Office for Statistics Regulation

UK Statistics Authority

Assessment of compliance with the Code of Practice for Statistics

Accident and Emergency Activity Statistics in Scotland

(produced by Public Health Scotland) V1.1

Assessment Report 379

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Office for Statistics Regulation

We provide independent regulation of all official statistics produced in the UK. Statistics are an essential public asset. We aim to enhance public confidence in the trustworthiness, quality and value of statistics produced by government.

We do this by setting the standards they must meet in the Code of Practice for Statistics. We ensure that producers of government statistics uphold these standards by conducting assessments against the Code. Those which meet the standards are given National Statistics status, indicating that they meet the highest standards of trustworthiness, quality and value. We also report publicly on system-wide issues and on the way statistics are being used, celebrating when the standards are upheld and challenging publicly when they are not.

Introduction

1. NHS Scotland faced a difficult winter during 2022/23 and hospital waiting times statistics have featured regularly in public debate. Examples of this include media articles in the Herald and Scotsman which both reference weekly Accident and Emergency (A&E) statistics. The former First Minister also quoted these statistics to address the stabilising of A&E figures in her winter pressures briefing in January 2023. A&E waiting times were of high public interest prior to the COVID-19 pandemic and this interest has continued due to the ongoing demand facing hospital A&E units. A&E waiting times are also an important indicator used by NHS Performs to assess how hospitals and NHS Boards within NHS Scotland are performing.

2. Public Health Scotland (PHS) publishes a weekly update of emergency department activity and waiting times statistics. It also publishes monthly A&E statistics which have already been assessed as National Statistics. PHS asked the Office for Statistics Regulation (OSR) to assess its weekly statistics so that users could have the same accreditation assurance across both sets of statistics. In requesting this assessment, the team demonstrated its commitment to produce statistics that meet the standards required of National Statistics and the Code of Practice for Statistics.

3. The Scottish Government has set a target that 95% of people attending A&E should be seen, admitted, discharged or transferred within four hours of arrival. Overall A&E statistics are released once a month because data for some smaller sites are currently available only monthly. Weekly statistics contain all the emergency department data provided weekly by the NHS Boards and are released every Tuesday. Performance against the 95% target is formally monitored using the monthly A&E waiting times figures as those statistics include all relevant units and departments that constitute A&E services. However, the weekly emergency department statistics are often compared against that target by others too. In addition, due to the regularity of these statistics, the media often compare fluctuations across hospitals on a weekly basis.

4. The weekly statistics show the number of unplanned attendances at emergency departments in NHS Scotland. This includes the percentage of patients seen and subsequently admitted, as well as transfers or discharges within four hours, over eight hours and over 12 hours. Monthly A&E statistics cover these metrics and provide breakdowns on the demographics of patients and when they attend by NHS Board, hospital location and type of referral. PHS also publishes interactive charts allowing users to determine what happens to patients following A&E attendance at hospital level.

5. In January 2023, PHS launched a new platform to present both the monthly and weekly A&E activity data and statistics. The aim of this platform is to enhance accessibility to A&E information by putting it all in one place, and to increase users' understanding of the differences between the monthly and weekly statistics, helping them to use the data appropriately.

6. In May 2023, the original publications for weekly and monthly statistics were discontinued, so now this platform is the primary method of accessing these statistics. The development of the new platform demonstrates the team's creativity and desire to innovate to continually improve the statistics.

7. During the course of the assessment, we identified improvements that we highlighted to PHS. PHS adopted a proactive approach and implemented many of these as it developed the new platform. For example, PHS added a new section on the planned development of A&E statistics providing users with information on the continuing expansion of the range of statistics published. PHS also highlighted ongoing work to improve data quality and the development of user engagement plans.

8. We judge that these statistics require some further improvements to meet the standards of the Code and have identified three requirements that PHS needs to address for the statistics to become National Statistics. PHS has committed to implement these by September 2023.

Value

Meeting Users' Needs

9. As a topic of high public interest, we found a varied user base for both the weekly and monthly statistics. We identified users from Scottish Government, other public sector bodies, the Scottish Parliament, health think-tanks, and the media. Examples of uses of the statistics included Audit Scotland who use the monthly statistics to scrutinise NHS Boards' performance and in a report about NHS recovery. We also heard that the media use the statistics to assess trends in performance across hospitals. Use of the statistics also extends beyond Scotland, with organisations including health think-tanks using them to compare A&E performance across the UK.

10. Overall, the statistics were considered very useful, with users appreciating the timeliness and granularity as well as the variety of formats that are used for publication. There was also positive feedback on the new platform and how PHS outlines in the overview that there are some differences between the monthly and weekly statistics. In this section, PHS defines the different categories of emergency departments in Scotland and explains that data for some of the smaller sites are collected only monthly. There is also a helpful glossary which explains some of the technical terminology for users who are unfamiliar with this. However, despite all of these efforts, we heard from some users that they were still not aware that there were differences between the two sets of statistics.

