

HDIG overall summary of reports

29 November 2023

This overall summary contains the key findings and recommendations from the reports produced by the Health Data Interpretation Group (HDIG) at UEA for Public Health at NCC in 2023.

The reports produced by HDIG were submitted to NCC on 29 November 2023:

- HDIG report 1. Healthy life expectancy and prevention opportunities
- HDIG report 2. Why is A&E so busy? Analysis using public data
- HDIG report 3. Why is A&E so busy? Analysis using individual patient data

The questions posed by Public Health at NCC were:

1. What is the impact of Covid on health services activity and health outcomes?
Specifically:
 - a. Why is A&E so busy?
2. What's happening with healthy life expectancy and other top level health measures, analysed overall and by location (eg middle layer super output area) and socioeconomic status (eg Index of Multiple Deprivation) and what are the drivers?
3. Where are the opportunities for prevention of poor health? Specifically:
 - a. What are the variations between different areas in terms of healthcare, health status and the big risk factors for health (eg obesity)?
 - b. What are the opportunities to improve health?

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HDIG report 1. Healthy life expectancy and prevention opportunities.

Summary:

- Healthy life expectancy is the number of years a person would expect to live in good health
- Healthy life expectancy at birth was 66.5 years for men and 67.5 years for women in Norfolk and Waveney in 2021
- The gap between highest and lowest healthy life expectancy at birth across 128 small geographic areas in Norfolk and Waveney was 21 years for men (range 52 to 73) and 18 years for women (range 56 to 74), as big as the gap between the most and least deprived areas in England
- The areas experiencing the lowest healthy life expectancy were around Great Yarmouth and the coast, Norwich, and King's Lynn. Risk exposure varied substantially, and people living and dying in these areas have been exposed to high levels of avoidable risks
- Substantial and broadly similar changes in healthy life expectancy for men and women, at birth and at age 65 were associated with changes in risk factors, including weekly income, physical inactivity, air pollution, and high alcohol consumption
- Healthy life expectancy at age 65 for men and women increased by:
 - 2.4 months for each £10 rise in weekly income after housing cost
 - 6-7.2 months for each 10% more people being physically active
 - 6-7.2 months for each 1 mcg/m³ less PM 2.5 in air pollution
- A limitation when risk factors have not been measured accurately, as for example with our measure of smoking, is that the estimated associations between them and outcomes such as HLE will be biased towards showing no effect
- Healthy life expectancy could be improved and the big gaps between areas narrowed by reducing the high levels of exposure to risk in the specific geographic areas identified in this report.

HDIG report 2. Why is A&E so busy? Analysis using public data. Summary:

The challenges faced by the NHS before the COVID-19 pandemic have continued post-pandemic and are particularly apparent in emergency care (UEC), with increasingly long waiting times for A&E and ambulances in Norfolk and Waveney (N&W). We used publicly available data to identify changes in UEC and the broader health and social care system from a period pre-COVID-19 (generally for the financial years between 2018-20) to a comparable period post-COVID-19 (for financial years between 2021-23 where available) in N&W.

- **UEC waiting times** have increased substantially. Comparing April 2018 - March 2020 and April 2021 - March 2023, the percentage of 111 calls abandoned increased from 4% to 15% and mean ambulance response times for serious conditions such as stroke or chest pain doubled. The number of A&E attendees waiting over 4 hours to be seen, discharged, or admitted increased by 93%, and by 130% for admission to hospital after the decision to admit had been made.
- The decline in performance is not entirely explainable by **changes in the population**. The percentage of the population aged over 65 has increased slightly, but the population has similar prevalence of relevant health conditions and deprivation levels, and there has not been an overall increase in A&E attendances by those aged over 80.
- **Demand for urgent and emergency care has increased**. While attendances at major hospital A&E departments increased by only 5%; attendances at walk-in centres increased by 18% and the number of calls received by NHS 111 increased by 6%.
- **Staff numbers in A&E** increased by 41% overall between 2018-19 and 2020-21.
- There were 7,559 bed days lost to **delayed discharge** in December 2022.
- Satisfaction with **general practice** dropped from a stable 86% in previous years to 76% in 2022.
- Referrals to **mental health services** (Norfolk and Suffolk NHS Foundation Trust) increased by 18%.
- The availability of **care and nursing home beds** decreased slightly between 2018 and 2022, as did occupancy levels, suggesting wider difficulties with making placements. The use of intermediate care, which aims to reduce avoidable admissions and facilitate early discharge, has increased.

