

**THE ECONOMIC AND SOCIAL IMPACTS
OF SARS-CoV-2 EXPERIENCED BY
BRITISH COLUMBIA**

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Disclaimer

All data presented in this report comes almost exclusively from government sources, specifically Statistics Canada, BC Stats, BC Health, the BC Centre for Disease Control, Vital Statistics BC, ICBC, the BC Coroners Service, BC Housing, Bank of Canada plus other departments and agencies.

It was found that data from different departments/agencies was reported on a different time-period basis: weekly vs monthly, on a calendar year vs a fiscal year. This introduced some comparability difficulties. For example, data reported on a weekly basis cannot be neatly organized into a monthly result. Similarly, fiscal year data does not match up cleanly with annual data.

Weekly data invariably involves overlaps from one month to the next. To overcome that problem, the weekly amounts were assigned to a month, and 3-month averages were calculated from those initial “approximate” monthly totals.

However, in the majority of cases the data comparisons were between periods (for example FY2019 vs FY2020, etc.), so the same time-period metric was involved. However, making a comparison involving fiscal year data and calendar year data is somewhat problematic. Therefore, caution should be used in making cross-data comparisons between data when that data has been organized on different time-period bases.

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Introduction

Covid-19 is the single largest shock of this generation. It has been over 100 years since the Spanish flu pandemic (1918) and we have not seen a mass vaccination program since the development of Polio vaccines in the 1950's. While most people have a basic awareness of these past events, the average person does not have much understanding of the true impact and social disruption caused by these events. As such, lessons from these experiences tends to be limited to infectious disease scientists and historians.

What has become clear is the complexity of the impact of both the pandemic itself and the corresponding mitigation strategies adopted in various jurisdictions. News reports tended to focus on updates on infection rates, hospitalizations, deaths and – later – vaccination rates and the efficacy of vaccines. Reports on the indirect effects of the pandemic and unintended consequences of policies tended to be sporadic and anecdotal.

The purpose of this paper is to give an overview of all the various economic and social impacts of Covid-19 on British Columbia. The goal is to present an overview based on empirical data. This is not a policy paper or a critique of policy. Rather, this paper is meant to consolidate and present an unbiased report on the direct and indirect social and economic impacts to the province from March 2020 to January 2022.

Summary

As a complex social and economic system, British Columbia is composed of many components which interact with each other. By focusing resources and efforts almost exclusively on one component of that system – healthcare – second order economic and social effects were overlooked. In other words, decisions have consequences, some intended, others not.

This report is meant for policy makers and the general public. It is to show how the British Columbia economy and society were affected by two years of lockdowns and various other pandemic control measures.

The data presented in this report comes almost exclusively from government sources, specifically Statistics Canada, BC Stats, BC Health, the BC Centre for Disease Control, Vital Statistics BC, ICBC, the BC Coroners Service, BC Housing, plus other departments and agencies.

Some of the most significant findings are:

- An estimated two-year loss of \$8.853 billion in employment income, and an associated \$2.656 billion in lost tax revenues, attributable to workers which no longer fit the Statistics Canada definition of “unemployed” and were no longer being counted as such. This employment income loss is reflected in the Province’s GDP.
- Total healthcare costs surged by 20.4% in Y2020, consuming 40% of the entire Provincial budget. For comparison purposes, during year there was 1.3% population growth, and an inflation rate of 0.7%. Concurrently hospital admissions decreased by approximately 30,000, with 46,000 surgeries reported to have been cancelled.
- In Y2021 admissions related to Covid represented 2.8% of total admissions and 5.6% of intensive care unit (ICU) admissions. Average monthly bed capacity utilization by Covid patients was 6.7% for general hospital admissions and 9.8% for ICU admissions
- The deepest cuts in the labour force were youth workers (age 15-24), with part-timers being especially hit hard. Concurrently there was a shift to greater part-time employment of mature 25+ age workers. There is evidence that some older (55+) workers were choosing to leave the workforce rather than return to a post-pandemic workplace.
- A significant increase in anxiety and depressive disorders, related to the actual or the risk of loss of employment, inability to meet financial obligations, and deferred or cancelled surgeries. These stresses are also reflecting themselves not just at home but also at the workplace in the form of reduced productivity.
- A decrease of more than 15% in property (including auto) related crimes. This may be due to the fact that people were staying at home, perhaps working remote, thereby reducing the potential for property crimes to be undertaken by career criminals.

- Drug overdose deaths increased by 32% over the two pandemic years, relative to the Y2019 base line. In comparison, total deaths increased by 15%.
- Unemployment and illicit drug overdose deaths appear to be associated, with statistical analysis of month-to-month changes to both variables showing a close relationship. This insight is further confirmed by some anecdotal evidence which has been included in this report.
- In Y2020 there were 1,974 “excess deaths” – deaths which were not classified as Covid deaths, and which were in excess of expected deaths based on the previous year adjusted for population growth. There may be any number of reasons with which to explain these deaths, however deferred or cancelled surgeries may have played a part.

It is hoped that these and other findings within this report will stimulate further research, discussion and ultimately lead to a more effective and balanced approach to dealing with a future emergency such as the one just experienced.

Conclusion

The variety of approaches and policies countries across the globe indicated the level of uncertainty regarding how to deal with the pandemic. Initially the limited understanding of the Covid-19 virus had countries scrambling for effective strategies to mitigate the impact. Even within Canada, the federal government and the provinces and territories adopted different strategies. Further, these policies evolved and changed as more was learned about the spread of the virus.

At the time of writing this paper, British Columbia is coming out of the fourth wave – driven by the Omicron variant -- of Covid-19. What is clear in the findings is that the impact of the pandemic is integrated into all aspects of British Columbia society. The data suggests that there are going to be issues and challenges that will carry forward long after the worst of the pandemic passes.

While the BC economy has, in aggregate, returned to pre-pandemic levels, there have been structural shifts that will persist. Some sectors, such as tourism, will take much longer to recover. The impact to the workforce goes well beyond changes to the level of unemployment. The nature of work has changed as well as the populations priorities with respect to work-life balance. In addition, as shown in this report, the impact on society’s mental health and well being is significant and should not be underestimated.

As with any social or economic disruption, the pandemic has had a dramatic impact on innovation, particularly in the area of communications. While it is too early to accurately predict how the pandemic driven technological change will affect how we do business, it is clear that there will be permanent changes to how we carry out activities on a daily basis.

Whether we are focusing on recovery from the impact of Covid-19 or preparing for the potential of a future pandemic, it is critical for policy makers, businesses and the general population to have a full understanding of how Covid-19 impacted so many aspects of society. That understanding needs to be evidence based through a deeper understanding of the underlying data.

The British Columbia Economy

Highlights

The service sector, most notably food & beverage, hospitality and tourism businesses were the hardest hit economic units during the pandemic period

The BC economy is making a strong comeback in Y2021, with significant growth in retail-trade and manufacturing.

The travel/tourism sector continues to lag due to the uncertainties surrounding entry requirements into Canada

Real GDP, a measure of economic output, is estimated to grow by 6.1% in Y2021, however there is significant variance in growth between different economic sectors

Inflation in Y2021 is outpacing average wage growth

The Canadian dollar is strengthening against the US dollar

Real estate cost escalation in BC has made living in the larger urban centres of BC financially difficult

Remote working has been facilitated by technology and high real estate costs

Covid relief payments in Y2020 are costing Canadian taxpayers \$176/year in borrowing costs

Economic Indicators

The data presented in the table below provides an insight into the impact that the Covid pandemic had on the British Columbia economy.

Information was acquired from a variety of sources: BC Finance (British Columbia Financial and Economic Review (81st Edition, April 2020 to March 2021)ⁱ; BC Stats, Statistics Canada (Labour Force Characteristics by Month)ⁱⁱ and Bank of Canada.

British Columbia	Calendar Year			Pct. Change	
	2019	2020	2021f	2020/19	2021/20
Aggregate & Labour Market Indicators					
Population (thousands)	5,091	5,148	5,167	1.1%	.4%
Real GDP (chained (2012) millions)	\$252,063	\$242,410	\$257,299	(3.8%)	6.1%
Labour Force (thousands)	2,759	2,723	2,826	(2.5%)	3.8%
Employment (thousands)	2,640	2,587	2,687	(2.0%)	3.8%
Unemployment Rate	4.7%	6.7%	4.9%	(2.0%)	1.8%
Price, Earnings & Financial Indicators					
CPI (2002 = 100)	136.4	137.7	144.2	.95%	4.7%
Prime Rate (as at December)	3.95%	2.45%	2.45%	(38%)	0%
Canada/USA Forex Rate (Dec 31)	\$0.754	\$0.745	\$0.798	(1.1%)	7.0%
Average Weekly Wage Rate	\$1,000	\$1,080	\$1,108	.8%	2.6%
Other Indicators					
Retail Trade (\$ billions)	\$86,428	\$87,513	97,139	1.3%	12.6%
Average Monthly Housing Starts (units)	45,051	38,036	47,660	(15.6%)	25.3%
Food & Beverage (\$ billions)	\$13.147	\$9.814	\$11.891	(25.4%)	21.2%
Visitor Entries Into Canada/BC (000)	8,609	1,332	1,007	(84.5%)	(2.4%)
Average Monthly Hotel Occupancy Rate	71%	41%	50%	(42%)	22%
Manufacturing Sales (\$ billions)	\$53.917	\$52.196	\$62.918	(3.2%)	20.5%

In a broader sense, the year of the “big hit” was 2020. All macro-economic indicators showed large negative numbers, pointing to an economic calamity for British Columbia.

Economic output, measured as Real GDP, shrank by 3.8% in Y2020 but had a strong rebound at 6.1% in Y2021. This return to economic growth is confirmed by retail trade increasing by 12.6% and manufacturing sales rebounding by 20.5% in Y2021.

The Bank of Canada dropped the prime rate to 2.45% in Y2020 – a 38% decrease over Y2019 - and maintained that rate throughout Y2021. Presumably this was done with the intention of stimulating economic activity throughout the pandemic period.ⁱⁱⁱ

The consumer price index increased by 4.7% in Y2021, with the average weekly wage rate rising by just 2.6%.^{iv} This suggests inflation post-Y2020 has resulted in a substantial erosion of purchasing power for consumers.

