

Calgary Economic Development

OCCUPATION REPORT (D): HEALTH OCCUPATIONS

January 2008

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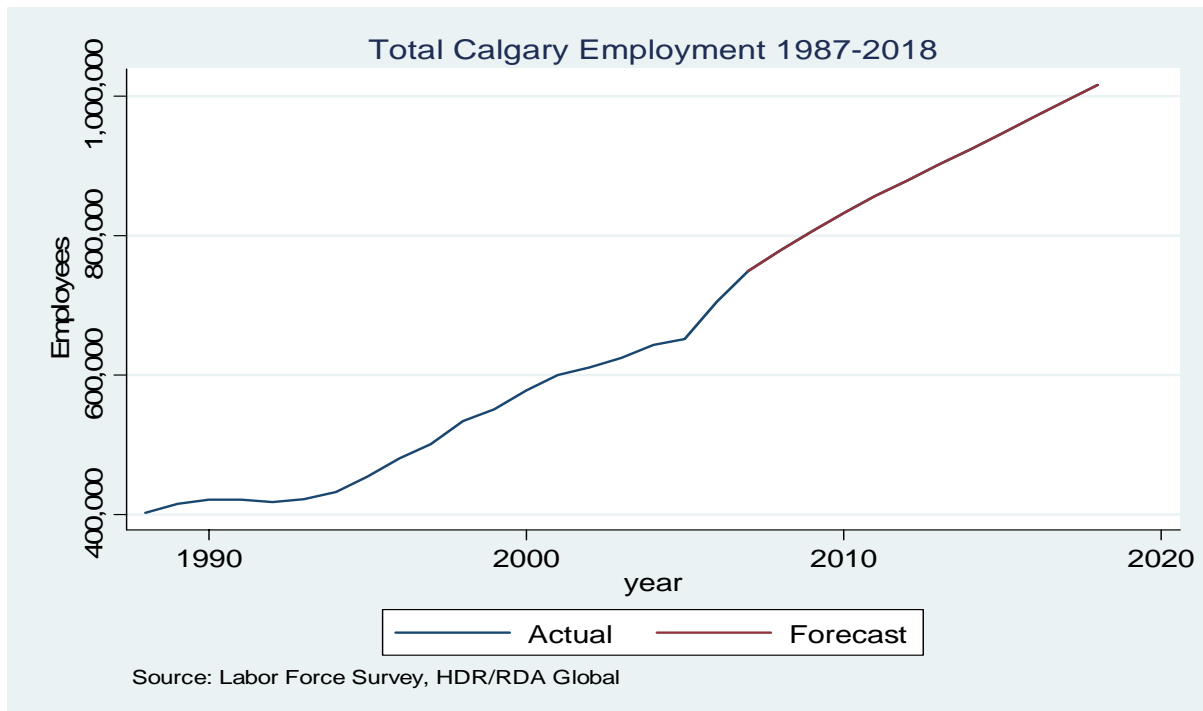
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Figure 1: Total Calgary Employment Forecast (All Industries)



The Calgary economy has seen tremendous growth in labour demand over the previous decade with employment growth reaching an all-time high of 8.1%¹ in 2006. The recent strong growth in the Calgary economy has been driven by a combination of economic factors spurring growth in specific sectors and generally throughout the Calgary economy. Energy prices are a significant driver with West Texas Intermediate oil price rising 17%² in 2006. Investment levels in major construction projects have risen significantly compared to historical levels. Housing starts have risen from 13,700³ starts in 2005 to 17,000 starts in 2006, an increase of 25%. Calgary GDP grew at 7.7% in 2006.

Recent increases in employment levels have been highest in sectors of the Calgary economy which are related to energy, in particular in the professional services sector. However, overall growth has been relatively balanced among industries with significant growth in most sectors of the economy.

As Figure 1 shows, labour demand in the Calgary Economic Region is expected to continue to grow at a healthy rate throughout the forecast, albeit at a lower, more sustainable level. The overall growth in employment in Calgary is expected to decline over the next several years settling at a more sustainable long-term employment growth rate of 2.4%, in line with historical average growth. However, this lower growth rate will continue to result in strong job creation. Over the previous ten years (1996-2006) Calgary employment increased adding 224,000 new

¹ Source: Labor Force Survey

² Source: US Energy Information Administration

³ Source for housing starts statistics and Metro GDP at basic prices was the Conference Board of Canada

jobs. Over the ten year forecast period (2007-2017) Calgary employment growth will result in the creation of an additional 244,000 new jobs. This growth in the Calgary economy will be driven by a number of factors including expectations that oil prices will remain at or near historically high levels. Energy prices are expected to be volatile in the near term, with possible spikes in prices, partially due to the declining value of the US dollar. However, for the long-term forecast, an average annual 1.7% growth rate in oil prices has been forecasted, which is consistent with conservative expectations of energy analysts⁴. Calgary GDP growth will moderate to a strong long term compound annual real growth rate of 3.8%.

