



## BACKGROUND QUALITY REPORT: EMERGENCY CARE AND AMBULANCE STATISTICS

<b>Introduction</b>	<p>Principle 4 of the Code of Practice for Official Statistics states that statistical methods should be consistent with scientific principles and internationally recognised best practices, and be fully documented. Quality should be monitored and assured taking account of internationally agreed practices.</p> <p>The full text of the Code is available at:</p> <p><a href="http://www.statisticsauthority.gov.uk/assessment/code-ofpractice/index.html">http://www.statisticsauthority.gov.uk/assessment/code-ofpractice/index.html</a></p> <p>Each Official and National Statistics output produced by Hospital Information Branch (HIB) within the Department of Health (DoH) contains key quality information in respect of the specific content of the statistical output. This information is provided in the definitions, notes to tables or notes to editors.</p>
<b>Publication</b>	Northern Ireland Hospital Statistics: Emergency Care
<b>Department responsible</b>	Department of Health (DoH)
<b>Release Date</b>	Annual
<b>Web Link to Publications</b>	<a href="https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics">https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics</a>
<b>Background</b>	<p>Information on the time spent waiting in emergency care departments in Northern Ireland is collected on a monthly basis but published on an annual basis.</p> <p>Patients attending emergency departments (EDs) are categorised as: a new attendance, unplanned review or planned review attendance. Information on waiting times refers only to new and unplanned review attendances, with the waiting time commencing when their details are recorded at reception of the ED, or when they have been transported into in the ED by ambulance staff. They stop waiting when they are discharged home or admitted to hospital from the ED.</p> <p>Information is also presented on the time waited between key milestones during a patient's journey, whilst they are being</p>

	<p>cared for in the emergency care department, including the time to triage (assessment) and time to start of treatment.</p> <p>Information on the number of (a) new attendances (b) unplanned review attendances (c) planned review attendances, and (d) total attendances per quarter is sourced from the KH09 Part 2 aggregate return. The KH09 Part 2 return is provided on a quarterly basis only and cannot be broken down by month.</p> <p>Information on emergency care waiting times is sourced from the Regional Data Warehouse <sup>1</sup> on 8<sup>th</sup> day of each month for all ED's. Data for the Royal Acute Eye Service, up to and including 31<sup>st</sup> March 2018, was sourced directly from the Belfast HSC Trust in the form of an aggregate manual return.</p> <p>HSC Trusts are provided with technical guidance outlining the methodologies to be used in the collection, reporting and validation of emergency care waiting times, which can be accessed at the link below:</p> <p><a href="https://www.health-ni.gov.uk/publications/emergency-care-activity-returns-and-guidance">https://www.health-ni.gov.uk/publications/emergency-care-activity-returns-and-guidance</a></p> <p>The report also presents information on emergency response times for emergency calls and the number of patient journeys by the Northern Ireland Ambulance Service (NIAS). Information is received on the 10<sup>th</sup> of each month from NIAS but published on an annual basis.</p> <p>Emergency calls will begin waiting once the following details of the call have been ascertained:</p> <ul style="list-style-type: none"><li>• Caller's telephone number;</li><li>• Exact location of the incident; and</li><li>• Nature of the chief complaint (this may be prior to allocation of the dispatch code).</li></ul> <p>The "clock stops" when the emergency response vehicle arrives at the scene of the incident.</p> <p>NIAS are provided with technical guidance outlining the methodologies to be used in the collection, reporting and validation of ambulance information, which can be accessed at the link below:</p> <p><a href="https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics#toc-1">https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics#toc-1</a></p>
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<sup>1</sup> Regional Data Warehouse is a secure repository of information sourced from HSC administrative and management systems. Data is refreshed and updated on a daily basis.