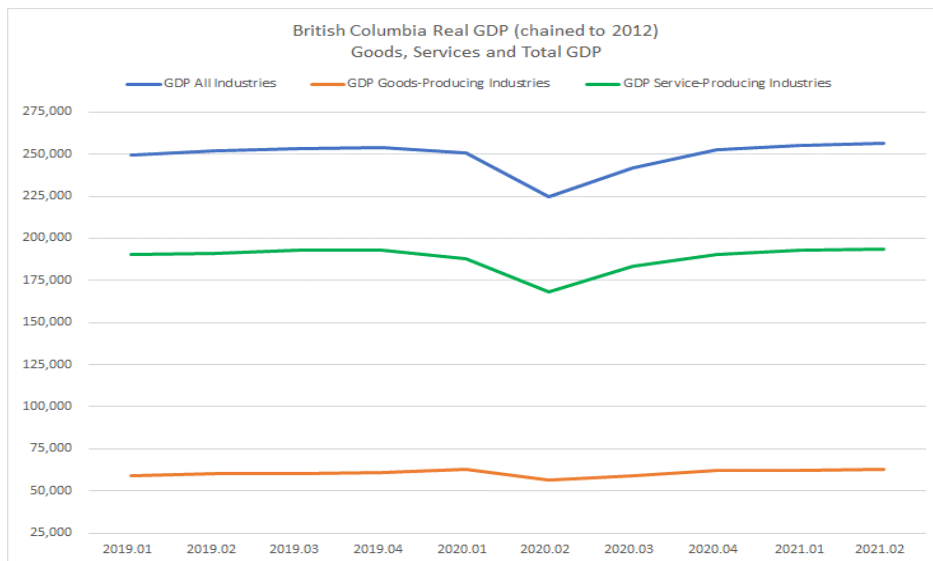
The Canadian Dollar was basically stable relative to the USA Dollar during Y2020, however it gained 7% on the US Dollar in Y2021. This FOREX adjustment benefits Canadian consumers in that American products become cheaper. If this trend continues, exports from Canada may be adversely affected.

The service sector, especially the food and beverage businesses, experienced a disastrous Y2020, with sales shrinking by approximately 25%. Average hotel occupancy dopped by 42%, and visitor entries into British Columbia from abroad by 84.5%.

The food & beverage and hospitality sectors had a rebound of approximately 22% in Y2021. The travel sector, as measured by visitor entries has not recovered as yet, presumably due to continuing restrictions on entry into Canada.

Economic Sector Analysis

In the third quarter of 2019 British Columbia real GDP (2012 dollars) was just over 254 billion^v. 76% of provincial GDP was classified as service producing industries and 24% was goods producing industries. By the second quarter of 2020, GDP had dropped by 11% to 224 billion, with the service producing industries experiencing the largest volatility.



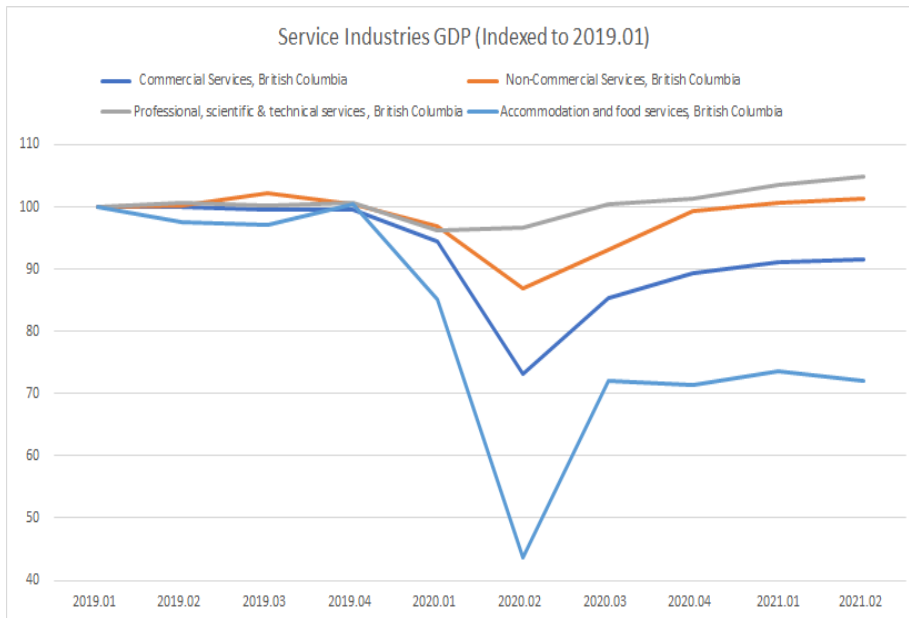
Looking at the aggregate GDP numbers, the Province appeared to recover to pre-Covid levels by the fourth quarter (see figure above). However, the recovery was not balanced across all sectors. Some industries were found to be exceeding their pre-Covid numbers by the fourth quarter of 2020, whereas other sectors showed only minor recovery and, as of the third quarter of 2021, remained well below 2019 levels.

In this section, we have divided the BC Economy into four broad groupings: (i) Goods and Transportation, (ii) Private Sector Services, (iii) Public Sector, and (iv) Primary Industries (forestry, mining, construction). For comparison purposes, all industries are indexed using 2019 quarter one (Q1) as a baseline (100) using real GDP.



From the adjacent graph, we see that the goods-producing industries and wholesale & retail trade experienced a 10% drop in Q2 2020, but recovered by Q4 2020.

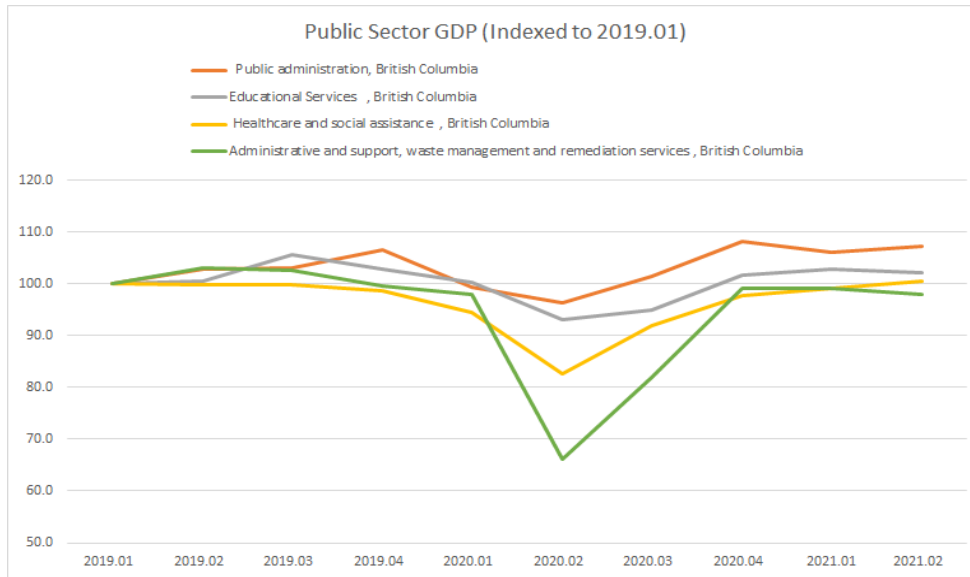
However, Transportation and Warehousing experienced a 32% drop in business in Q2 2020, recovering moderately in Q3 and Q4 of 2020, but has remained at less than 80% of pre-Covid levels.



The private sector service industries made up of Commercial Services, Non-Commercial Services, Professional, Scientific and Technical Services, and Accommodation and Food Services (adjacent graph).

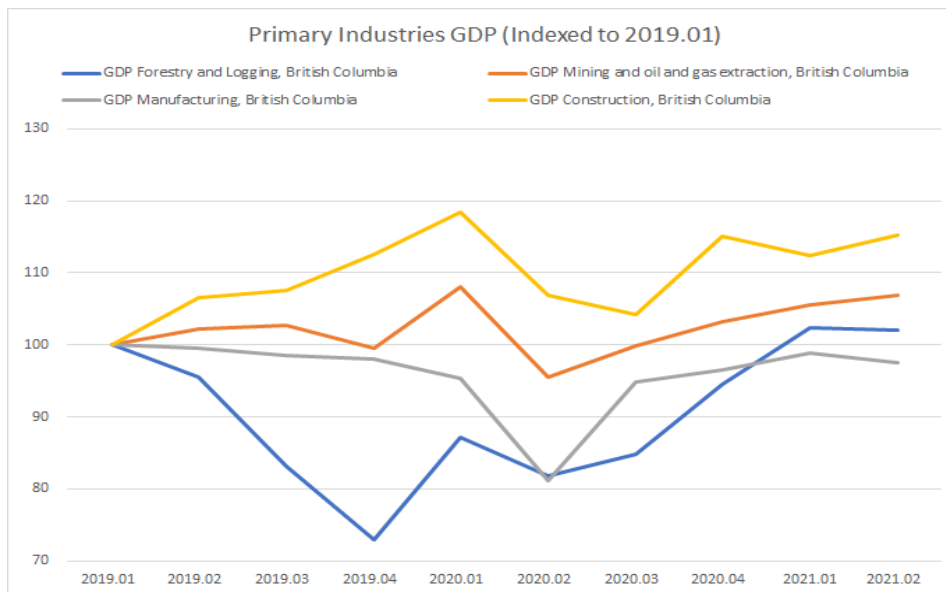
While all four groups experienced a decline in business due to Covid-19 in 2020 Q2, only Commercial Services and Accommodation and Food Services failed to return to pre-Covid levels.

After the drop in Q2 2020, both showed a partial recovery by Q3 2020, Commercial Services returned to 90% of pre-Covid levels but showed no growth in the first half of 2021. Accommodation and Food Services were the hardest hit by Covid-19, with business activity dropping by more than 50% in Q2 2020. By Q3 Accommodation and Food Services had recovered to slightly more than 70% of pre-Covid levels but showed no further growth in Q4 or the first half of 2021.



As shown in left-hand graph, the Public Sector is grouped into: Public Administration, Educational Services, Healthcare and Social Assistance, and Administrative and Support, Waste Management and Remediation Services.

While all four areas experienced a decline in activity in Q2 2020, all areas experienced full recovery by Q4 2020, with Public Admin GDP nearly 10% higher than pre-Covid levels.