Figure 2 Calgary Job Creation in Each Industry

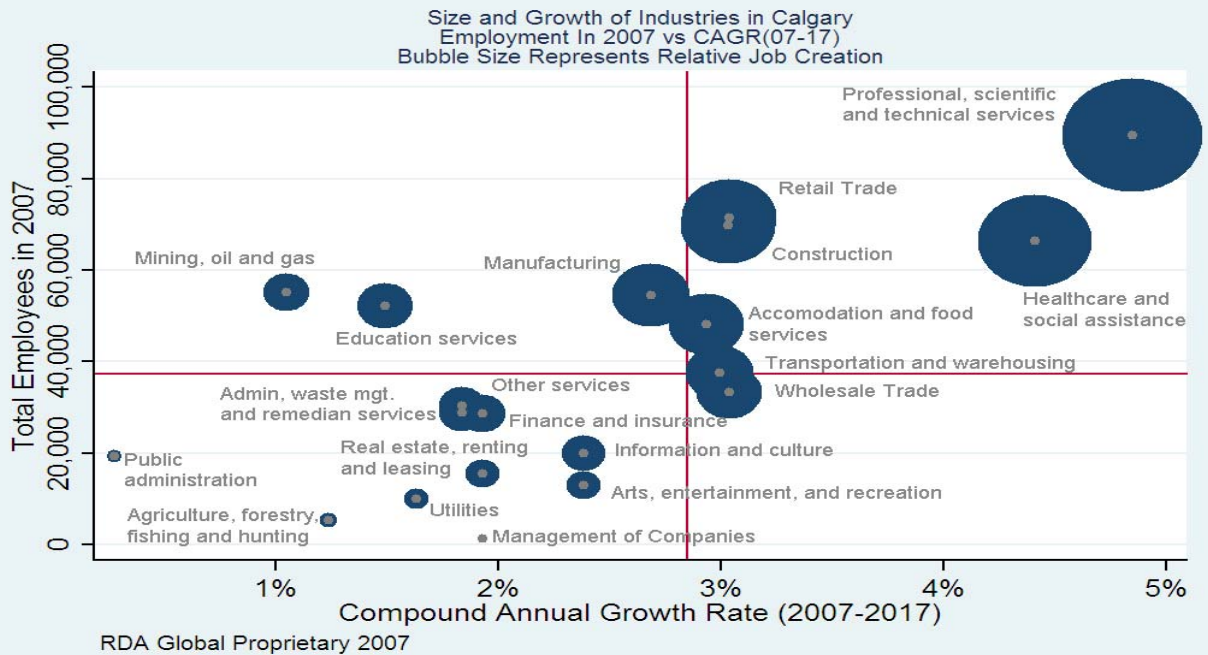


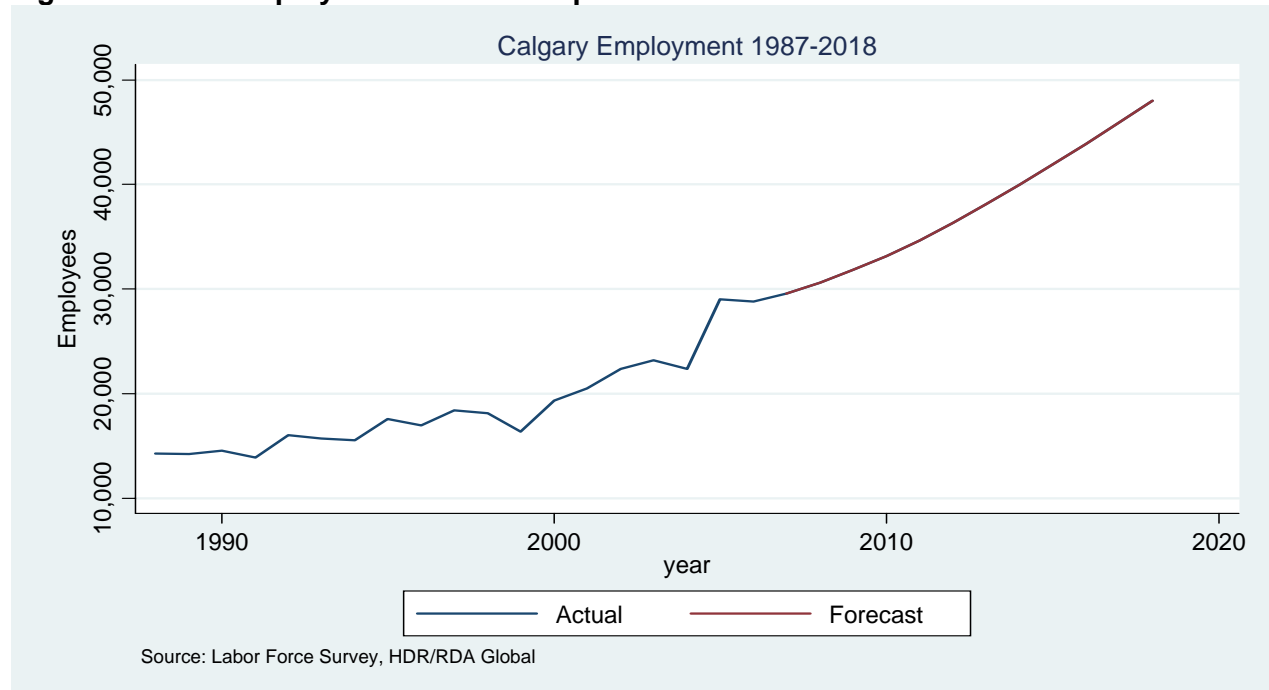
Figure 2 highlights the differences in job creation across industries in Calgary, with the larger circles representing industries with more job creations. Significant gains in employment will be somewhat distributed among economic sectors. However, there will be particularly strong expansion in the professional services sector, which is tied to continued demand for technical and engineering services in the energy sector. There will also be strong job growth in healthcare, driven by overall population growth and growth in the older segments of the population. Job expansion will also continue to be robust in retail, construction, accommodation & food services, transportation, manufacturing, and wholesale. Population growth is expected to drive up demand for education services. Most segments of the economy are expected to continue to see positive growth with employment growth rates in the 1% to 2.5% long-term growth range. However, total job creation in niche industries will be constrained by the relatively smaller size of these segments.

⁴ In development of this forecast, oil price forecasts of the Energy Information Administration and Sproule and Associates were consulted, however, final assumptions in the forecast model were based on a nominal annual growth rate of 1.7%.

HEALTH OCCUPATIONS

Demand for health workers is expected to continue to expand at a compound annual growth rate of 4.5% over the next ten years. This growth will outpace the overall employment growth in Calgary of 2.9% over the same forecast period. Growth in demand for these jobs will result in about 21,100 new jobs being created over the forecast period.

Figure 3: Total Employment in the Occupation D Sector 1987-2018



Health occupations rank seventh out of ten occupation groups for total employment with nearly 38,000 workers in 2007. Historically, demand for workers in this occupational category has grown at a faster rate than overall employment growth in the Calgary Economic Region. Demand for these workers will continue to be strong over the forecast period with a compound annual growth rate of 4.5%, which is the fastest growing occupational category in Calgary. Over 14,900 health jobs were created in the 1997-2007 period and about 21,000 will be created in the 2007-2017 forecast period, making this occupation category the seventh largest contributor to new jobs. About one out of every ten new jobs created in Calgary will be a health occupation.

