

THE FUTURE GROWTH OF THE HEALTHCARE AND SOCIAL ASSISTANCE WORKFORCE AND ITS SKILLS BASE: THE CASE OF GIPPSLAND IN AUSTRALIA

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ABSTRACT: The purpose of this article is to identify the current and future of healthcare and social assistance workforce needs in Gippsland, a region of the State of Victoria in Australia. In doing so, it uses a range of data sources to illustrate the nature of the anticipated future workforce, based on the government forecasts of future population changes. It then uses data from the O*NET database to identify the types of skills and knowledge required. This analysis focuses on the present and future workforce of Gippsland. In Gippsland, the healthcare and social assistance sectors together employ 14,000 people as well as an additional 4,000 in related administration, clerical duties, and allied duties. Gippsland has fewer healthcare professionals per capita than Australia overall (except for nurses) and has a disproportionate number of professionals that are older or recruited from overseas. Numbers employed will rise from around 14,000 to reach nearly 19,000 by 2036. As well as growing numbers, the skill intensity of the work has risen over the years. Also, the technical complexity of many jobs has changed, which means people will need to undertake life-long learning. Tertiary education providers will need to modify and expand their offerings in these fields to cope with the changes in skill and knowledge requirements of many occupations.

KEYWORDS: Healthcare, social assistance, employment, regions, forecasting.

1. INTRODUCTION

Over the years, there has been considerable concern expressed about the development of the healthcare and social assistance sectors' workforces (the term social assistance is used rather than community services as the former conforms with the definitions of occupations given by the Australian Bureau of Statistics, 2021). This level of concern has not just been expressed in Australia, but has also been the subject of interest

internationally, and has become of more heightened interest because of the COVID-19 pandemic in 2020 onwards (Deloitte, 2019; Global Health Workforce Alliance and World Health Organisation, 2015; Organisation for Economic Co-operation and Development, 2015, 2016). Of particular interest is the need to ensure that there is a growing supply of trained personnel to each industry as they develop. This is of particular concern in many rural and regional areas in Australia as they have long suffered from shortages of qualified healthcare and social assistance professionals. In Australia, several agencies have reported a chronic shortage of degree qualified workers and difficulties in recruiting, and it has been reported globally that shortages are growing (Harrington and Jolly, 2013; Department of Health Australia, 2014-19; Berry Street, Interchange, Victorian Aboriginal Child Care Agency to the Victorian Government, 2019; Western Australian Council of Social Service, 2021).

These concerns are particularly acute because of population ageing and may worsen in those regions of Australia where population ageing is expected into the future and is progressing at a greater rate than in urban areas. An aging population requires a higher level of healthcare provision as elderly people are more likely to suffer from chronic and acute conditions. In several rural and regional areas, staff shortage has been especially acute not only because of the aging of the population, but also because of the difficulty in attracting, and keeping staff in these regions (Department of Health Australia, 2014-19). As in many parts of Australia it is expected that further demographic changes will further boost demand for these services future planning is crucial in order to cope with expected demographic shifts. Planning will need to take into consideration regional growth forecasts and associated employment needs.

As well as growth in demand for services in recent years, there have also been concerns raised about the types of training and education received by those entering these two sectors (both as a regional issue and nationally) (Harrington and Jolly, 2013). This has occurred because with technological change the skill and knowledge requirements in these two sectors are becoming more intense. Accommodating the expected future growth in staff numbers in the two sectors, therefore, is not just about increasing numbers of staff, but also about understanding the nature of the work they carry out, and the education and training they require. This rise in knowledge and skill level is also influenced by the application of government policy. In recent times, government investigations have tended to recommend that staff in the two sectors achieve higher levels of qualifications (Royal Commission into Aged Care Quality and Safety Australia, 2021; Royal Commission into Violence, Abuse, Neglect and

Exploitation of People with Disability Australia, 2019; Royal Commission into Family Violence Victoria, 2016; Royal Commission into Victoria's Mental Health System, 2019; Western Australia, Parliament, Community Development and Justice Standing Committee, 2020; South Australia Parliament, 2015; South Australia Human Services, 2020). Government pressure, therefore, is increasingly directed towards the raising of qualifications levels held by staff in the two sectors.

The purpose of this article, therefore, is three-fold. To provide estimates of the current and future healthcare and social assistance needs of a single region in Australia, that of Gippsland in the eastern part of the State of Victoria. In doing so, it uses a range of data sources to construct forecasts of future workforce demand based on the government's forecasts of future population changes.