The next graph illustrates the indexed GDP of the primary industries in British Columbia of forestry and logging, mining, oil and gas extraction, manufacturing, and construction.

Changes in global demand and exchange rate movements tend to make this sector the most volatile, with mining and construction showing strong growth prior to Q2 2020. All four industries had recovered to pre-Covid levels by the first quarter of 2021.

Impact on GDP and Taxes

According to BC Stats “Earnings and Employment Trends – January 2022”, the average hourly rate in BC in Y2020 was \$27.76, and the average weekly hours worked was 30.1 hours. On an annual basis, this works out to an average annual wage of \$43,450. For Y2021 the average annual wage was \$50,000.

Applying these wage rates to the numbers of displaced workers provides the following insights about the impacts on the economy and on the federal/provincial tax revenue base. The tax rate used in these calculations was 30%, which is assumed to be a reasonable “across the board” tax rate.

Displaced Worker Economic Impact	Year 2020	Year 2021
Loss of Employment Income (\$ billions)	\$5.333	\$3.520
Loss of Tax Revenues (\$ billions)	\$1.600	\$1.056

Employment income is part of the Province’s Gross Domestic Product, and as such BC experienced an economic loss attributable to the discouraged workers, measured by GDP, of \$8.853 billion over the two pandemic years. Concurrently there was a tax revenue loss of \$2.656 billion over the same period.

Covid Relief Funding

In a typical recession period, governments spend money on capital projects, with the expectation that such projects will result in a future return to the economy and to tax revenues.

This is not the case with various Covid-related emergency stimulus programs, as there is no capital investment and associated economic return on the money paid out to employers and employees. In fact, this is money that the government has had to borrow and will need to recover at some point through higher taxation of companies and wage earners.

The Government of Canada Parliamentary Budget Office reported that roughly \$240 billion dollars was spent between mid-March Y2020 and end of November 2020 on 107 Covid-related relief programs.

Three programs in particular accounted for \$162 billion of the total amount, the: Canada Emergency Business Account (CERA) - \$31.550 billion; Canada Emergency Recovery Benefit (CERB) - \$81.640 billion; Canada Emergency Wage Subsidy (CEWS) - \$49.270 billion. In total, this works out to a per capita expenditure of \$6,320.

Applying the Federal government debt servicing rate of 2.2% to this stimulus payout amount, the annual interest payments work out to \$5.280 billion (approximately \$176 per taxpayer per year).^{vi}

BC Real Estate Costs

Particular attention is being given in this report to BC real estate, as housing costs are a significant cost for BC residents and its effects on society are dramatic.

According to the CMHC and Statistics Canada, the average sold price of a home in British Columbia in January 2021 was \$843,918, and in January 2022 it was \$1,040,888 (a 23.3% increase over the previous

year). The average price for a detached house in Greater Vancouver rose 24% to \$1,953,000 during the same 12 months.

Assuming a 10% down payment on a \$1 million home, amortized over 25 years, with a mortgage rate of 3.0%, the monthly mortgage cost works out to approximately \$4,250 in after tax dollars. The Real Average After-Tax Household Income for BC was reported by the CMHC to be \$74,800 in Y2019. For Vancouver it was \$79,422.^{vii}

The \$4,250 current dollar mortgage is \$4,020 in Y2019 dollars. Using this number together with the CMHC Y2019 household income values, results in 61% of after-tax household income being spent on mortgage payments for an average-valued detached home in British Columbia. In Greater Vancouver, with higher property prices the situation is exacerbated even more.

Applying mortgage lenders' "rule of 28" to average pre and after-tax household incomes indicates that mortgage payments should not exceed 34% of the income of a typical BC household. Such a ratio points to an "affordable" property having a value of \$500,000 to \$600,000. Smaller communities, such as Nelson, Cranbrook, Vernon, Williams Lake, have real estate listings which fall within the "affordable" property valuation.

The rental market is not as consequential on family budgets as the real estate acquisition market. According to rentals.ca, as of January 2022 the average monthly rental cost of a 2-bedroom apartment in BC was \$2,181 and in Greater Vancouver was \$2,550. These monthly rates reflect 35% and 39% of average after-tax household incomes respectively. Rental rates were found to have been increasing in the range of 7% to 10% year over year since Y2019.

Remote Working And Real Estate

The BC Health mandated lockdowns forced employers to explore and implement communications tools such as Zoom and MS Teams which provided the opportunity for certain types of work to be performed remotely.

Concurrently, with real estate property in the larger urban centers increasingly becoming unaffordable for middle income earners, financially stressed employees started to relocate to smaller communities – communities which offered real estate within the financial means of these employees. This trend was vastly accelerated by the Provincial health mandates, which were in turn accelerated by the adoption of technology.

Remote working provided employees generally with a better quality of life – ownership in a real estate asset, an improved work/life balance, more time available to spend with the family, and reduced employment related expenses. Employers also benefited – a decreased requirement for office space and associated costs, and improvements in morale and productivity.

Both parties have learned to "make remote working" work, and it is highly doubtful that we will ever return to the traditional workplace.

The BC Labour Market & Covid

Labour market data needs to be examined within the context of Federal and Provincial government mandates and remuneration programs, as these interventions interfere with the normal functioning of the labour market.

As the provider of health services to its residents, the BC government, under the direction of the Provincial

Highlights

Youth workers, especially those working on a part-time basis were the biggest pandemic casualty

The CERB benefit may have incentivized employers to “offload” younger age employees

Pre-pandemic youth employment levels did not return until February 2021

The focus on the part of employers in Y2020 was on retention of mature (age 25+) workers

There was some shift to employing mature workers on a part-time rather than full-time basis

No gender-related differences in unemployment were found

Month-to-month unemployment variability was substantially higher than employment level variability

There were 122,600 discouraged workers in Y2020. This number dropped to 70,400 by Y2021

Discouraged workers cost the BC economy \$5.333 billion in GDP in Y2020, and \$3.52 billion in Y2021

The income tax loss to the Federal/Provincial governments as a result was \$1.6 billion & \$1.056 billion over the two-year pandemic period.

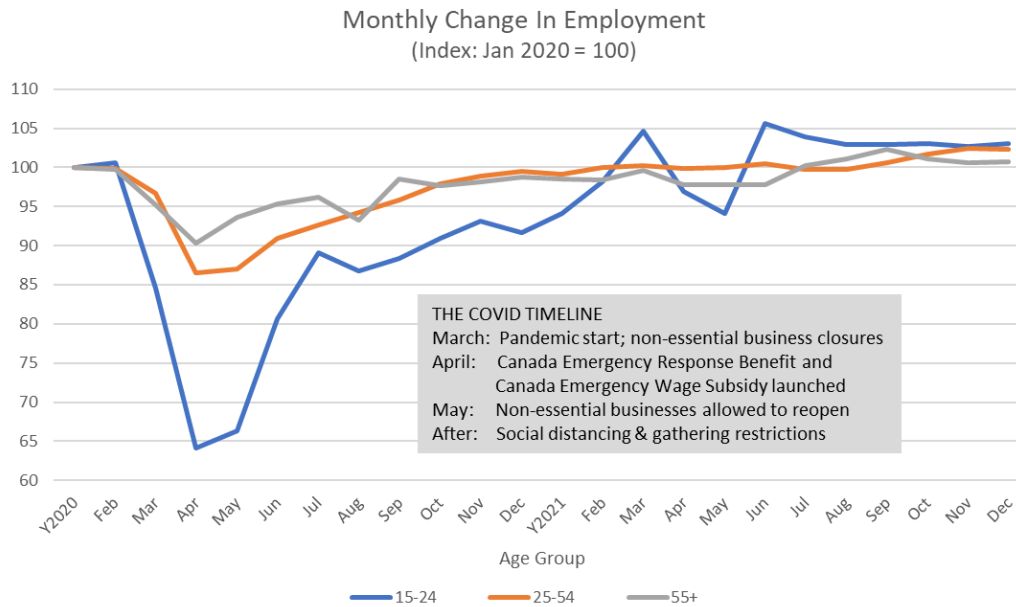
Health Officer, issued the mandates pertaining to business closures/openings, public gatherings and social distancing. The Federal government provided financial support to workers who lost their jobs, and to employers who were experiencing extreme hardship because of the Covid emergency.

This part of the report will provide some key insights into the expected and unexpected consequences on employment as a result of the policies and mandates which were put in place during the two-year pandemic period.

Structural Labour Market Changes

This graph and additional labour market graphs below are based on data provided by Statistics Canada.^{viii} The first graph examines the structural changes to the labour market from a total (rather than part or full-

time) employment basis.



Impact on Youth Employment. The youth age cohort (15-24) experienced a 36% contraction in employment, with 123,900 jobs lost in April 2020 relative to January 2020. It took until December 2021 for employment within this age group to fully recover, having added 134,600 jobs since the low spot in April 2020.

Starting in May 2020 there was a noticeable upward youth employment trend. This employment surge coincided with businesses being allowed to reopen, subject to some conditions. Two factors explain the two employment “peaks” (fall/winter Y2020, summer Y2021): seasonal employment, and staffing associated with the establishment and operation of vaccine centers throughout the Province.

There may be several reasons why the young people found themselves most “at risk” with respect to unemployment: young people tend to be employed in service sector occupations; the service sector was most directly and significantly impacted by government mandated lockdowns; the jobs that the young people filled required more general skills (such as customer service); and part-time employment is common in food & beverage, hospitality and tourism companies.