Table 1: Comparison of Job Occupation Categories in Calgary

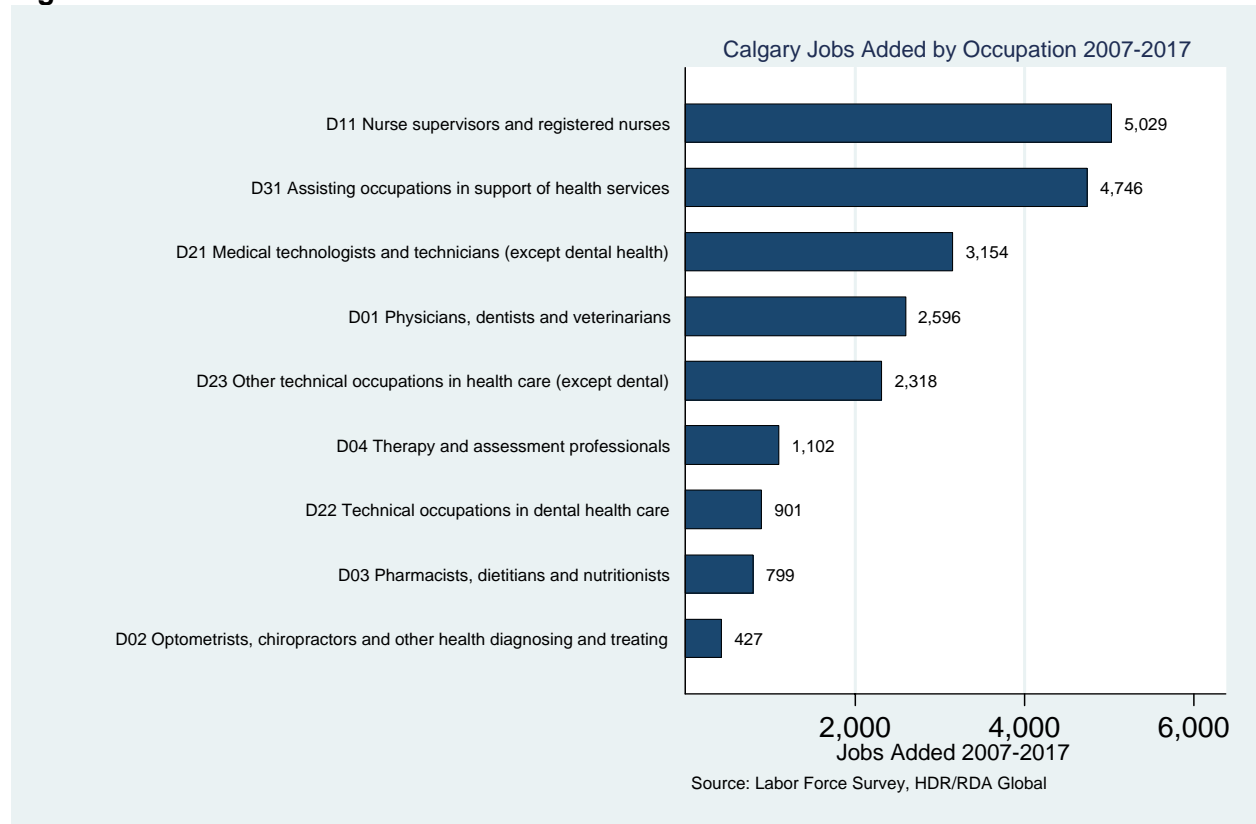
National Occupational Classification	Total Employment				Compound Annual Growth			Jobs Added		
	1987	1997	2007	2017	1987-97	1997-07	2007-17	1987-97	1997-07	2007-17
A Management occupations	36,858	55,680	74,819	98,676	4.2%	3.0%	2.8%	18,822	19,138	23,857
B Business, finance and administration occupations	90,639	104,579	156,889	189,868	1.4%	4.1%	1.9%	13,940	52,310	32,978
C Natural and applied sciences and related occupations	39,436	51,764	86,925	128,173	2.8%	5.3%	4.0%	12,329	35,160	41,249
D Health occupations	18,121	23,096	38,007	59,079	2.5%	5.1%	4.5%	4,975	14,910	21,072
E Occupations in social science, education, government service and religion	26,756	38,502	61,698	83,847	3.7%	4.8%	3.1%	11,746	23,196	22,149
F Occupations in art, culture, recreation and sport	10,467	14,573	18,889	25,844	3.4%	2.6%	3.2%	4,106	4,316	6,955
G Sales and service occupations	88,787	108,383	163,524	211,685	2.0%	4.2%	2.6%	19,596	55,141	48,161
H Trades, transport and equipment operators and related occupations	54,521	74,654	108,860	141,739	3.2%	3.8%	2.7%	20,133	34,206	32,879
I Occupations unique to primary industry	10,779	12,465	14,111	17,751	1.5%	1.2%	2.3%	1,686	1,646	3,640
J Occupations unique to processing, manufacturing and utilities	13,435	17,002	25,646	36,636	2.4%	4.2%	3.6%	3,567	8,644	10,990
Grand Total	389,800	500,700	749,368	993,298	2.5%	4.1%	2.9%	110,900	248,668	243,930