To use data from the Occupational Information Network (O*NET) database (explained in more detail in this paper) to model the types of skills and knowledge required by the present and future workforce of Gippsland. Originally this work was commissioned by the Latrobe Valley Authority and funded by that organisation along with the Latrobe City Council, Latrobe Regional Hospital and Victorian Government's Department of Health (Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government, 2019).

To link the results of this study to the future national demands for staff in the healthcare and social assistance sectors.

The results of the study are to some degree being replicated in other parts of Australia, and the modelling used in this study could very easily be transferred in use from Gippsland to other regional areas in Australia. For this reason, this article will not just be of interest to those in this region, but also to those around Australia and internationally who are grappling with the problems faced by rising demand for healthcare and social assistance such as providers, education and training providers, policy makers, and researchers.

2. METHOD

The healthcare and social assistance sectors make a critical contribution to promoting the economic and social development of the various regions of Australia. For this to occur, it is important to be able to highlight what growth there will be in employment in healthcare and social assistance services in the various regions of Australia (allied health, community health and acute as well as support, such as IT, HR, and financial), as well as to identify the degree to which current skills levels can contribute to this

growth. In doing so, the gaps between the present skills (both technical and organisational) and those in demand in the future skill need to be identified and education and training strategies designed to close those gaps.

To do so for the case of the Gippsland region in Australia, it is possible to take employment data for the six local government areas (LGAs) of Gippsland from the Australian Bureau of Statistics' Census of Population and Housing as well as other data sources such as the National Healthcare Database), and to then align them with data on employment from the O*NET produced by the United States Department of Labor, Employment and Training Administration. The O*NET itself is a free online database containing the details of hundreds of occupational definitions, designed to assist labour market analysts, students, job seekers, businesses, and workforce development professionals with the information they need for contemporary employment. The O*NET system describes the various occupations in terms of the skills and knowledge required to undertake them, as well as provides detailed information on how that work is performed (Occupational Information Network (O*NET) Consortium, 2019; O*NET Resource Center, 2019). In making use of the O*NET, surveys were undertaken of employees in the sector in Gippsland on the skills required to undertake their work. The results of these surveys were used to check the applicability of the O*NET system (Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government, 2019).

By combining these datasets, it is possible to generate a detailed profile of the region's employment and associated skills. Furthermore, it is possible to use the demographic forecasts from the Victorian Government to estimate the future demand for healthcare and social assistance personnel (and align those with estimates of skills and knowledge from the O*NET). Using the detailed data in the O*NET and combining it with the other data (both current and forecasts), it is possible to conduct highly detailed skills and knowledge forecasts within occupations in the healthcare and social assistance sectors, thus allowing regional educators, policy makers, the community, and other stakeholders to produce detailed work information related to changes to work practices and the future demand for the skill needed to perform job tasks effectively.

3. RESULTS

The Gippsland Region

The Gippsland region is comprised of 41,556 square kilometres and extends from the outskirts of Melbourne to Cape Howe, the most easterly point of Victoria. Although it covers a large area, it has a limited population and in 2019 had an estimated population of 279,350 (Table 1). Although population growth is expected to be less than for Australia overall, the population of the region is still expected to rise over the next 20 years (for Victorian Government population projections see Table 1). The region is made up of six geographically, socially, and economically diverse LGAs: the Bass Coast Shire, Baw Baw Shire, East Gippsland Shire, Latrobe City, the South Gippsland Shire, and the Wellington Shire, and the main population concentration is in the Latrobe City. The region's economy is predominantly based on natural resources, with key sectors being forestry, pulp, paper, horticulture, dairy, fishing, electricity generation, coal mining, and oil and gas extraction/treatment. In addition, tourist destinations, such as Wilsons Promontory, Phillip Island, the Gippsland Lakes, and the Baw Baw Plateau, also are important. Gippsland's economy is highly connected with the rest of the country and overseas with the region generating exports worth about \$10 billion annually (Invest Victoria, 2018).

Despite the positive economic developments taking place in the region, it faces important challenges, because of the questions about the future of the coal-based, power stations located in the Latrobe Valley, which face the prospect of being eventually replaced by renewable energy sources largely based elsewhere in Victoria (Yallourn power station in 2028 and Loy Yang A and B in 2047). Linked to these economic changes is the aging population as the Gippsland region has a higher median age than that of Victoria and Australia (45 in 2016, compared to 37 in Victoria and 38 for Australia; Australian Bureau of Statistics, 2016; Latrobe City Council, 2020; Wellington Shire Council, 2020; Baw Baw Shire Council, 2020). More recently, Gippsland has had slower economic and population growth than the state average. As well the proportion of the labour force with higher education qualifications is lower than that of the rest of Victoria. Instead, the Gippsland workforce has a significant proportion with diploma and certificate qualifications (Australian Bureau of Statistics, 2016).