Given that an increase in A&E staffing does not seem to have reduced waiting times, future plans should involve the whole health and social care system, including improving discharge from hospital. Building capacity in primary care, mental health services, intermediate care and social care over the short and longer term and capturing better data for the analysis of patient flows across the health and social care system is likely to be part of the solution locally and nationally.

HDIG report 3. Why is A&E so busy? Analysis using individual patient data.

Summary:

We used health care activity data (recorded at the level of discrete events such as each ED visit or ambulance call) to compare urgent and emergency care system activity between 2018 to 2020 and 2021 to 2023. We used an ICB developmental linked patient level dataset to analyse factors associated with ED attendances in 2022 to 2023. This dataset is developmental and the numbers reported in this report should be considered approximate.

- **Daily ED attendances** were higher on average in the post-lockdown period than in the pre-COVID period by 6% (19 more daily attendances) in Norfolk and Norwich University Hospital (NNUH), 5% (9 more daily attendances) in James Paget University Hospital (JPUH) and 10% (15 additional daily attendances) in Queen Elizabeth Hospital (QEH). However, while figures were higher on average for the post-lockdown period, there was a continuing downward trend in attendances post-lockdown in all three hospitals.
- **ED attendances that arrived by ambulance** were lower on average for the post-lockdown period when compared to the pre-COVID period by 17% (22 fewer arrivals per day) in NNUH, 11% (6.4 fewer arrivals per day) in JPUH and 2% (1 fewer arrival per day) in QEH. There was also a continuous decreasing trend post lockdown. **ED attendances that arrived in other ways than by ambulance** were higher in the post-lockdown period; the increase was largest for the NNUH at 22% with continuous increasing trends in NNUH and JPUH.
- The number of referrals to ED by primary care and by NHS 111 over time differed by trust when comparing pre-COVID and post-lockdown, and in post-COVID trends.
- **Time spent in ED departments** was markedly higher on average in the post-lockdown period compared to the pre-COVID period, by 112 minutes in NNUH (up 44%), 82 minutes in JPUH (up 46%) and 95 minutes in QEH (up 47%). These increases cannot be explained solely by higher attendances. In 2022-3, waiting times decreased over time in NNUH but continued to increase in JPUH and QEH.
- **Average waiting times** were greatest for patients who arrived by ambulance: they were on average 255 minutes longer in NNUH post-lockdown compared to pre-COVID (up 77%), 158 minutes longer in JPUH (up 66%) and 210 minutes longer in QEH (up 71%).
- **Ambulance arrivals that ended with delayed handovers of patients** to hospital care were more common post-lockdown. The probability that handover was delayed by more than 60 minutes – which was not often observed in this data before the first lockdown – showed a continuously upward trend post-lockdown of around 20% per year in all of the three trusts.
- **Ambulances callouts** through NHS 111 & 999 calls were 15% fewer in the post-lockdown period compared to the pre-COVID period and show a continuous downward trend post-lockdown.
- **NHS 111 telephone calls** were on average 9% fewer post-lockdown and showed a continuous downward trend post-lockdown. NHS 111 calls where there was a recommendation to call an ambulance or attend ED were fewer post-lockdown and continued to decrease.
- **ED attendances during 2022/23** were more likely in people aged under 5 years of age; living in more socioeconomically deprived areas; with a long-term medical condition; with more GP attendances during the same year; or living closer to ED.