Table 2: Health Occupations 10-Year Forecast

National Occupational Classification	Total Employment										CAGR 2007-2017	Jobs Added 2007-2017	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			2017
D11 Nurse supervisors and registered nurses	9,017	9,353	9,734	10,136	10,601	11,113	11,664	12,232	12,820	13,424	14,046	4.5%	5,029
D31 Assisting occupations in support of health services	8,429	8,735	9,102	9,471	9,905	10,387	10,913	11,449	12,006	12,581	13,175	4.6%	4,746
D21 Medical technologists and technicians (except dental health)	5,783	5,970	6,190	6,446	6,742	7,063	7,409	7,772	8,149	8,536	8,936	4.4%	3,154
D01 Physicians, dentists and veterinarians	4,612	4,793	4,983	5,197	5,440	5,703	5,985	6,277	6,579	6,889	7,208	4.6%	2,596
D23 Other technical occupations in health care (except dental)	4,231	4,363	4,541	4,719	4,931	5,167	5,427	5,692	5,968	6,254	6,550	4.5%	2,318
D04 Therapy and assessment professionals	1,987	2,060	2,143	2,231	2,333	2,446	2,567	2,691	2,820	2,953	3,089	4.5%	1,102
D22 Technical occupations in dental health care	1,677	1,736	1,796	1,869	1,952	2,045	2,144	2,247	2,354	2,464	2,578	4.4%	901
D03 Pharmacists, dietitians and nutritionists	1,515	1,559	1,624	1,683	1,754	1,835	1,925	2,017	2,112	2,211	2,314	4.3%	799
D02 Optometrists, chiropractors and other health diagnosing and treating professionals	756	788	820	855	895	939	985	1,032	1,082	1,132	1,183	4.6%	427
Grand Total	38,007	39,358	40,934	42,607	44,552	46,698	49,018	51,410	53,890	56,444	59,079	4.5%	21,072

Nurses are the largest health occupation group with 9,000 workers in 2007 growing to about 14,000 workers by 2017. Assisting occupations in support of health services is the second largest group with 8,400 workers in 2007 growing to about 13,200 workers in 2017. Medical Technicians are the third largest group with about 5,800 workers in 2007 growing to about 9,000 workers in 2017.

Figure 4: New Health Jobs Created 2007-2017



HEALTH OCCUPATIONS IN EACH INDUSTRY

Table 3: Health Occupations in Each Industry

Occupation (1 Digit NOC)	Total Employees				Compound Annual Growth		
	1987	1997	2007	2017	1987-97	1997-07	2007-17
11 Agriculture, forestry, fishing and hunting	59	32	16	16	-6.0%	-6.6%	0.1%
21 Mining and oil and gas extraction	9	8	16	18	-1.2%	7.0%	1.1%
31-33 Manufacturing	253	392	574	792	4.5%	3.9%	3.3%
41 Wholesale trade	22	25	46	69	1.1%	6.3%	4.2%
44-45 Retail trade	1,346	1,390	2,282	3,316	0.3%	5.1%	3.8%
52 Finance and insurance	1	2	3	4	3.9%	5.1%	2.4%
54 Professional, scientific and technical services	229	348	819	1,355	4.2%	8.9%	5.2%
56 Administrative and support, waste management and remediation services	2	3	6	8	6.8%	6.3%	1.7%
61 Educational services	306	390	787	824	2.5%	7.3%	0.5%
62 Health care and social assistance	15,461	19,967	32,741	51,850	2.6%	5.1%	4.7%
81 Other services (except public administration)	173	227	398	497	2.8%	5.8%	2.2%
91 Public administration	261	314	319	331	1.9%	0.1%	0.4%
Grand Total	18,121	23,096	38,007	59,079	2.5%	5.1%	4.5%

Table 4: Ten-Year Forecast of Health Jobs in Each Industry

Occupation (1 Digit NOC)	Annual Employment											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
11 Agriculture, forestry, fishing and hunting	21	16	16	16	16	16	16	16	16	16	16	16
21 Mining and oil and gas extraction	16	16	15	15	15	15	15	15	16	16	17	18
31-33 Manufacturing	576	574	577	584	602	621	645	671	699	728	759	792
41 Wholesale trade	46	46	46	48	49	51	53	56	59	62	66	69
44-45 Retail trade	2,257	2,282	2,323	2,410	2,480	2,569	2,674	2,794	2,915	3,042	3,176	3,316
52 Finance and insurance	3	3	3	3	3	3	3	3	3	4	4	4
54 Professional, scientific and technical services	785	819	840	875	926	979	1,030	1,084	1,147	1,214	1,283	1,355
56 Administrative and support, waste management and remediation services	6	6	6	6	6	6	6	7	7	7	7	8
61 Educational services	749	787	724	706	703	709	719	735	754	775	799	824
62 Health care and social assistance	31,861	32,741	34,120	35,577	37,111	38,877	40,817	42,898	45,037	47,247	49,517	51,850
81 Other services (except public administration)	364	398	375	385	390	399	411	427	442	459	477	497
91 Public administration	343	319	312	309	306	306	308	311	315	320	325	331
Grand Total	37,025	38,007	39,358	40,934	42,607	44,552	46,698	49,018	51,410	53,890	56,444	59,079