At the same time, unemployment levels have been higher and the participation rate lower than for Victoria, reflecting the regions experience of power industry retrenchments (Australian Bureau of Statistics, 2016).

The strongest future growth of employment in Gippsland is expected to come in accommodation and hospitality, rental and real estate, construction, administration and support services and healthcare and social assistance. These trends are consistent with Victorian and Australia-wide trends (Deloitte Access Economics, 2016). In the case of the healthcare and social assistance sectors, future employment growth will be driven by demographic changes. The main ones are expected to be as follows.

The region’s population is expected to grow, across all six LGAs (see Table 1), although greatest in the Baw Baw and Bass Coast shires as they adjoin the outer suburbs of Melbourne.

Population ageing is predicted to continue (see the population distribution in Figure 1). It is forecast that the median age will stabilise at around 47 and will continue around this level until 2036. That said, the median age is expected to rise in some areas of Gippsland, such as in the Latrobe Valley, while staying lower in areas such as the Baw Baw Shire.

The number of births in the region is expected to be maintained. Growth in the number of births will be strongest in the western parts of Gippsland, and will decline marginally in Latrobe City (Department of Environment, Land, Water and Planning Victoria, 2019).

Table 1. Current and Estimated Population in Gippsland LGAs. Source: Victoria, Department of Environment, Land, Water and Planning (2019).

LGAs	2019	2021	2026	2031	2036
Bass Coast Shire	34,496	36,990	40,952	44,798	48,737
Baw Baw Shire	50,065	54,318	61,296	67,743	74,427
East Gippsland Shire	45,448	47,118	49,647	52,150	54,810
Latrobe City	74,021	75,038	77,775	81,222	84,944
South Gippsland Shire	27,976	28,478	29,611	30,677	31,766
Wellington Shire	42,011	42,687	43,921	45,153	46,293
Gippsland Region	275,390	284,628	303,202	321,742	341,516

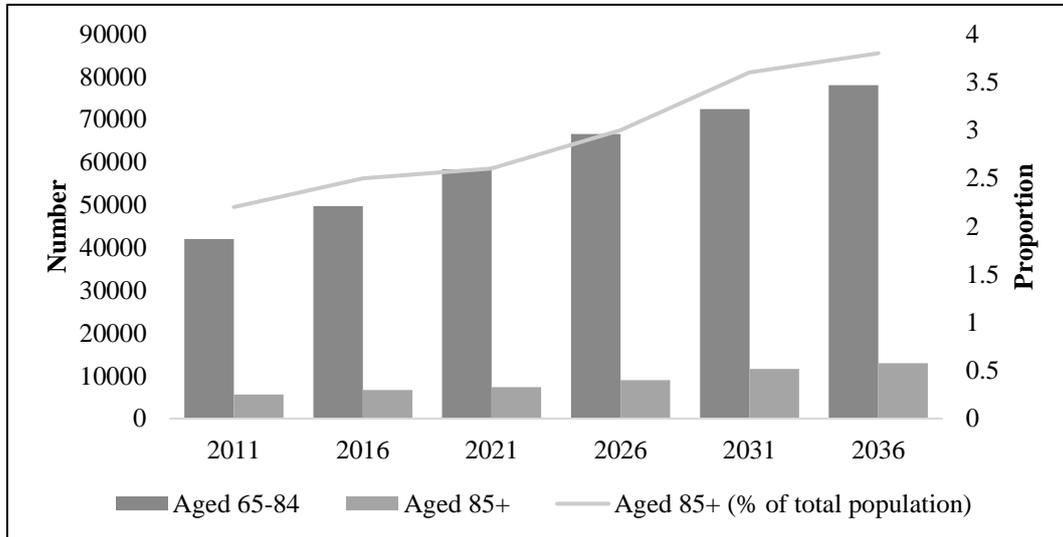


Figure 1. Number and proportion of older people in the Gippsland region (65+ 85+0, 2011 to 2036). Source: Victoria, Department of Environment, Land, Water and Planning (2019).

