Economic Consequences of COVID-19 Pandemic Outbreak on Health Indicators and Health Service Use in Wales

Longstanding Illness Projection 2020/21 – 2022/23

September 2020

WHO Collaborating Centre on Investment for Health and Well-being at Public Health Wales
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Key messages

Unemployment Rate (Page 6)
• Without reparative interventions, unemployment rate is expected to increase sharply from 3.8% in 2019 to about 7% in 2020 following COVID-19 and then gradually increase over the projected period

Longstanding Illness (Pages 7 to 8)
• With increased unemployment, longstanding illness (LSI) would be expected to increase gradually following COVID-19, with an estimated increase of around or exceeding 4% over three years depending on the LSI measure
• There would be a higher increment in the percentage of adults with limiting LSI compared with adults with any LSI, suggesting implications for wider health and social care services

Chronic Health Conditions (Pages 9 to 11)
• With current unemployment predictions, percentage of adults with chronic health conditions is projected to increase following the COVID-19 pandemic over the projected period, with a higher increment for mental health and endocrine/metabolic problems

Economic Consequences of COVID-19 Pandemic on Longstanding Illnesses (LSI) for Wales
Projection 2020/21 – 2022/23
Background

- The coronavirus (COVID-19) pandemic and response may cause the global economy to decline by 4% (more than $6 trillion), assuming that recovery starts in the second half of 2020 (Bosley, 2020)
- A recent monetary policy report has predicted that the unemployment rate may rise to 9% in the second quarter of 2020 in the United Kingdom (UK) (Bank of England, 2020)
- Longstanding illness (LSI) is higher among unemployed people, as shown by the Adult Health in Great Britain report (ONS, 2013)
- Unemployment is associated with increased risk of developing chronic health conditions (Janke et al., 2020; Gronseth et al., 2017; Varanka-Ruuska et al., 2018)
- COVID-19 may result in 900,000 more working-age people developing chronic health conditions due to reduced employment in the UK - one percent fall in employment in working-age people may be associated with about two percent increase in chronic health conditions (Janke et al., 2020)

Aim
To forecast potential economic consequences of COVID-19 on LSI, taking into account the relationship between change in unemployment rate and LSI
Methodology

- Data required for the estimation of future unemployment rates (ONS, 2013) and percentage of adults with LSI (National Survey for Wales, 2019) was taken from government data sources for Wales / the UK
- Data required for risk of LSI, including disease specific risk, was taken from the scientific literature (page 12)
- Unemployment rate for quarter 1 of 2000 to quarter 1 of 2020 was taken from the ONS Labour Force Survey; unemployment rate for quarter 2 of 2020 was taken from the Bank of England estimated rate
- Prediction was done using autoregressive integrated moving average (ARIMA) model. ARIMA is used for time-series data to get better understanding of the data and predict future values
- Estimation of the percentage of adults with LSI, including disease specific rates, was done by taking into account the change in projected unemployment rates and risk probability for LSI
- The predicted results for rates of unemployment and LSI, including disease specific rates, are presented on pages 6 to 11

Peer review and acknowledgement

We would like to thank Dr Vijay GC, Research Fellow, Centre for Health Economics, University of York; and Mr Amritpal Rehil, Research Officer, Care Policy and Evaluation Centre, London School of Economics for their invaluable comments and recommendations in the peer review process
Key assumptions

- We have assumed the same rate of unemployment as the Bank of England have suggested for quarter 2 of 2020 to project further estimates (Bank of England, 2020)
- Time lag for the increase in unemployment and LSI occurrence was considered in the model based on recent scientific evidence (Janke et al., 2020)
- It is assumed that the risk rate for LSI among unemployed compared to employed persons remains stationary during the projection period, i.e. 2020/21 - 2022/23

Definitions

- **Longstanding Illness (LSI)** refers to a condition that cannot currently be cured but can usually be controlled with medicines or other treatment options
- **Limiting LSI** refers to a condition that limits a person’s day-to-day activities
- **Non-limiting LSI** refers to a condition that do not limit a person’s day-to-day activities
Projected unemployment rates in Wales following COVID-19

Economic Consequences of COVID-19 Pandemic on Longstanding Illnesses (LSI) for Wales
Projection 2020/21 – 2022/23
Projected percentage of adults with any LSI

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
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<tbody>
<tr>
<td>2019-20</td>
<td>46.4</td>
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<tr>
<td>2020-21</td>
<td>47.1</td>
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<td>49.9</td>
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<td>2022-23</td>
<td>50.3</td>
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Projected percentage of adults with 2 or more LSI

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>2019-20</td>
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<td>2021-22</td>
<td>23.8</td>
</tr>
<tr>
<td>2022-23</td>
<td>24.1</td>
</tr>
</tbody>
</table>

* Y-axis has been truncated
Projected percentage of adults limited at all by LSI

- 2019-20: 33.3%
- 2020-21: 34.6%
- 2021-22: 39.1%
- 2022-23: 39.7%

Projected percentage of adults limited a lot by LSI

- 2019-20: 18.1%
- 2020-21: 19.3%
- 2021-22: 23.9%
- 2022-23: 24.4%

* Y-axis has been truncated
Projected percentage of adults with musculoskeletal problems

Projected percentage of adults with heart and circulatory problems

* Y-axis has been truncated

Economic Consequences of COVID-19 Pandemic on Longstanding Illnesses (LSI) for Wales
Projection 2020/21 – 2022/23
Projected percentage of adults with respiratory problems

Projected percentage of adults with endocrine and metabolic problems

* Y-axis has been truncated

Economic Consequences of COVID-19 Pandemic on Longstanding Illnesses (LSI) for Wales
Projection 2020/21 – 2022/23
Projected percentage of adults with mental health problems

Economic Consequences of COVID-19 Pandemic on Longstanding Illnesses (LSI) for Wales
Projection 2020/21 – 2022/23

* Y-axis has been truncated
Data sources


Economic Consequences of COVID-19 Pandemic on Longstanding Illnesses (LSI) for Wales Projection 2020/21 – 2022/23
This health economics modelling report has been developed by the World Health Organization (WHO) Collaborating Centre on Investment for Health and Well-being (WHO CC) at Public Health Wales

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