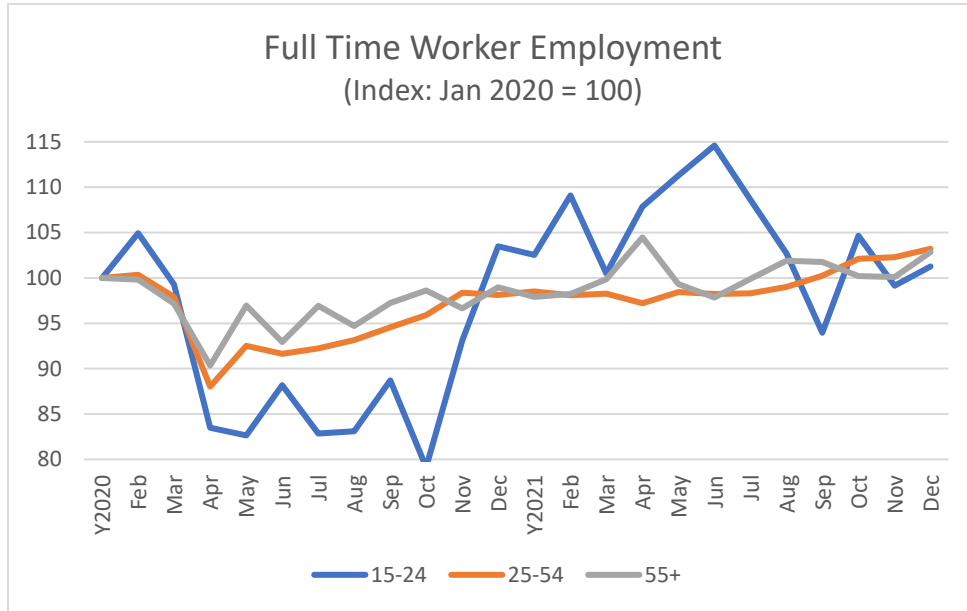
The Canada Emergency Response Benefit payments provided support to workers impacted the most by the pandemic but it also had a distortionary effect on the labour market. As with any wage subsidy or unemployment benefit program, there are incentives for employers to lay off workers or reduce hours and a disincentive to return to full-time work.

Impact On Mature Workers. The data indicates that the age 25+ mature workforce was less impacted in terms of employment loss and that a rebound to January 2020 levels of employment occurred much more quickly than was the case with the younger age cohort. In fact, the pre-pandemic staffing level was achieved as early as October 2020, and was maintained from that point on.

A reasonable expectation would be that after two years population and economic growth would reflect itself in expansion of employment as well. This appears to not be case, as at December 2021, mature

worker staffing levels were only at pre-pandemic levels. In other words, the data indicates that, from an employment level perspective, the BC economy has only just recovered to the level it was at two years ago.

Full-Time Worker Employment



Impact on Mature Worker Full-Time Employment. The above graph illustrates the changes to the 15-24 year old, 25-54 year old and the 55 and older cohorts full-time employment. After the initial drop in April 2020, the 25-54 cohort showed steady recovery with limited volatility. While the 55+ cohort had the lowest initial drop, it showed greater volatility than the 25-54 cohort. After the initial impact of the Covid-19 outbreak, neither the 25-54 and 55+ cohorts showed any significant impact of the subsequent waves caused by variants of the Covid-19 virus.

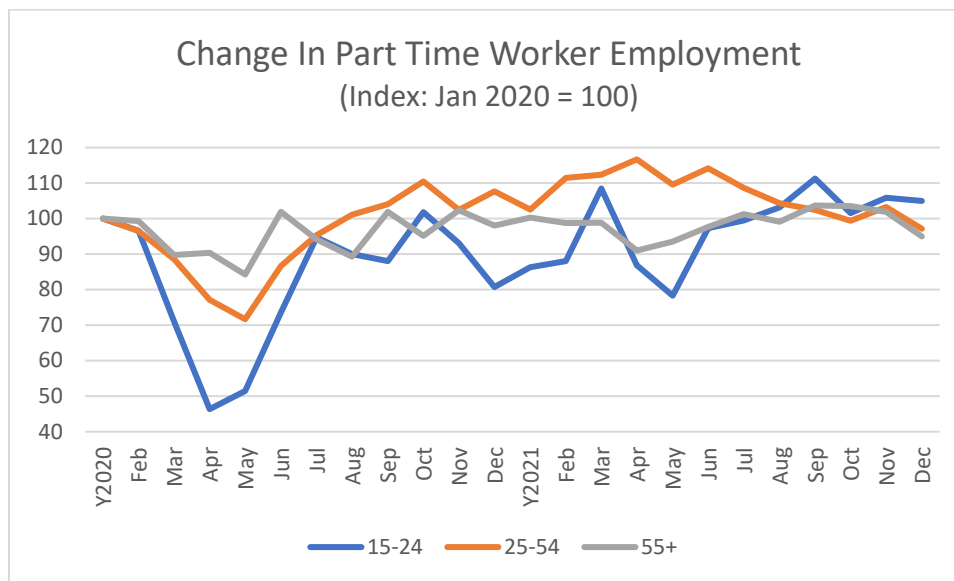
Youth Employment Emphasis in Y2021. Once mature worker employment approached the pre-pandemic level (by October 2020), there was minimal to no further expansion in the employment of workers in this age group. Instead, there was a “surge” in youth employment, reaching an index value of 115 by May 2021. By year-end 2021 the youth employment had leveled off at roughly the pre-pandemic level.

As mentioned previously, this surge is likely related to seasonal employment, and staffing related to the establishment and operation of vaccine centers across the Province. Another possibility is that employers were filling vacant positions with younger employees, who typically are available at a lower cost.

Part-Time Worker Employment

Deep Cuts in Youth Part Time Employment. Part-Time youth employment reached its lowest point in April 2020 when it was at 46% of the January 2020 level (index value = 100). A return to the January 2020 level did not happen until August 2021.

There were two brief “bumps up to 100” – in October 2020 (102) and in March 2021 (108). These “bumps” are probably temporary seasonal recalls and staffing related to the establishment and operation of vaccine centers.



Emphasis on Mature Worker Part Time Employment. Both, the age 25-54 group and the 55+ group of part-time workers reached their lowest employment level in May 2020 (28% and 16% below the January 2020 employment levels).

Several additional observations are apparent from the data:

- **Later Release.** Reductions in the mature part-time worker group occurred a month later than that was experienced by the youth part-time worker group. This suggests that employers were trying to hang on to these people as long as possible, possibly due to the fact that this worker group possessed considerable skills.
- **Less Variability.** There is less month-to-month variability in part-time employment levels for the 25-54 age group (range = max – min =45%), and the 55+ group (range = 19%) compared to the 15-24 group (range = 56). In part, the greater month-to-month variability in the youth employment group may be due to the relatively small youth part-time employment numbers.
- **Earlier Return.** Employees in the “mature age category” experienced an earlier return to pre-pandemic staffing levels. The 25-54 age group was back to operating at January 2020 employment levels by August 2020, compared to the 15-24 youth group which did not reach a pre-pandemic staffing level until August 2021. This may have been a case of “labour hoarding”, where employers retained full-time workers on a part-time basis over the pandemic period.
- **Part-Time Worker Substitution.** The full-time mature worker graph shows that employment in this category remained below the pre-pandemic level throughout most of Y2021.

The Unemployment Picture

Statistics Canada provided the underlying monthly data for the calculation of average and maximum monthly unemployment rates.^{ix}

The reason for looking at unemployment separately from employment level changes is that these two numbers are not necessarily in agreement with each other, and for this reason this section of the report has been included.

Monthly Unemployment (%)	Year 2020			Year 2021		
Age Bracket	15-24	25-54	55+	15-24	25-54	55+
Average						
Male	19.4%	7.5%	7.4%	12.2%	5.3%	6.7%
Female	17.4%	7.7%	7.2%	12.2%	4.8%	7.2%
Both	18.4%	7.6%	7.3%	12.2%	5.1%	6.9%
Maximum						
Male	32.0%	11.1%	9.7%	17.0%	6.5%	8.1%
Female	25.6%	13.1%	11.4%	19.9%	7.2%	11.3%
Both	28.1%	12.1%	10.1%	16.8%	6.5%	9.6%

Devastating Youth Unemployment. The data shows that youth unemployment during the pandemic years was devastating, with roughly one in five young workers finding themselves unemployed in Y2020. The underlying reasons for this high unemployment have already been explained in the preceding sections of this report.

Less Severe Mature Worker Unemployment. Employees 25+ years of age experienced an average monthly unemployment rate in the range of 5-7%, which is at least half of the youth group's unemployment rate.

Y2021 Improvement. The unemployment rate in the second year of the pandemic was found to be considerably lower than in Y2020. This was the case across all age cohorts and applied to both the monthly average and maximum figures.

Gender Related Impact. It is apparent from the data that the unemployment rates were "gender neutral". In other words, males and females had the same unemployment experience, stated as an unemployment rate.

Labour Market Volatility

Labour market volatility can be expressed as the standard deviation of the 12 months' employment and unemployment datasets, with the standard deviation stated as a percentage of the last month's (December's) values.

Volatility %	Year 2020			Year 2021		
Age Brackets (Both Genders)	15-24	25-54	55+	15-24	25-54	55+
Employment	11.9%	4.6%	2.8%	3.8%	1.1%	1.6%
Unemployment	43.7%	17.5%	14.0%	18.7%	12.5%	13.2%

Employment Variability. Y2021 employment variability was less severe in Y2021 across all age groups compared to variability in Y2020. For example, in the case of the 15-24 age group variability dropped by more than 8% points (11.9% to 3.8%). For the 25+ age cohort the reduction in variability was less pronounced but nevertheless apparent.

This reduced employment level variability in Y2021 may be indicative of employers having acquired some experience in adapting staffing to market conditions and government mandates.

Unemployment Variability. Unemployment variability was found to be substantially higher than employment variability, across all age groups.

As well, there was less variability in Y2021 compared to the previous year. For example, unemployment variability for the 15-24 age group dropped 25 percentage points from Y2020 to Y2021 (43.7% to 18.7%). Similarly, the 25-54 age group experienced a 5% reduction, from 17.5% to 12.5%. No significant change was apparent for the 55+ group.

One possible reason for the high unemployment variability, compared to the employment variability, is that employers were adapting to shifting lockdown “mandates” by bringing people back, then laying them off again as new Covid policies were put into effect.

Discouraged Worker Effect

Economists use the term “discouraged worker” to describe someone who is unemployed but does not appear in official unemployment statistics. This is due to manner which data on unemployment is collected by governments. The discouraged worker effect arises in long periods of recession or structural changes. This effect produces a data distortion where, at the peak of a recession, the measured unemployment rate may actually fall. This is due to unemployed workers becoming discouraged, reducing their job search activity, and therefore do not get captured in the unemployment measures.

In principle, a reduction in the level of employment should show a comparable increase in unemployment. For example, a decrease in employment of 500 people should show up as an increase in unemployment of 500 persons. In the case where a change in unemployment is less than a corresponding reduction in employment, this difference points to people having become discouraged and leaving the workforce. Given the manner that unemployment is measured, the discouraged worker effect leads to an underestimate of the “True” unemployment number.