Employment in Healthcare and Social Assistance

As the Gippsland region has already experienced a considerable ageing of its population over recent decades, healthcare and social assistance employment has already grown considerably. These sectors in 2020 employ around 14,000 people (Australian Bureau of Statistics, 2016). In addition to those employed directly in the two sectors around 2,000 people are employed in related clerical duties and administration, a similar figure is employed in allied duties. Employment growth in the two sectors has risen annually by between five and seven per cent over the past few decades and this rate is expected to slow to three per cent over the next decade and two per cent in the following decade (Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government, 2019). In the two sectors, nurses and aged and disability carers are the occupations with the largest numbers, with other occupations with substantial numbers including social workers, physiotherapists, pharmacists, paramedics, doctors, and dentists (Table 3). Gippsland has fewer healthcare professionals per capita, relative to Australia overall

(excepting nurses), as well as a disproportionate number recruited from overseas and of above average age. This situation is illustrated in Table 2.

It is anticipated that the numbers employed in the two sectors will increase over the next two decades from around 14,000 in 2016 to almost 19,000 in 2036 (Figure 2). Growth will not be uniform across the six LGAs, or across all occupations, but will be significant in all cases (Table 3). The growth of occupations will depend upon the growth in population in general, the degree to which the population has aged in the region, or sub-region, and the degree to which an occupation is linked to the care of aged people. It is expected that productivity growth will slightly temper the demand for some occupations. Based on these factors, estimates are provided in Figure 2 and Table 3 and based on the work undertaken by the authors for the Latrobe Valley Authority (Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government, 2019).

Table 2. Medical Professionals in 2016. Source: Australia, Department of Health (2018); Social workers from the Australian Bureau of Statistics (2016).

	Number of Gippsland professionals	Professionals per 100,000 population	
		Gippsland	Australia
Dental practitioners	152	57	83
Medical practitioners	692	256	390
Nurses and midwives	3,825	1,426	1,347
Pharmacists	235	88	102
Physiotherapists	167	62	104
Social workers	244	91	90
		Aged 55+ (%)	
		Overseas trained (%)	
		Gippsland	Australia
Dental practitioners	35	33	22
Medical practitioners	47	32	30
Nurses and midwives	na	Na	31
Pharmacists	21	12	24
Physiotherapists	22	12	14

Table 3. Current and Future Gippsland Healthcare and Social Assistance Occupations. Source: Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government (2019); Australian Bureau of Statistics, (2016); Department of Health Australia (2018).

Occupations	2016	2026	2036
Health and Welfare Services Managers	223	266	317
Pharmacists	235	263	294
Dental Practitioners	132	146	162
Occupational Therapists	150	179	212
Physiotherapists	167	199	237
Audiologists and Speech Pathologists\Therapists	79	94	113
General Practitioners, Resident Medical Officers	267	318	377
Medical Imaging Professionals	116	137	161
Occupational/Environmental Health Professionals	179	213	254
Midwives	239	268	297
Nurse Managers	189	226	270
Registered Nurses	2,730	3,246	3,846
Enrolled Nurses	623	735	859
Medical Technicians	287	342	406
Ambulance Officers and Paramedics	272	309	347
Dental Assistants	227	258	292
Psychologists	160	192	228
Social Workers	244	292	347
Welfare Support Workers	672	799	948
Child Carers	1,075	1,190	1,304
Education Aides	1,298	1,458	1,632
Aged and Disabled Carers	1,945	2,483	3,167
Nursing Support and Personal Care Workers	918	1,100	1,312