11. The new platform should also help to encourage a wider user base with the functionality to extract granular data at hospital or board level allowing users to interpret trends. This ultimately should aid the local implementation of initiatives to tackle A&E waiting times and support patients to access the right care at the right time.

12. PHS presents the statistics in a variety of formats, supporting different user needs and preferences. These formats include interactive charts, csv files, Excel tables and open data. The interactive charts were particularly useful to users we spoke to, with some finding the ability to select individual hospitals and see their performance over time helpful. We also heard that the open data are used for carrying out further analysis and creating new data visualisations.

13. PHS provides contextual information on performance monitoring and on the Redesign of Urgent Care in the overview page of the new platform. The 'main points' pages provide summaries of the latest information, which are updated

monthly and weekly. In its newly published workplan, PHS is planning further developments such as including more detailed commentary to put the figures into context (for example, whether or why the latest number of attendances is different from the previous week's figures).

14. PHS engaged with its key stakeholders (Scottish Government and NHS Boards) and acted on their feedback during the development of its new platform. The teams across Scottish Government that we interviewed spoke highly of their regular engagement with PHS. The platform also has an online feedback form asking questions about the format of the statistics and the ease of locating required information. However, given the high public interest, PHS's user engagement is quite limited in terms of user types. Currently, user engagement beyond Scottish Government and NHS Boards does not form a regular part of the production process. Following our feedback, PHS is planning to extend its user engagement and has set out a draft engagement plan up to December 2023 to consult with a range of groups. This is under PHS internal review and will be published in due course. PHS has added some further detail on user engagement about these statistics in its section on Regular User Engagement.

    Requirement 1: PHS should regularly engage with a wider range of users to understand their needs and implement ongoing improvements to the statistics. For example, PHS could consider targeting known users such as the media, wider public sector bodies, academics and parliamentary researchers in order to understand ways in which the statistics can be further developed in order to enhance their public value.

Innovation and Improvement

15. PHS demonstrates a strong commitment to ongoing innovation and improvement in several ways. This includes the development of the new platform, as discussed above, provision of open data and development of traditional production processes to follow Reproducible Analytical Pipeline (RAP) principles.

16. PHS follows RAP principles and uses an automated process to produce the month and weekly data. All code is subject to version control and stored on a private Github repository. The PHS data science team publishes R coding standards which are followed closely. We support PHS's plans to further enhance these processes by introducing automated testing to the code.

17. We understand that PHS plans to review unscheduled care patient pathways to determine variations in data collections across the NHS Boards. NHS Boards vary in how unscheduled care services are configured and PHS conducted a mapping exercise to help understand the variations across Scotland. An expert group is expected to be established in late summer 2023 to discuss definitions around the four-hour performance standard and agree any recommendations that would support improved quality and consistency with the national data returns. We welcome PHS's desire to publish these recommendations later in 2023.

18. PHS now publishes weekly open data alongside the monthly open data. This enhances the value of the statistics for users who wish to carry out their own analysis.

Comparability of A&E statistics

19. To aid user understanding and support appropriate use of the statistics, PHS has included a section on comparability across sites in Scotland. This explains some nuances in service delivery and site differences, which can impact comparability. PHS explains that although A&E data should include trolleyed areas of assessment units, this is often not distinguishable in the raw data and therefore not always possible to separately identify that this is the case in the data outputs.

20. Hospital waiting times comparisons across the four nations often feature high in the media and in public debate. Unsurprisingly, we heard that some users wish to compare A&E statistics across the home nations. PHS includes information about the limitations of doing this in the comparability section, which are largely due to differences in service delivery and definitions in the four nations. For example, there are differences between Scotland and England in how the four-hour standard is defined i.e. in Scotland if a person is taken to A&E by ambulance the clock for the four-hour standard starts when the ambulance arrives at the A&E facility and registers with the A&E department. In England for similar cases the clock starts when handover to the A&E department occurs or 15 minutes after the ambulance arrives. PHS also points users towards to the NHS Digital annual comparison across the four nations which it considers the best source on comparable A&E data. However, further guidance on the differences in waiting times statistics across the UK would help users to make appropriate comparisons where possible. This is particularly important when the four nations' waiting times are compared publicly, for example in the media or parliament.

21. The UK Health Statistics Steering Group (UKHSSG) is responsible for improving the coherence and accessibility of health and social care statistics across the UK. Within the UKHSSG, theme groups have been established which recognise the importance of UK wide coherence including one on cross-UK performance statistics. This group aims to provide meaningful comparisons of secondary care waiting times and performance statistics across the UK. Staff from PHS participate in this group and there are links to the Government Statistical Service page which provides further information about the comparability of waiting times statistics across the four nations.