The discouraged worker effect was determined by calculating the difference between the maximum value for monthly employment and calculating the difference between this number and the last month’s number (December) for a given year. The same calculation was performed on monthly unemployment numbers. Via this process two differentials were obtained: an employment differential and an unemployment differential. Subtracting the unemployment differential from the employment differential then provides a “discouraged worker” number.

Company staffing decisions, government policies/mandates and the Covid emergency benefit payments resulted in 122,600 discouraged workers having left the labour force. Improving employment prospects in Y2021 resulted in a return to work of roughly half the previous year’s discouraged workers.

Discouraged Workers			
Age Group	Y2020	Y2021	Change
15-24	24,700	10,300	14,400
25-54	90,300	45,700	56,600
55+	7,600	14,400	-6,800
Total	122,600	70,400	64,200

The 55+ age group is trending in the opposite direction, with almost double the number of 55+ age discouraged workers voluntarily dropping out of the labour force in Y2021 than was the case in Y2020.

While there is no hard data available to explain this trend, anecdotal evidence suggests that some older workers who found themselves terminated in Y2020 reassessed their situation in Y2021 and chose not to return to work. Those decisions may have involved quality of life considerations and worries about contracting Covid if they return to the workplace.

BC Health Funding & Operations

Highlights

BC Healthcare Funding increased by 20% in FY 2020 over the previous year.

Healthcare services in British Columbia consumed 40% of Provincial expenditures

Covid admissions in FY2020/21 represented 2.8% of total admissions & 3.5% of total patient days

ICU bed capacity utilization in FY2020/21 by Covid patients was 9.8% average, maximum 22.2%

Hospital utilization by Covid patients corresponded to the normal annual flu seasons

The number of procedures performed by physicians and specialists decreased by more than 13%

Vaccinations did not achieve the desired reduction in hospital patient loads

The patient cost for a Covid patient is 4x the cost of a “standard” patient

The data contained in the table below was from two sources: Canadian Institute for Health (CIHI) Information’s National Health Expenditure Database^x and information obtained via a Freedom of Information Request concerning Hospitalization and ICU admissions^{xi}. Information contained in “BC Budget 2020 Estimates” was used to calculate Public Healthcare (Percent of BC Budget).^{xii}

Healthcare Expenditures	Fiscal Years			Pct. Change	
	2018/19	2019/20	2020/21f	19/20	20/21
Public Healthcare (\$M)	23,626	28,434	29,934	20.4%	5.3%
Excluding Federal Covid Relief Funding (\$M)	23,626	25,100	26,846	6.2%	7.0%
Per Capita Public Healthcare	4,637	5,512	5,740	18.9%	4.1%
Public Healthcare (Percent Of BC Budget)	35.4%	39.1%	40.4%	10.3%	3.5%
Hospital Expenditure (\$M)	8,600	8,944	9,480	4.0%	6.0%
Per Capita Hospital Expenditure	1,688	1,734	1,818	2.7%	4.9%
Total Hospital Admissions	459,088	461,022	431,822	.4%	-6.3%

Total Healthcare Funding. Public sector healthcare spending surged by 20.4% in FY2019/20 (18.9% on a per capita basis). These numbers include Federal government Covid Relief Funding of \$3.334 billion (\$636 per capita) in FY2019/20, and \$3.088 billion (\$592 per capita) in the year following. When the Covid Relief Funding is excluded, BC Health expenditures grew between 6% and 7% annually.

To put this phenomenal growth in total public healthcare expenditure in perspective, in Y2020 British Columbia’s population grew by 1.3%, and the inflation rate was 0.7%. In Y2021 the inflation rate surged to 3.4% whereas the population grew by 1.1%.

Two-fifths (40%) of all government expenditures are now related to providing healthcare services to residents in British Columbia.

Funding Priorities: Hospitals (32%), Drugs (5%) and Physicians (18%) account for the largest shares of health dollars (55% of BC total health spending) in 2021).

An additional 27% of the FY2020/21 total budget was expended as follows: home & community care (10%); prevention & promotion programs, occupational health (8%); capital expenditure (5%); administration (2%); paramedic and independent health practitioners (1.5%).

Hospital Funding. Relative to overall healthcare expenditures, BC hospital budgets increased on a more modest basis – 4.0% and 6.0% annually. Of significance is that in FY2020/21 hospital admissions declined by 6.3% - presumably due to hospitals prioritizing life-saving and more urgent treatments and shifting human resources to support areas of greatest need, such as ICUs.

CRF: A new spending category – Covid-19 Response Funding – provided \$3,333.6 million in FY 2019/20 and \$3,087.7 in FY 2020/21 (10% of total BC health spending). These funds are intended to cover expenditures that are not normally covered under the NHEX spending categories (e.g Hospitals, Physicians, etc.).

Appendix B of the National Health Expenditure Trends, 2020 report provided the following breakdown of how Contingency Relief Funds were deployed: Personal Protection Equipment – 33%; Screening Capacity – 15%; Non-Standard Compensation for Healthcare Workers – 11%; Protection & Treatment of Vulnerable Populations – 11%; Medical Research & Vaccines – 4%; Unallocated – 26%.^{xiii}

Hospital Operations

The data contained in the tables below is based on various statistical reports provided by the Canadian Institute of Health Information (CIHI), and monthly/daily data obtained from the BC Center for Disease Control’s 2021 Situation Reports.

Year 2021 Hospital Metrics	ICU Related	Non-ICU Related	Total or Average
Beds Available	480	13,173	13,653
Admissions			
Non-Covid Admissions	39,160	380,521	419,681
Covid Admissions	2,324	9,817	12,141
Pct. Covid Admissions	5.6%	2.5%	2.8%
Average Stays (Days)			
Non-Covid Patients	12.9	8.9	9.3
Covid Patients	18.6	10.1	12.3
Difference	5.7	1.2	3.0
Total Patient Days			
Non-Covid Days	505,164	3,386,637	3,891,801
Covid Days	43,226	99,152	142,378
Covid Days (Pct of Total Days)	7.9%	2.8%	3.5%

A review of the data in this table indicates that Covid admissions represent a relatively small proportion of total admissions (2.8%). These patients consumed 3.5% of the approximately 4 million patient days.

The Covid impact in ICU was substantially greater (5.6 percent of ICU admissions, and 7.9 percent of ICU Patient Days). This situation is attributable to the fact that provincially there are only 480 available ICU beds, and that ICU Covid patient stays are 5.7 days longer than non-Covid patient ICU stays.

Covid-Related Hospitalizations

Covid-related daily general hospitalizations and ICU hospitalizations for FY 2020/21 and FY 2021/22 were recorded, with monthly averages summarized in the table below.^{xiv} Three-month moving average values were used in order to correct for weekly values overlapping from one month to the next.

Covid-Related	FY 2020/21		FY 2021/22	
	Hospitalizations	ICU	Hospitalizations	ICU
Average (Monthly)	166	33	879	47
Maximum	526	53	1,126	107
Pct of Available Beds				
Average (Monthly)	1.3%	6.9%	6.7%	9.8%
Maximum	4.0%	11.0%	8.5%	22.2%

General Hospitalizations. Average monthly Covid hospitalizations increased by 400% (166 to 879) over the previous fiscal year, likely due to the identification and emergency of more virulent strain(s), and the 24/7 reporting of “cases, hospitalizations, and deaths” by BC Health and the media.

Available bed occupancy is a measure of the degree to which hospital facilities are stressed by the Covid patient load. There was a five-fold increase (1.3% to 6.7%) occupancy of general hospital beds. The highest annual capacity utilization doubled from 4.0% to 8.5%.

ICU Hospitalizations. Average monthly ICU hospitalizations increased by 42% (33 to 47) over the previous fiscal year. The maximum reported ICU occupancy was 107 patients, double that of the previous year.

In terms of bed capacity utilization, Covid patients admitted to ICU required, on average, 9.8% of the available ICU beds, with a reported maximum capacity utilization of 22%. In comparison, the previous years’ percentages were 6.9% and 11.0%.

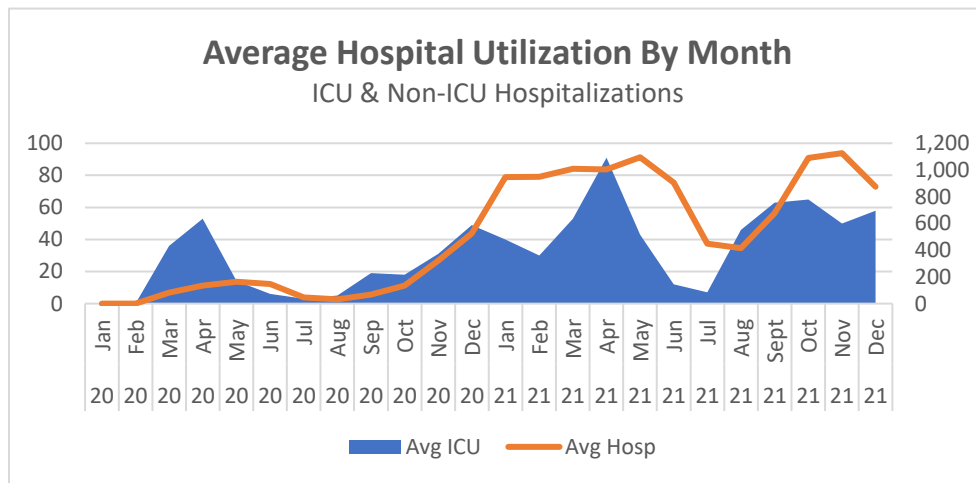
Average Cost per Patient

Covid-related hospital stays are far more expensive than “standard” hospital stays. This is due to the fact that these patients have longer hospital stays, and require more intensive care and access to medical equipment (e.g. ventilators).

According to CIHI, a “standard” hospital stay involves a patient cost, on average, of \$6,349. In comparison, a non-ICU hospital stay for a Covid patient costs \$23,878, which is nearly 4 times the cost of a standard stay. If a Covid patient is placed into ICU, the cost rises dramatically to \$50,165 – more than double a non-ICU stay for a Covid patient, and nearly 8 times the cost associated with a standard hospital stay.