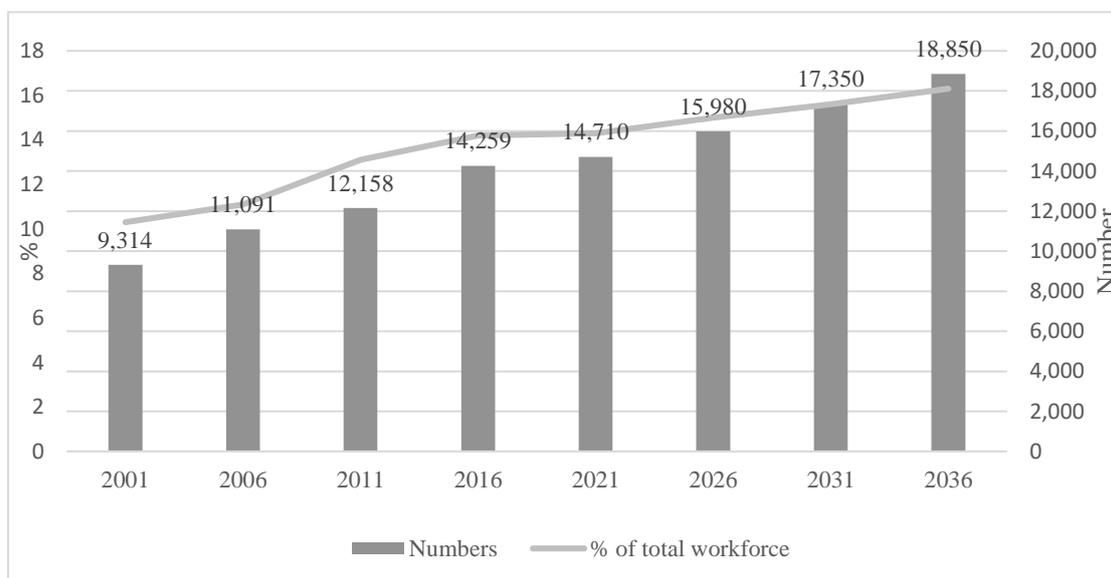


Figure 2. Healthcare and Social Assistance Employment (Numbers and Percentage of Workforce, Actual 2001 to 2016, Estimates 2016 to 2036). Source: Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government (2019); Australian Bureau of Statistics (2016); Department of Environment, Land, Water and Planning Victoria (2016).

Skill and Knowledge

While the skill intensity of work in the Gippsland region has grown, it has not kept pace with faster growth elsewhere in Victoria. Overall, this growth has tended to be in lower skilled jobs. In addition, the knowledge intensity of work has grown. A major feature of these changes has been the increasing diversity in the character of work and employment type. The transformation of the economy of Gippsland has also had a major impact on the creation of jobs, and there has been an increase in low skilled job creation, which has meant that the skill base has been declining relative to other parts of Australia. Regarding the healthcare and social assistance sectors there has been a change in work complexity (according to the O*NET database). The main skill growth has been in learning strategies, monitoring, troubleshooting, quality control analysis, the management of financial resources, and use of learning strategies. There has also been a growth of social skills consisting of social perceptiveness, coordination, persuasion, negotiation, instructing, and service orientation. A survey of

staff working in Gippsland conducted by the Latrobe Valley Authority confirms that the changes highlighted by the O*NET are also present in the region (Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government, 2019). The study also found that in most occupations the use of teamwork, communication skills, critical thinking, IT skills, problem-solving and decision making have all risen in importance. Also, the technical complexity of many jobs has changed, which means that there is more need for lifelong learning as jobs change in their nature. These changes are common in all occupations, but not to the same degree. It is expected that an emphasis on all these skills will be important in the future.

It is possible to illustrate this growing complexity of skill and knowledge required of the occupations in the two sectors by focusing on two of the main occupations (nursing and social work). The O*NET definition of nurses is that they assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management.

The Australian Bureau of Census and Statistics states that registered nurses provide nursing care to patients in hospitals, aged care and other health care facilities, and in the community (Australian Bureau of Statistics, 2013).

The knowledge of nurses might involve aspects of the following: medicine and dentistry, customer and personal service, psychology, English language, education and training, therapy and counselling, biology, sociology and anthropology, computers and electronics. Table 4 provides the O*NET indicators of skill levels of nursing (as well as of social worker and general practitioner). Critical thinking, active learning, speaking, and social perspectives are important parts of nursing.

In 2016 in Gippsland, there were 2,730 registered nurses, a number anticipated to increase in the future (Table 3). Nurses have been trained at hospitals in Gippsland since the late nineteenth century and in the 1980s, the Gippsland Institute of Advanced Education (from 1990 the Gippsland Campus of Monash University and from 2014 the Gippsland campus of Federation University) began to deliver nursing degrees. Since then, the number of nurses educated at Federation University has increased and many students attending the University go onto nursing careers in Gippsland hospitals. Unlike the case of other health professionals, the rate of nurses per capita is slightly higher in Gippsland than in the rest of the country. This may be because of the contribution made to nursing

education by the Gippsland campus of Federation University. Another occupation that has been growing in demand is that of social work. This profession is one that concerns itself with families, individuals, and communities to promote social functioning and overall well-being. The O*NET description of social workers is providing social services and assistance to improve the social and psychological functioning of children and their families and to maximize the family well-being and the academic functioning of children. May assist parents, arrange adoptions, and find foster homes for abandoned or abused children. In schools, they address such problems as teenage pregnancy, misbehaviour, and truancy. May also advise teachers.