    Requirement 2: PHS should clearly signpost the work of the UKHSSG so that users can understand issues around UK comparisons. Information on what can and cannot be compared to Scottish A&E data and why should be clearly stated. PHS could also consider separating the UK comparability section from the service delivery comparability section, so it is easily locatable for users.

Quality

Improving Quality Information

22. During the course of the assessment, PHS has improved its signposting to quality information and links to sources under the section on Metadata. We highlighted to PHS that some documentation such as the A&E Datamart User Guide had legacy branding or older revision dates. We heard from some users that this could sometimes be confusing to users and could lead them to navigating to redundant pages. PHS has now adopted an ongoing proactive approach to reviewing legacy documents posted on its website.

23. Data suppliers (NHS Boards) that we heard from are confident about the data extraction and submission process as the hospital data collection systems have been operational for a number of years. PHS provides detailed guidance to data suppliers, who run reports to identify data anomalies and sense check data prior to sending it to PHS. Some NHS Boards check these anomalies with clinical staff to assure their validity. Currently there is one scheduled meeting a year between data suppliers and PHS. We heard from PHS and NHS Boards that this frequency is adequate although we support PHS's commitment to reviewing this schedule to check whether more frequent meetings would be helpful.

24. The new platform originally had a section on data quality which stated that 'aggregate returns are subject to only basic quality assurance checks. NHS Boards are required to confirm to PHS that the statistics are accurate.' We considered that this did not sound reassuring to users and did not reflect the robust quality checks that PHS carries out. We suggested that PHS should be more explicit in how it assures itself that the data it collates are of sound quality. In response to this, PHS reworded the section to say 'PHS works closely with colleagues in the NHS Boards to improve the validation and accuracy of the data and to ensure that the appropriate data standards are understood and applied by all sites. This takes place on a continuous basis, as queries or potential issues arise.'

25. We welcome the approach that PHS has recently undertaken to quality assure its administrative data (QAAD). By applying the QAAD principles, the Content Review Board within PHS has deemed that the A&E dataset meets level A2 enhanced assurance. This means that PHS has evaluated its own administrative data quality assurance arrangements against a medium level of public interest in the statistics and published a fuller description of the assurance.

26. PHS has made a concerted effort to improve its communication about the differences between the weekly and monthly statistics. It has published improved information on what sites are included in the monthly statistics and explanations that some smaller sites are not included in the weekly statistics. We noted initially that monthly calculations were based on the date and time of arrival of the patient, whereas for weekly statistics the date and time of discharge was used. Since 2 May 2023, PHS has publicly stated that the two calculations align and that both use the date and time of arrival of the patient. We welcome this move to be consistent, particularly as some users were still not aware that there were differences between the two sets of statistics. We expect PHS to review and consult further on this issue with users, to ensure that the publication adequately explains the differences between the two sets of statistics throughout the platform. This could form part of the user engagement that PHS has committed to carrying out during the summer/autumn 2023.

27. PHS has published a revisions statement explaining that given the dynamic nature of the A&E dataset, figures may be subject to change in future releases. It is good that PHS has also committed to considering how to improve its communication of uncertainties in the data.

Requirement 3: PHS should consider further ways to communicate uncertainty in the statistics to aid their interpretation. It would also support interpretation of the statistics if the target for 95% of patients waiting four hours could be represented on the charts.

Trustworthiness

28. As one of the main producers of official statistics on health care in Scotland and instrumental in the creation of the Scottish COVID-19 dashboard, PHS is a trusted and respected statistics producer. Staff are encouraged to undergo training the Code of Practice for Statistics and application of RAP principles is encouraged throughout the organisation. There are processes in place to ensure that staff are familiar with data governance legislation and a policy in place to avoid collecting identifiable information. There is a Statistical Disclosure Protocol which is followed for both the weekly and monthly publication to protect patient confidentiality.

29. PHS produces statistics in an impartial and accurate way. It recognises the need to be clear and consistent on definitions so that hospitals collect the data consistently. PHS is currently setting up a Statistics and Analytical Advisory Group which will focus on communicating methods and governance in accordance with the Code of Practice for Statistics.

30. PHS has recently updated its website with further information on who receives early access for quality assurance purposes. However, we identified that the pre-release access (PRA) list is fairly long. Whilst we recognise that the 14 NHS Boards all receive PRA, it is good practice to regularly review PRA lists to ensure that individuals that may no longer need early access are removed. The PHS Statistical Governance team has committed to reviewing the PRA list for both the weekly and monthly statistics this year, in order to ensure that everyone included does require access under PRA legislation and remove any legacy members. The list will also be updated to include roles and organisations.

31. During this assessment, we identified several minor areas for improvement related to transparency. All of these were addressed promptly by PHS. These were:

    - An update to include a named statistician on the release, as well as a generic mailbox for queries.
    - A section on planned developments of A&E statistics including the additional statistics that PHS wishes to publish and a section on improving data and interpretation
    - Clearer information on when the monthly and weekly statistics are updated.