Monthly Hospital Utilization

The graph below compares monthly Covid-related general hospitalization and ICU hospitalization numbers, commencing in January 2020.



Three key insights become apparent upon examination of this graph:

- Summer periods do not place a particularly heavy Covid-related demand on the hospital system. This is consistent with the annual flu experience, the annual season for which is October to April. No flu statistics have historically been reported during the summer months.^{xv}
- The three data peaks correspond to three events – the arrival of Covid-19 in BC during early Y2020; the proliferation of Covid in the fall/winter of Y2020 coupled with the announcement of three variants (Alpha, Beta, Gamma) having appeared during this period; and the emergence of the Delta variant in the fall of Y2021. The Omicron “fourth wave” is not apparent in the graph, as this “variant” did not appear until December 2021.
- General (Non-ICU) hospitalization appears to lag ICU hospitalization peaks. This may be a case of ICU hospitalizations getting significant media attention, and this attention motivating people to access their local hospital when they detect flu symptoms.

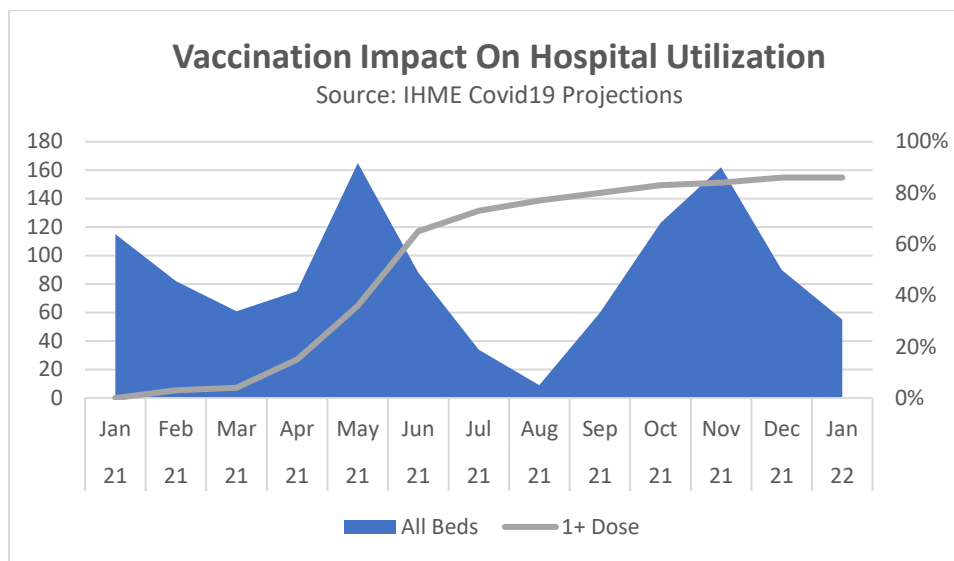
Vaccination Impact on Hospitalization

The graph below shows two distinct hospital bed utilization periods: April/May and Sept/Nov 2021. These peaks correspond with reported case rate “spikes”

As Covid cases spiked in April/May 2021, BC Health made a major push to urge people to get vaccinated. The result was that by June 2021 approximately 70% of the population had received at least one dose of a vaccine.

Over the summer months, there was a significant drop in hospitalizations, with a more gradual uptake of vaccinations. However, in the fall there was, once again, a surge in hospitalizations due the arrival of the “Delta variant” and by November roughly 85% of the population had received at least one “shot”.

The data suggests that higher vaccination rates did not have the desired effect on reduced hospital admissions. This is likely due to mutations; however, any further detail is beyond the scope of this paper.



Note: Data points fall on the first day of each month.
"Projections" in the title refers to Y2022 forecast (Not reflected in the graph)

Patient Care

Data reported by the Canadian Institute of Health Information patient care indicates that the delivery of physician services was significantly impacted by Covid in FY 2020/21.^{xvi}

Changes 2020 vs 2019			
Service Group	Consults/Visits	Psychotherapy	Procedures
Family Physicians	55,686 (+3.0%)	2,806 (+4.3%)	-71,212 (-14.3%)
Medical Specialists	12,661 (+3.9%)	5,611 (+6.9%)	-71,514 (-19.2%)
Surgical Specialists	-4,753 (-1.9%)	194 (+20.0%)	-46,473 (-13.0%)

The main conclusions to be drawn from this data are:

- Family Physician and Medical Specialist consultations and visits grew by roughly 3 times the rate at which BC's population grew. This increase in contact with medical professionals is likely due to the heightened concern about Covid on the part of the population, coupled with the continued access to these professional services via virtual meetings.
- Psychotherapy services showed significant growth, especially psychotherapy pertaining to the provision of surgical services. Various studies have shown that social distancing and lockdowns created anxiety and depressive disorders for many people, especially for those who faced loss of employment, or delayed surgeries.
- Procedures, provided across all Service Groups, especially those requiring medical specialists, were drastically curtailed in FY2020/21 relative to the previous year. This was due largely to the fact that hospitals redeployed human resources to areas where critical care was required, and non-life threatening, elective procedures were either deferred or outright cancelled.

The Social Impact Of Covid-19

Highlights

Mental health related calls to the BC RCMP increased by an estimated 6.4% in Y2020

Homelessness increased by 27% between Y2018 and Y2021

Anxiety and depressive orders increased across all age groups, most notably young people

Property crimes, including auto crimes decreased substantially during the pandemic years

Illicit drug related deaths increased by 2x the rate of total annual deaths

4.8% of total annual deaths in Y2020 and 3.4% in Y2021 are “excess deaths” over the previous year, not attributable to Covid.

911 & Dispatch Calls

911 is the first point of contact with emergency services for many British Columbians dealing with a crisis, whether it be a police matter, a medical emergency, or to report a fire. Sixty-three percent (63%), or 1.3 million calls were for police assistance, 31% (646,000) for ambulance services, and 6% (125,000) to report a fire.

The E-Comm 9-1-1 centre experienced a call volume increase of 234,853 calls (+12.7%) over the previous year. A logical explanation for this call volume increase is that many people are stressed on account of the pandemic and the associated mandates, and this stress leads to a variety of social problems which ultimately require police or mental health specialist engagement.

An article in the Calgary Herald dated January 22, 2022^{xvii} supports this expectation, stating that “many of the 3,000 calls Calgary 911 operators receive every day are from people asking for advice for non-emergency domestic violence, social disorder and other mental health and addiction questions”.

The number of Mental Health Act occurrences recorded by the RCMP in British Columbia was 46,705 for the period January 1 to August 31, 2020.^{xviii} The year-end number was projected to be approximately 70,000 such calls. This represents an increase of about 4,000 mental health related calls (+6.4%) over the previous year.

Mental Health

Mental health issues arise from a feeling of loneliness or isolation, worries related to potential or actual job and income loss, and concerns about meeting financial obligations, such as mortgage payments and supporting a family unit.

Statistics Canada undertook two national surveys on Covid-19 and mental health, whose objective was to capture “the proportion of positive screens for major depressive disorder, generalized anxiety disorder and post traumatic stress disorder by age group and time-period.

The results were published in The Daily, Monday, September 27, 2021.^{xix} Whereas no baseline data was available, the two surveys over the Covid-19 pandemic period indicate that depressive and anxiety disorders were significantly present and increasing over the survey period.

AGE GROUP

Fall 2020	18-24	25-44	45-64	65+
Depressive Disorder	27%	18%	13%	7%
Anxiety Disorder	21%	15%	12%	7%
At Least One Disorder	33%	25%	18%	11%
Spring 2021	18-24	25-44	45-64	65+
Depressive Disorder	36%	23%	16%	8%
Anxiety Disorder	23%	20%	13%	6%
At Least One Disorder	41%	32%	22%	12%
Percent Increases	18-24	25-44	45-64	65+
Depressive Disorder	33%	4%	23%	14%
Anxiety Disorder	1%	33%	8%	-14%
At Least One Disorder	24%	28%	22%	9%

Source: Statistics Canada Survey on COVID-19 and Mental Health (5330)

Several things are apparent from an examination of the data in the table above.

- An increase in mental health problems occurred across all age groups
- Depressive disorders, as opposed to anxiety disorders were more prevalent
- Younger people were more disposed to having mental health issues

The higher proportion of mental health issues amongst younger people can be explained by two underlying “pandemic factors”. Young people tend to be highly connected socially, and the lockdowns and “work from home” policies removed a significant part of their social environment. Also, young people were at far greater risk of job loss during the pandemic.

Financial Stress. According to an article in the *Globe & Mail*, February 17, 2022, living in Vancouver requires a gross annual income now of \$128,000 to be able to afford to rent a 2-bedroom apartment, and \$95,000 to rent a one-bedroom apartment.^{xx} Factor in the escalating municipal taxes, utility costs, vehicle operating costs and costs for groceries, and it becomes apparent that people are finding themselves under severe financial stress which reflects itself in anxiety and depressive disorders.

Similarly, a survey by Payroll.ca, “Nothing Is Normal – Canadian Workers Overwhelmed By Uncertainty”, found that 43% of employees (1.2 million British Columbians) were financially stressed as a result of the employment uncertainties present during the pandemic period.^{xxi} Another poll by Payroll.ca found that “about half of Canadians would be hard-pressed to meet their financial obligations if their paycheque was delayed for a week.”

Workplace Impact. According to the Center for Workplace Mental Health, general anxiety and depressive disorders can significantly impact work performance. It contributes to “presenteeism”, or employees at work, but not engaged, and employees missing days of work. It can also adversely impact multiple areas of employee performance, including focus and decision-making, time management, completing physical tasks, social interactions and communication. If untreated these conditions can lead to suicide.^{xxii}

Impact on Scholastic Performance

On Friday March 13 and Saturday March 14, 2020, post-secondary institutes made the decision that all programs and campus activities would either transition to remote learning or be delayed. Within a week, all post-secondary institutes had pivoted to remote or alternative learning for the remainder of the academic term, which ended in May, 2020. Starting in the fall of 2020, the primary delivery for programs and students across the province for the 2021-2022 academic year was some form of remote or online learning.

The sudden and abrupt nature of the shift raised a number of questions about online, remote learning. Faculty and administration were divided on the outcomes of the new paradigm. Anecdotal evidence began to emerge about learning effectiveness, grade inflation and academic integrity issues tended to vary based on the topics and types of courses being delivered.