In Gippsland, social workers typically work in child protection, family services, family violence services, homelessness, and alcohol and drug services, accounting for an estimated half of those working in these fields. The knowledge of social workers might encompass aspects of customer and personal service, psychology, therapy and counselling, English language, sociology and anthropology, education and training, law and government, administration and management, and computers and electronics. Social work as an occupation requires significant levels of critical thinking, judgement and decision making, reading comprehension, writing and complex problem solving. In dealing with the social problems associated with a growth in unemployment, income inequality and ageing, there has been a growing demand for social workers throughout Gippsland. This has meant that the number of social workers employed in Gippsland has grown steadily, more than doubling in number in the years 2001 to 2016 (from 110 to 244) (Australian Bureau of Statistics, 2016). It is expected that the numbers employed will continue to increase and reach 380 by the year 2036 (Table 3). In Gippsland, several providers have reported a chronic shortage of social workers and difficulties in recruiting (Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government, 2019). At present, no higher education provider delivers a Bachelor of Social Work in the Gippsland region. The skills gap is being partially offset by people with lower-level qualifications, typically the Diploma of Community Services.

Table 4. Skill Indicator Score of Selected Occupations According to the O*NET Scale, 2019. Source: Occupational Information Network (2019); O*NET Resource Center (2019).

	Registered nurse		Social worker		General practitioner	
	Importance	Level	Importance	Level	Importance	Level
Critical Thinking	72	57	82	61	85	63
Active Listening	78	57	68	54	81	68
Judgment and Decision Making	69	54	80	57	81	66
Reading Comprehension	72	61	80	59	78	68
Writing	66	52	75	59	78	61
Speaking	75	57	90	59	75	61
Science	47	43	45	29	75	61
Complex Problem Solving	60	46	78	50	75	59
Monitoring	69	55	78	55	72	57
Social Perceptiveness	78	63	82	66	72	61
Service Orientation	75	57	80	59	72	54
Active Learning	78	57	68	54	69	57
Average skill score	70	55	75	55	76	61

4. DISCUSSION

Many of the changes occurring in Gippsland in the healthcare and social assistance sectors and Australia are mirrored by changes occurring both in other parts of Australia and internationally (Organisation for Economic Co-operation and Development, 2016). These changes are often technological in nature, but also in many cases, involve changes in the organisational structure of healthcare and social assistance providers. In

addition, changes have been, and will occur, to the mobility of workers (Global Health Workforce Alliance and World Health Organisation, 2015; Organisation for Economic Co-operation and Development, 2015). Internationally employment in the two sectors is rising, encouraged by the growth, and aging of populations. Growth in demand and employment means that expenditure is rising, with healthcare expenditure expected to grow at around 5.4 per cent per annum in the years up until 2022, well above that of population and economic growth (Economist Intelligence Unit, 2019).

It is expected that growth in demand will lead to substantial growth in employment internationally, even with the development of labour-saving technology. The healthcare and social assistance sectors are characterised as being both labour intensive and conversely users of many forms of advanced technology. It is, therefore, possible that the two sectors will grow, employ greater numbers of people and at the same time develop using more advanced forms of technology. As the sectors grow, increases in expenditure will mean that in many countries there will be increasing pressure on providers to reduce cost expansion and improve efficiency. Government budgets will be put under stress and governments will be keen to find ways to rein in the growth of public expenditure on healthcare and social assistance. This will mean that there will be increasing pressures for hospitals to reorganise or to merge to drive efficiencies, and as well put pressure to increasing focus on early intervention and prevention, the redesign of organisations and the development of new revenue streams. New care delivery modes may be introduced, with the aid of digital technologies. New business models will emerge that blur the boundaries between institutions, the resulting clusters of public-private providers will in turn drive future innovation (Deloitte 2019; Safavi and Dare, 2018). This will add, therefore, to staff needing to develop broader skills in terms of IT skills, teamwork, communication skills, and problem solving.

One aspect that will also alter the way the two sectors operate is the nature of government policy. Of particular importance for Gippsland, as it is in the State of Victoria, are the Victorian Government's Royal Commission into Family Violence, the Australian Government's Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability), and the Victorian Government's Royal Commission into Victoria's Mental Health System. The region will also be affected by the impact of the Australian National Disability Insurance Scheme which was introduced from 2013-2016 (Dale and Buckmaster, 2015; National Disability Insurance Agency, 2017). Amongst other things, these investigations have tended to advocate the raising of qualifications to

degree level, which will have important implications for the development of the workforce in Gippsland.