Obviously, most health jobs will continue to be in the health care industry. The health care industry will employ about 51,900 health workers by 2017. About 3,300 health workers will work in retail in 2017 and about 1,400 in professional services. In addition, there will be continued demand for health workers in manufacturing and education.

Table 5: Top 35 Occupations Adding Jobs From 2007-2017^{5 6}

Rank	Occupation (4 Digit NOC)	Employees				Jobs Created	CAGR
		1987	1997	2007	2017	2007-2017	2007-2017
1	D112 Registered nurses	4,747	5,591	8,553	13,321	4,768	4.5%
2	D312 Nurse aides, orderlies and patient service associates	1,732	2,477	4,471	7,008	2,537	4.6%
3	D313 Other assisting occupations in support of health services	921	1,236	2,208	3,429	1,221	4.5%
4	D012 General practitioners and family physicians	1,201	1,412	2,120	3,314	1,194	4.6%
5	D311 Dental assistants	683	995	1,750	2,737	987	4.6%
6	D212 Medical laboratory technicians	608	886	1,599	2,466	867	4.4%
7	D233 Licensed practical nurses	586	850	1,523	2,382	859	4.6%
8	D211 Medical laboratory technologists and pathologists' assistants	546	797	1,432	2,216	784	4.5%
9	D011 Specialist physicians	673	794	1,199	1,874	674	4.6%
10	D031 Pharmacists	851	823	1,237	1,881	644	4.3%
11	D215 Medical radiation technologists	382	562	1,002	1,564	562	4.6%
12	D013 Dentists	556	651	973	1,521	549	4.6%
13	D234 Ambulance attendants and other paramedical occupations	446	605	907	1,398	491	4.4%
14	D222 Dental hygienists and dental therapists	329	479	843	1,318	476	4.6%
15	D042 Physiotherapists	420	495	748	1,168	421	4.6%
16	D235 Other technical occupations in therapy and assessment	323	456	790	1,210	420	4.4%
17	D213 Veterinary and animal health technologists and technicians	253	329	673	1,021	348	4.3%
18	D214 Respiratory therapists, clinical perfusionists and cardio-pulmonary technologists	226	333	599	935	336	4.5%
19	D043 Occupational therapists	329	386	586	916	330	4.6%
20	D223 Dental technologists, technicians and laboratory bench workers	284	425	663	992	329	4.1%
21	D231 Opticians	285	340	598	908	311	4.3%
22	D111 Head nurses and supervisors	258	304	464	725	261	4.6%
23	D232 Midwives and practitioners of natural healing	162	226	413	651	238	4.7%
24	D022 Chiropractors	224	262	392	613	221	4.6%
25	D044 Other professional occupations in therapy and assessment	189	221	335	525	189	4.6%
26	D014 Veterinarians	116	154	319	499	179	4.6%
27	D041 Audiologists and speech-language pathologists	172	201	317	480	162	4.2%
28	D032 Dietitians and nutritionists	154	182	277	433	155	4.6%
29	D021 Optometrists	131	154	230	359	130	4.6%
30	D216 Medical sonographers	79	116	207	323	116	4.6%
31	D221 Denturists	68	99	172	268	96	4.5%
32	D023 Other professional occupations in health diagnosing and treating	77	90	135	211	76	4.6%
33	D219 Other medical technologists and technicians (except dental health)	65	99	151	223	72	4.0%
34	D217 Cardiology technologists	35	52	94	147	53	4.5%
35	D218 Electroencephalographic and other diagnostic technologists, n.e.c.	10	15	26	41	15	4.6%
Grand Total		18,121	23,096	38,007	59,079	21,072	4.5%

⁵ Note that these job creations in Table 5 capture only health jobs created and do not represent total job creations for all of Calgary.

⁶ There are an estimated total of 8,553 registered nurses working in Calgary in 2007. 8,289 work in the healthcare industry and 7,409 are part of the CED's Health and Wellness Key Sector. In addition to the healthcare industry, nurses are employed in education, manufacturing, mining and oil and gas extraction, public administration and other services industries.