By the fall of 2021 most of the post-secondaries had returned to face-to-face, on-campus education delivery. However, many of the issues raised about 2020-2021 academic year remained, as further anecdotal evidence emerged that students that completed the previous year 100% online were not as well prepared for next level, which was being delivered face-to-face.

For most post-secondary institutes, the primary form of education delivery is face-to-face instruction in a classroom setting. Prior to the pandemic, remote or online delivery tended to be offered only for high-demand courses and specialty programs of short duration. Experience had shown that online courses and programs were most successful when students are more mature, and the programs tended to be shorter and more focused than traditional diploma and degree programs.

While most post-secondary institutes in BC had some experience with online delivery prior to the Covid-19 pandemic, they had never been faced with providing this form of education on a broad scale. There was an uncertainty about faculty's ability to deliver all the program learning outcomes by this education method, and students' ability to learn all the material of a full-time program delivered completely online. There was particular concern about the younger demographic, especially those students who were coming directly from high school and were about to do their first year of post-secondary education entirely in a remote learning format.

Other Social Indicators

Marriages. There were 5,373 (23%) fewer marriages in Y2020 compared to the previous year. Y2021 saw an 11% "rebound" to 20,611 marriages.^{xxiii}

Alcohol Consumption. Prior to Y2020 alcohol consumption in BC was consistent year-to-year and averaged 9.12 liters of "absolute alcohol per person" according to the University of Victoria, Canadian Institute for Substance Abuse Research. Y2020 saw a 2.6% increase to 9.36 liters per person.

Drug Use. It was not possible to find data on actual drug consumption, so a proxy to consumption – Controlled Drugs & Substances Act Offences – was used to estimate the rate of change in drug use in BC.

The report ""Crime Statistics in British Columbia, 2020" provided the following insights about drug enforcement:

- Total drug offenses in BC increased by 3.3% to 20,470 in Y2020. This is the highest number of drug offenses in Canada.
- Total cannabis related offenses increased by 42% to 5,135
- Non-heroin opioids (fentanyl) offenses increased by 41.9% to 2,772 in Y2020
- All other drug categories experienced declines in offenses: cocaine (-15.2%); heroin (-27.5%); methamphetamines (-5.0%); other drugs including ecstasy and prescription drugs (-4.8%).

This data may not just indicate a shift in policing priorities, it may also point to a change in preferences on the part of illegal drug consumers.

Of particular note is the strong increase in cannabis related offenses. Given its ready availability, and relatively low consumption risk, it may be the “stress reliever of choice” during the pandemic years for people dealing with anxiety and depression disorders.

Homelessness. The Homelessness Services Association of BC conducts period surveys of communities to determine the scope and underlying reasons for the homelessness in those communities. A more comprehensive report covering the Province was published in Y2018.^{xxiv}

During the pandemic years, 14 communities were surveyed, with Y2018 survey available for comparison purposes. These surveys did not cover the major metropolitan areas of BC; rather, it provided data for a representative group of communities across the Province.

Analysis of the individual community surveys provided the following insights:

- Homeless increased by 27% between Y2018 and Y2020/21.
- Applying this increase to the 2018 province-wide estimate (7,655) projects the number of homeless people in BC will have increased by roughly 2,000 people by Y2021.
- 53% of those surveyed were found to have a mental health condition, and 68% had an addiction problem.

Among the reasons cited for being homeless were: addiction or substance abuse (23%); abuse by or conflict with a spouse/partner (22%); inability to pay rent or mortgage (18%); illness or medical condition (11%).

This study has highlighted the fact that uncertainties with respect to employment and social distancing requirements have precipitated a mental health crisis, which is reflecting itself in a variety of ways, including homelessness.

Crime

The report “Crime Statistics in British Columbia, 2020” provides evidence that there have been fewer criminal offenses in BC in Y2020 than in the year before.^{xxv}

- Total criminal code offenses decreased by 10.9% from 439,763 in Y2019 to 391,954 in Y2020.
- Violent offenses decreased by 1.8%
- Breaking and Entering crimes experienced a 14.2% decrease
- Incidents of theft were down by 25.7%
- Relationship-related offenses decreased as follows: non-sexual assault (-2.9%); sexual offenses (-7.4%), and criminal harassment (-7.3%).

A logical explanation for this reduction in crime is that the Covid-related lockdown and social distancing “mandates” reduced the potential for criminal activity.

However, the data does not support the belief that confinement at home is leading to increased family violence. It is probable that such crimes are under-reported, with victims being reluctant to press charges against a member of their immediate family.

Auto Crime

A report, “Quick Statistics – Auto Crime in BC”^{xxvi}, published by ICBC, provided evidence that vehicle-related property crimes decreased substantially in British Columbia in Y2020 over the previous year.

	Y2020 Reduction	Pct. Change
Stolen Vehicles	-2,100	-25%
Vehicle Breakins	-2,100	-21%
Vandalism	-2,000	-10%

The most likely explanation for this is that, with many employees working from home, criminals were afforded fewer opportunities to engage in vandalism, break-ins and outright vehicle theft.

Similarly, there were fewer fatal crashes in Y2020 – 232 vs 252 the year before. This 8% reduction in fatal crashes can be explained by the fact that vehicle utilization was significantly reduced by the mandated “lockdowns”.

Illicit Drug Deaths

The table below illustrates that whereas both Total Annual Deaths and Illicit Drug Overdose Deaths “spiked” during the Covid pandemic years, drug deaths increased by more than 2x the Total Annual death rate (32% vs 15%).

The percentage increase values in column 5 of the table reflects the cumulative total increase by Y2021, relative to the Y2017-2019 Average “base”. The total Drug Overdose numbers for Y2021 are incomplete, as the data was only available to October 2021 at the time of preparation of this report.

Number of Deaths	Y2017/19 Avg	Y2020	Y2021	Pct. Increase
Total Annual Deaths	38,498	41,150	44,442	15%
Drug Overdose Deaths	1,345	1,765	1,782	32%
Pct of Total	3.5%	4.3%	4.0%	

Drug overdose deaths increased by 32% over the period Y2019 to Y2021. In comparison, total annual deaths over this period grew by half that amount (15%). Prior to Y2020, drug overdose deaths represented 3.5% of total annual deaths. In Y2020 this percentage increased to 4.3%.

Deaths due to illicit toxic drugs are a complex phenomenon, involving a variety of factors, including the availability of new, more toxic drugs, and social/economic conditions.^{xxvii}

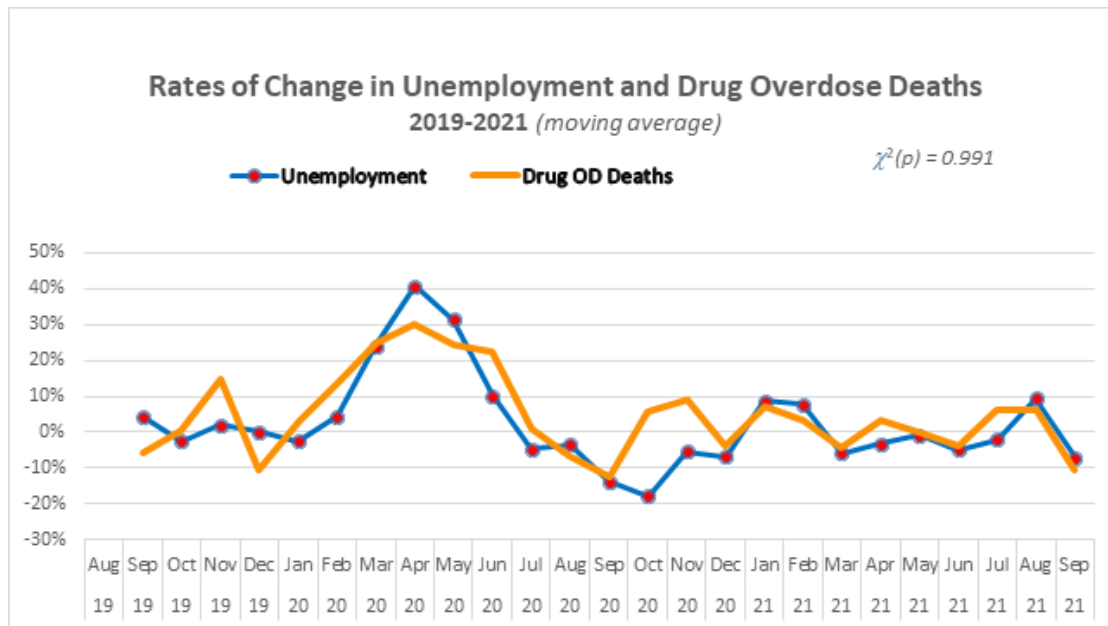
Illicit Drug Deaths & Unemployment

The following graph reflects British Columbia’s monthly percentage changes in unemployment numbers, and the corresponding monthly percentage changes in illicit drug toxicity deaths commencing in July 2019

and ending in November 2021. The data is indexed to January 2017. The source for the data is Statistics Canada (unemployment data) and BC Coroners Service (overdose deaths).^{xxviii xxix}.

Because the numbers of overdose deaths is a relatively small number compared to the unemployment numbers there is a more accentuated variability in that data.

Statistical analysis on the two datasets indicated that there is a 99% chance that the two datasets (unemployment and overdose deaths) are dependent on each other. The graph below provides clear evidence that overdose deaths track closely with unemployment.