By looking at existing data as well as demographic forecasts, it is possible to get a good indication of the structure and size of employment in the healthcare and social assistance sectors in a region like Gippsland in the present and in the future. In Gippsland, the healthcare and social assistance sectors together employ 14,000 people as well as an additional 4,000 in related administration, clerical duties, and hotel and allied duties. In the sectors, the two occupations with the largest numbers employed are nurses and aged and disability carers with other important occupations in terms of numbers being social workers, physiotherapists, pharmacists, paramedics, doctors, and dentists. Gippsland, like many regional areas of Australia has fewer healthcare professionals per capita than Australia overall (except for nurses) and has a disproportionate number of professionals that are older or recruited from overseas.

Growth in employment in the two sectors has been at an annual rate of between five and seven per cent in recent years and is expected to slow to three per cent for the next ten years and then two per cent after that. This will mean that the numbers employed will rise from around 14,000 to reach over 20,000 by 2036. Growth will not be uniform across all the six LGAs of Gippsland or across all occupations but will be significant in all cases. Given the strong growth in expected numbers and the significant number of professionals that will retire, there is a strong possibility that shortages will be common across many occupations.

As well as growing numbers, the skill intensity of the work has risen over the years. The skills growing in importance include monitoring, troubleshooting, quality control analysis, management of financial resources, and learning strategies. In addition, growth in social skills are important and includes such things as social perceptiveness, coordination, persuasion, negotiation, instructing and service orientation. These changes are common across all occupations, but to differing degrees. In most cases, there has been an increase in the need for communication skills, IT skills, teamwork, critical thinking, problem solving, and decision making. Also, the technical complexity of many jobs has changed, which means people will need to undertake life-long learning.

5. CONCLUSION

The purpose of this article was to review the situation in Gippsland in Victoria concerning the present and future healthcare and social assistance workforce. In doing so, it made use of a range of sources of data. In

Gippsland, the healthcare and social assistance sectors together employ 14,000 people as well as an additional 4,000 in related administration, clerical duties, and hotel and allied duties. The region has fewer healthcare professionals per capita than Australia overall (except for nurses) and has a disproportionate number of professionals that are older or recruited from overseas. Numbers employed in these two sectors are anticipated to rise from around 14,000 to reach nearly 19,000 by 2036.

As well as growing numbers, the skill and knowledge intensity of the work has risen over the years and will continue to do so into the future, which means people will need to undertake life-long learning. It is also expected that the role played by tertiary education providers will be critical as they not only expand student numbers to meet demand but also adapt to cope with the changes in skill and knowledge requirements of many occupations.

REFERENCES

- Australian Council of Social Services (2020). *Australia's Community Sector and COVID-19: Supporting Communities Through the Crisis*. An Australian Community Sector Survey Special Report. Sydney NSW: ACOSS.
- Australian Bureau of Statistics (2013). ANZSCO - Australian and New Zealand Standard Classification of Occupations, 2013, Version 1.3. Belconnen, ACT: ABS.
- Australian Bureau of Statistics (2016). *Census 2016*. Belconnen ACT: ABS.
- Australian Bureau of Statistics (2021). *Labour Account Australia*. Belconnen ACT: ABS.
- Australian Council of Social Services (2019). *Demand for Community Services Snapshot*. Sydney NSW: ACOSS.
- Bass Coast Shire Council (2020). Website. Wonthaggi VIC. Online accessed January 2021 <http://www.basscoast.vic.gov.au/>
- Baw Baw Shire Council (2020). Website. Warragul VIC. Online version accessed June 2021, <http://www.bawbawshire.vic.gov.au/Home>.
- Dale, T. and Buckmaster, L. (2015). Funding the national disability insurance scheme. *Budget Review 2015–16*, Research paper series, 2015–16. Parliamentary Library: Canberra ACT.
- Deloitte (2019) *Global Health Care Outlook: Shaping the Future*. Deloitte.
- Deloitte Access Economics (2016). *The Current and Future State of Victoria: A Macro Perspective*, Advice to Infrastructure Victoria. Melbourne VIC: Deloitte.

