service First Response	The IRC proposes to update the following qualification and any associated Units of Competency relating to Medical Service First Response job roles: <ul style="list-style-type: none"> <li>• <i>HLT21015 Certificate II in Medical Service First Response</i></li> </ul>
2018-19	Ambulance Communications (Call-taking)	The IRC proposes to update the following qualification and any associated Units of Competency relating to Ambulance Communications (Call-taking) job roles: <ul style="list-style-type: none"> <li>• <i>HLT31015 Certificate III in Ambulance Communications (Call-taking)</i></li> </ul>
2018-19	Non-Emergency Patient Transport	The IRC proposes to update the following qualification and any associated Units of Competency relating to Non-Emergency Patient Transport job roles: <ul style="list-style-type: none"> <li>• <i>HLT31115 Certificate III in Non-Emergency Patient Transport</i></li> </ul>
2018-19	Basic Health Care	The IRC proposes to update the following qualification and any associated Units of Competency relating to Basic Health Care job roles: <ul style="list-style-type: none"> <li>• <i>HLT31215 Certificate III in Basic Health Care</i></li> </ul>
2018-19	Ambulance Communications (Dispatch)	The IRC proposes to update the following qualification and any associated Units of Competency relating to Ambulance Communications (Dispatch) job roles: <ul style="list-style-type: none"> <li>• <i>HLT41015 Certificate IV in Ambulance Communications (Dispatch)</i></li> </ul>
2018-19	Health Care	The IRC proposes to update the following qualification and any associated Units of Competency relating to Health Care job roles: <ul style="list-style-type: none"> <li>• <i>HLT41115 Certificate IV in Health Care</i></li> </ul>

2018-19	Paramedical Science	<p>The IRC proposes to update the following qualification, associated Skill Set and Units of Competency relating to relevant job roles. This will occur in the context of factors relevant to the implementation of paramedic regulation as determined by the Paramedicine Board of Australia:</p> <ul style="list-style-type: none"> <li>• <i>HLT51015 Diploma of Paramedical Science</i></li> <li>• <i>Advanced Paramedical Science Skill Set</i></li> </ul>
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## 2018-19 Project Details

Project Title	Ambulance and Paramedic
Description:	Update Ambulance and Paramedic Training Package products in the HLT Training Package
Rationale:	Refer to the section above titled <b>Key Drivers for Change</b> in this document, pages 25-26
Ministers' Priorities Addressed:	<p>The development of Training Package products proposed within this Case for Endorsement considered opportunities to support the COAG Industry and Skills Council and used consultation activities and stakeholder engagement to identify:</p> <ol style="list-style-type: none"> <li>opportunities to identify and remove obsolete Training Package products from the system.</li> <li>industry expectations for training delivery and assessment (to be documented within the Companion Volume Implementation Guide).</li> <li>opportunities to enhance the portability of skills from one related occupation to another.</li> <li>opportunities to remove unnecessary duplication within the system and create Training Package products that may have application to multiple industry sectors. Due to the specific nature of the health care industry it may not be possible for HLT Training Package products to be applied across non-health-related industries.</li> <li>opportunities for the development of skill sets. This project includes the review of an existing skill set.</li> </ol>

Consultation Plan:	Key stakeholders identified in the list on page 10 will be consulted. National industry consultation will be conducted via face to face workshops, webinars, one on one interviews, and there will be opportunities for all interested parties to provide comments online via the SkillsIQ Online Feedback Forum.
Scope of Project:	July 2018, subject to AISC approval. Estimated duration: 12-18 months.

Timing - Estimated Duration and Key Dates:	
Training Package to be Revised:	HLT Health Training Package
Qualifications to be Developed/Revised:	<ul style="list-style-type: none"> <li>• <i>HLT21015 Certificate II in Medical Service First Response</i></li> <li>• <i>HLT31015 Certificate III in Ambulance Communications (Call-taking)</i></li> <li>• <i>HLT31115 Certificate III in Non-Emergency Patient Transport</i></li> <li>• <i>HLT31215 Certificate III in Basic Health Care</i></li> <li>• <i>HLT41015 Certificate IV in Ambulance Communications (Dispatch)</i></li> <li>• <i>HLT41115 Certificate IV in Health Care</i></li> <li>• <i>HLT51015 Diploma of Paramedical Science</i></li> </ul>
Units of Competency to be Developed/Revised	<ul style="list-style-type: none"> <li>• <i>HLTAMB001 Follow procedures for routine safe removal of patient</i></li> <li>• <i>HLTAMB002 Implement safe access and egress in an emergency</i></li> <li>• <i>HLTAMB003 Transport emergency patients</i></li> <li>• <i>HLTAMB004 Conduct advanced clinical assessment</i></li> <li>• <i>HLTAMB005 Receive and respond to requests for ambulance service</i></li> <li>• <i>HLTAMB006 Assign and coordinate ambulance service resources</i></li> <li>• <i>HLTAMB007 Assess and deliver basic clinical care</i></li> <li>• <i>HLTAMB008 Assess and deliver standard clinical care</i></li> <li>• <i>HLTAMB009 Deliver intensive clinical care</i></li> <li>• <i>HLTAMB010 Manage and coordinate resources for emergency operations</i></li> <li>• <i>HLTAMB011 Manage a routine non-emergency scene</i></li> <li>• <i>HLTAMB012 Communicate in complex situations to support health care</i></li> <li>• <i>HLTAMB013 Contribute to managing the scene of an emergency</i></li> <li>• <i>HLTAMB014 Transport non-emergency patients under operational conditions</i></li> </ul>
List of Skill Sets:	<ul style="list-style-type: none"> <li>• <i>HLTSS00063 Advanced paramedical science skill set</i></li> </ul>

## IRC Sign-off

The 2018 Industry Skills Forecast will be signed off by the IRC Chair prior to submission to the AISC.