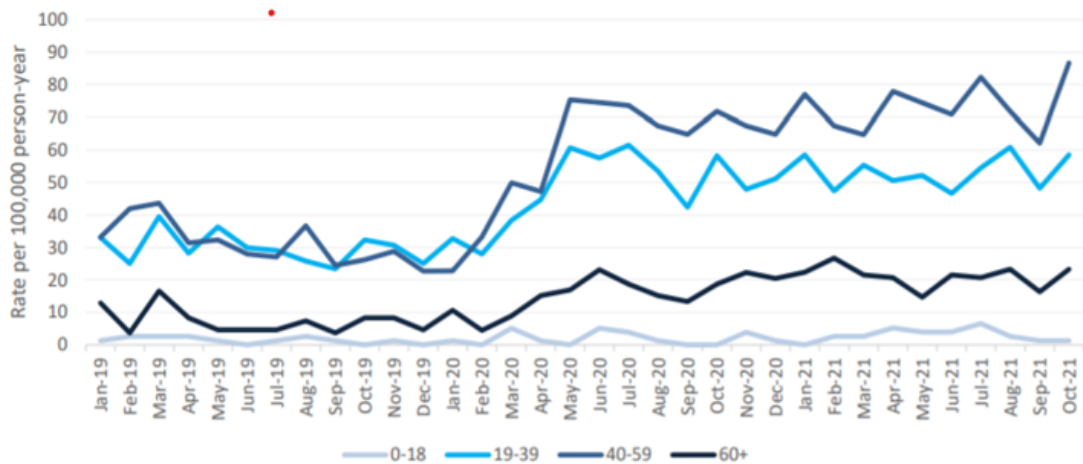
The big “spike” in illicit drug deaths during the initial months of the Covid pandemic correlated closely with the surge in unemployment. Similarly, the same relationship is apparent when individual months are examined.

After the initial surge in unemployment, by the fall of Y2020 unemployment was starting to fall, and this pattern continued up to November 2021. Overdose deaths did not similarly decrease over this period however the month-to-month fluctuations paralleled the changes in unemployment.

What the unemployment data does not show is the discouraged workers – according to Statistics Canada, unemployed workers were only those who are available for work, had looked for work in the past four weeks, or were on temporary layoff due to business conditions.

Discouraged workers could not find work and had given up looking for work. Being without a job prospect and likely with financial obligations such as a mortgage, these people are under the most anxiety and stress, and at risk of resorting to illicit and dangerous drugs.

An analysis, by age group, shows that drug overdose death rates, calculated as the number of illicit drug deaths per 100,000 population, also vary significantly, depending upon the age cohort.^{xxx}



According to this data, published by the BC Coroner Service, the illicit drug death rate has increased significantly, commencing in February 2020, compared to the previous 12 months' experience. The exception is the 0-18 youth group, whose death rate has remained constant. While there may be other explanations for this, the timing of the "spike" suggests that Covid-related mandates have resulted in a higher rate of illicit drug deaths.

The two groups with the highest death rates reflect the working age population (19-59), with the 40-59 age sub-group experiencing the largest death rate, commencing in February 2020. These people constitute the Province's labour force and taxpayers.

Possible explanations for the death rate increase within these two age cohorts is that members of the group, especially those in the 39-59 age group, face stresses related to finances and employment. Many are highly leveraged with financial obligations, the most notable of which is mortgage payments. Being unemployed or facing unemployment has put severe anxiety and stress on people who risk losing their home and being unable to support their family.

Mortality

Total deaths in the British Columbia were consistent and averaged 38,498 over the years 2017-2019. However, as is apparent from the Table below, total deaths increased by 2,652 individuals (6.9%) in Y2020 over the previous year, and by 3,292 individuals (8.0%) in Y2021 over Y2020.

	Year 2020	Year 2021
Total Annual Deaths	41,150	44,442
Previous Year's Total Deaths	38,498	41,150
Increase In Total Deaths	2,652	3,292
Less Reported Covid Deaths	678	1,774
Non-Covid Reported Excess Deaths	1,974	1,518
Non-Covid Excess/Total Annual Deaths	4.8%	3.4%

By subtracting the officially reported Covid Deaths from the Total Annual Deaths differential between a year and the previous year, a “Non-Covid Reported Excess Deaths” value is calculated.

These excess deaths are most likely attributable to the unintended consequences resulting from various government mandates and BC Health policies.

- Cancellation or deferral of critical surgeries & cancer treatments
- Anxiety, depression attributable to loss of employment
- Wider use of illicit toxic drugs, leading to overdose deaths

In Y2020 there were 1,974 Non-Covid Reported Excess Deaths (4.8% of total deaths), with 1,518 (3.4%) excess deaths being experienced in Y2021.

Conclusion

While the BC economy has, in aggregate, returned to pre-pandemic levels, there have been structural shifts that will persist. Some sectors, such as tourism, will take much longer to recover. The impact to the workforce goes well beyond changes to the level of unemployment. The nature of work has changed as well as the populations priorities with respect to work-life balance. In addition, as shown in this report, the impact on society’s mental health and well being is significant and should not be underestimated.

As with any social or economic disruption, the pandemic has had a dramatic impact on innovation, particularly in the area of communications. While it is too early to accurately predict how the pandemic driven technological change will affect how we do business, it is clear that there will be permanent changes to how we carry out activities on a daily basis.

Whether we are focusing on recovery from the impact of Covid-19 or preparing for the potential of a future pandemic, it is critical for policy makers, businesses, and the general population to have a full understanding of how Covid-19 impacted so many aspects of society. That understanding needs to be evidence based through a deeper understanding of the underlying data.

Appendix A – Total Hospital Utilization

According to a Freedom of Information Request Response HTH-2021-13906^{xxx}, the total annual BC Hospitalization and Hospitalization with ICU numbers are shown in the table below.

Number of Hospitalizations and Hospitalizations with Intensive Care									
April 01, 2014 - May 31, 2021									
PAS HSIAR0001668									
BC Hospitalizations and Hospitalizations with ICU admissions by Level of Care and Fiscal Year (2014/15 - 2021/22 Year to Date (YtD))									
Hospitalization Type	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022 YtD *	2021/2022 Apr	2021/2022 May
Acute Inpatient									
With ICU admission	39,545	39,953	39,656	40,032	40,536	39,160	6,549	3,349	3,200
Without ICU admission	402,852	411,247	415,153	418,483	419,755	391,818	69,514	34,736	34,778
Acute Inpatient Total	442,397	451,200	454,809	458,515	460,291	430,978	76,063	38,085	37,978
Rehabilitation Inpatient									
Without ICU admission	595	603	584	573	731	844	127	57	70
Rehabilitation Inpatient Total	595	603	584	573	731	844	127	57	70
Total Hospitalizations	442,992	451,803	455,393	459,088	461,022	431,822	76,190	38,142	38,048

N.B. Caution should be exercised when interpreting data; please refer to the Notes tab for important information.

N.B. Cite sources when using these data.

* Open year data is subject to change by corrections and additions of records not yet abstracted. Hospitalizations are aggregated based on discharge date.

Endnotes

ⁱ <https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/government-finances/financial-economic-review/financial-economic-review-2021.pdf>

ⁱⁱ StatsCan Labour Force Characteristics By Province Monthly; Table: 14-10-0017-02

ⁱⁱⁱ <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>

^{iv} BC Stats, Earnings Employment Trends Tables <https://www2.gov.bc.ca/gov/content/data/statistics/people-population-community/income/wage-rate-info>

^v Source: Statistics Canada

^{vi} <https://www.taxtips.ca/statistics/government-of-canada-debt.htm>

^{vii} CMHC: “Real Average After-Tax Household Income Quintiles by Tenure, 2006-2019”, April 30/2021.

^{viii} Statistics Canada: “Labour Force Characteristics by Province, Monthly & Seasonally Adjusted”, Table 14-10-0287-3, release date 2022-02-04

^{ix} Statistics Canada: “Labour Force Characteristics by Province, Monthly & Seasonally Adjusted”, Table 14-10-0287-3, release date 2022-02-04

^x <https://www.cihi.ca/en/public-and-private-sector-health-expenditures-by-use-of-funds>

^{xi} Filename: FOI HTH-2021-13906, 1 Discharge Abstract Database, Abstract Date – 2021-09/15

^{xii} https://www.bcbudget.gov.bc.ca/2020/pdf/2020_Estimates.pdf

^{xiii} <https://www.cihi.ca/sites/default/files/document/nhex-trends-2020-narrative-report-en.pdf>

^{xiv} Data Source: BC Center for Disease Control, Situation Reports

<http://www.bccdc.ca/health-info/diseases-conditions/covid-19/data#Situationreport>

^{xv} Source: <http://www.bccdc.ca/health-professionals/data-reports/communicable-diseases/influenza-surveillance-reports>

^{xvi} CIHI Report: “Impact of Covid on Physician Services”

<https://www.cihi.ca/sites/default/files/document/impact-covid-19-physician-services-march-2020-to-march-2021-data-tables-en.xlsx>

^{xvii} <https://calgaryherald.com/news/local-news/mental-health-addiction-experts-will-answer-911-calls-when-calgary-police-arent-needed>

^{xviii} <https://www.cbc.ca/news/politics/rcmp-mental-health-calls-1.5783529>

^{xix} Survey on Covid-19 and Mental health, September to December 2020, and February to May 2021
<https://www150.statcan.gc.ca/n1/daily-quotidien/210927/t001a-eng.htm>

^{xx} <https://www.theglobeandmail.com/investing/personal-finance/household-finances/article-heres-the-income-you-need-to-afford-rent-in-major-canadian-cities/>

^{xxi} “Nothing is Normal – Canadian Workers Overwhelmed By Uncertainty”,
https://www.payroll.ca/PDF/News/2020/2020-NPW-Press-Release_EN.aspx

^{xxii} <https://workplacentalhealth.org/Mental-Health-Topics/Depression>

^{xxiii} Marriages by Community Health Service Area, BC Vital Statistics Agency

^{xxiv} The Homelessness Services Association of BC, Urban Matters, and BC Non-Profit Housing Association (2018). 2018 Report on Homeless Counts in B.C. Prepared for BC Housing. Burnaby, BC: Metro Vancouver

^{xxv} <https://www2.gov.bc.ca/assets/gov/law-crime-and-justice/criminal-justice/police/publications/statistics/crime-statistics-in-bc.pdf>

^{xxvi} <https://public.tableau.com/app/profile/icbc/viz/QuickStatistics-AutoCrime/AutoCrime>

^{xxvii} <https://news.gov.bc.ca/releases/2017PSSG0049-001545>

^{xxviii} BC Coroners Service: “Illicit Drug Toxicity Deaths in BC; January 1, 2011 to October 31, 2021. Table 1.

^{xxix} Statistics Canada: Labour Force characteristics, monthly, seasonally adjusted and trend cycle, last 5 month.

^{xxx} BC Coroner Service, “Illicit Drug Toxicity Death Rates by Age Group & Month 2019-2021”, Figure 6

^{xxxi} http://docs.openinfo.gov.bc.ca/Response_Package_HTH-2021-13906.pdf