- Department of Health Australia (2018). National Health Workforce Data Set. Canberra ACT: Department of Health. Online version accessed December 2019, http://www.health.gov.au/internet/main/publishing.nsf/Content/health_workforce_data.
- Department of Health Australia (2014-19). Australia's Future Health Workforce Reports. Canberra ACT: Department of Health;. Online version accessed December 2019, <https://www.health.gov.au/resources/collections/australias-future-health-workforce-reports>.
- Department of Environment, Land, Water and Planning, Victoria (2019). Victoria in Future 2019. Melbourne VIC: DELWP.
- East Gippsland Shire Council (2020). Website. Bairnsdale VIC. Online version accessed January 2021, <https://www.eastgippsland.vic.gov.au/>.
- Economist Intelligence Unit (2018). World Industry Outlook: Healthcare and Pharmaceuticals. September, London UK: The Economist. Online accessed June 2020 <http://www.eiu.com/industry/Healthcare>.
- Global Health Workforce Alliance and World Health Organisation (2015). A Universal Truth: No Health without a Workforce. Paris France: WHO.
- Harrington, M. and Jolly, R. (2013). The Crisis in the Caring Workforce. Canberra ACT: Parliament. Online version accessed January 2021, https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/BriefingBook44p/CaringWorkforce.
- Invest Victoria (2018). Gippsland: Invest in Victorian Agriculture and Food. Melbourne VIC: Invest Victoria.
- Latrobe City/Latrobe Regional Hospital/Latrobe Valley Authority/Victorian Government (2019). Gippsland's Future Health and Community Services Workforce. Traralgon VIC: LVA/LRH/LCC/VG.
- Latrobe City Council. Website. Morwell VIC. Online version accessed January 2021, http://www.latrobe.vic.gov.au/Our_Community/Our_Region/Population_and_Economic_Profile.
- National Disability Insurance Agency (2017). Annual Report: National Disability Insurance Agency. Canberra ACT: NDIA.
- Organisation for Economic Co-operation and Development (2015). International Migration Outlook 2015. Changing Patterns in

- International Migration of Doctors and Nurses to OECD Countries. Paris, OECD.
- Organisation for Economic Co-operation and Development (2016). OECD Regional Outlook 2016: Productive Regions for Inclusive Societies. Paris France: OECD Publishing. Online version accessed December 2019, <http://dx.doi.org/10.1787/9789264260245-en>.
- Organisation for Economic Co-operation and Development (2016) OECD Regional Outlook 2016: Productive Regions for Inclusive Societies. Paris France: OECD Publishing. Online version accessed December 2019, <http://dx.doi.org/10.1787/9789264260245-en>.
- Occupational Information Network (2019). O*NET Consortium. O*NET Data Collection. Online version accessed June 2020, <http://www.onetcenter.org/dataCollection.html>.
- O*NET Resource Center (2019). O*NET Data Collection Overview. 2019. <http://www.onetcenter.org/dataCollection.html>.
- Safavi, K. and Dare, F. (2018). Virtual health care could save the U.S. billions each year. Harvard Business Review. Online version accessed June 2020, <https://hbr.org/2018/04/virtual-health-care-could-save-the-u-s-billions-each-year>.
- South Australia Human Services (2020). Safeguarding Taskforce Report on Disabilities. Adelaide SA: Human Services.
- South Australia Parliament (2015). Social Development Committee, Domestic and Family Violence Inquiry. Adelaide SA: Parliament.
- South Gippsland Shire Council (2020). Website. Leongatha VIC. Online version accessed January 2021, <http://www.southgippsland.vic.gov.au/>.
- Royal Commission into Aged Care Quality and Safety Australia (2021). Final Report: Care, Dignity and Respect. Canberra ACT: Royal Commission.
- Royal Commission into Family Violence (2016). Report and Recommendations: Royal Commission into Family Violence. Melbourne VIC: Royal Commission.
- Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (2019) Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability. Canberra ACT: Department of Health Australia. Online version accessed July 2021, <https://www.dss.gov.au/disability-and-carers/royal-commission-into-violence-abuse-neglect-and-exploitation-of-people-with-disability>.

- Royal Commission into Victoria's Mental Health System (2019). Final Report. Melbourne VIC: Royal Commission. Online accessed January 2021 <https://rcvmhs.vic.gov.au>.
- Western Australian Council of Social Service (2021). Online version accessed June 2021, <https://wacoss.org.au/media/community-services-covid-19-resources/>.
- Wellington Shire Council (2019). Website. Sale VIC. Online version accessed June 2021, <http://www.wellington.vic.gov.au/>.
- Western Australia Parliament (2020). Community Development and Justice Standing Committee, Opening Doors to Justice: Supporting Victims by Improving the Management of Family and Domestic Violence Matters in the Magistrates Court of Western Australia. Perth WA: Parliament.