## Dimensions of Quality

Dimension	Assessment
<p><b>Relevance</b></p>	<p><b>The degree to which the statistical product meets user needs in both coverage and content.</b></p> <p>The Northern Ireland Hospital Statistics Emergency Care publication provides a yearly analysis of attendances at EDs by attendance type, and waiting times at each ED in Northern Ireland, including a breakdown by the Type of ED. Data is also available on the time waited between key milestones during a patient's journey, whilst they are being cared for in the emergency care department, including:</p> <ul style="list-style-type: none"> <li>• Total attendances each month;</li> <li>• Time waiting from arrival to triage;</li> <li>• Time waiting from triage to start of treatment;</li> <li>• Number of re-attendances within 7 days;</li> <li>• Number leaving before treatment complete;</li> <li>• Time waited for patients admitted to hospital;</li> <li>• Time waited for patients not-admitted; and,</li> <li>• Attendances which were referred by a GP.</li> </ul> <p>The Northern Ireland Hospital Statistics Emergency Care publication also provides information on response times for emergency calls and the number of patient journeys made by NIAS, including the following:</p> <ul style="list-style-type: none"> <li>• Number of emergency calls received;</li> <li>• Number of incidents;</li> <li>• Number of Category 1 incidents;</li> <li>• Category 1 mean and 90th percentile response times;</li> <li>• Number of Category 1T incidents;</li> <li>• Category 1T mean and 90th percentile response times;</li> <li>• Number of Category 2 incidents;</li> <li>• Category 2 mean and 90th percentile response times;</li> <li>• Number of Category 3 incidents;</li> <li>• Category 3 mean and 90th percentile response times;</li> <li>• Number of Category 4 incidents;</li> <li>• Category 4 mean and 90th percentile response times;</li> <li>• Number of IFT responses;</li> <li>• Number of HCP responses.</li> </ul> <p>The main customers of emergency care and ambulance information are policy officials in the Department of Health's Secondary Care Directorate and NIAS.</p>

	<p>The Strategic Planning and Performance Group (SPPG) and HSC Trusts are also users of the waiting times and ambulance information. The information is also of interest to the media, academics and the general public.</p>
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<p><b>Accuracy and Reliability</b></p>	<p><b>The proximity between an estimate and the unknown true value.</b></p> <p>Emergency care attendances are recorded for 100% of EDs in Northern Ireland, with the time waited being reported for all new and unplanned review attendances at these EDs during each calendar month. As this data collection represents a census of all new and unplanned attendances at EDs there is no error associated with statistical sampling techniques.</p> <p>HSC Trusts are provided with technical guidance outlining the methodologies to be used in the collection, reporting and validation of emergency care waiting times, which can be accessed at the link below:</p> <p><a href="https://www.health-ni.gov.uk/publications/emergency-care-activity-returns-and-guidance">https://www.health-ni.gov.uk/publications/emergency-care-activity-returns-and-guidance</a></p> <p>This guidance indicates that each HSC Trust will provide HIB with a KH09a(ii) return on a quarterly basis. The collated data on attendance type are stored in a dedicated database on a secure drive before being processed and validated. Information is validated with each HSC Trust at the end of the year prior to publication.</p> <p>This guidance indicates the date that HIB will extract the information on waiting times from the Regional Data Warehouse in each month for all EDs. Data for the Royal Acute Eye Service, up to and including 31<sup>st</sup> March 2018, was sourced directly from the Belfast HSC Trust in the form of an aggregate manual return. Downloaded data is stored in a secure drive before being processed and validated. During this stage, attendances which do not meet criteria outlined in the technical guidance are excluded. HIB then liaise with each HSC Trust regarding any queries which result from validation of the data, i.e. inappropriate dates, excessive waiting times.</p> <p>Data on source of referral, destination on discharge from ED and method of arrival on ED administrative systems is currently recorded as free text. To enable analysis of this at a regional level, HIB manage the coding of these variables, querying new codes identified each month with the relevant HSC Trust.</p>
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HIB and HSC Trust information staff meet regularly through a number of Information groups (i.e. Hospital Information Group and ED User Group) to discuss issues regarding collection, definitions, data quality or anything else of relevance, although any concerns can also be communicated via telephone or email at any stage.

In addition to this, HSC Trusts have their own internal quality assurance checks and carry out data validation checks to ensure consistency in the data produced by HIB. Any data quality issues are dealt with reactively and resolved as they arise. HSC Trusts have dedicated data quality resources to proactively manage data quality challenges across the organisations. Clinical Coding Departments carry out internal data quality audits and are externally audited by SPPG.

HIB validates attendance type information with each HSC Trust at the end of the year prior to publication.

Any irregularities identified are queried with the HSC Trust for response. HSC Trusts are asked to provide a response on the query and confirm if the data is correct. If not correct, the HSC Trust will provide an explanation of the error and subsequently submit the correct data in the form of an amendment to the return. Data will then be updated on the HIB database.

HIB validates emergency care waiting times information by:

- Performing trend analysis on previous month/year's data;
- Identifying outlying data on time waited for triage, treatment or admission / discharge; and
- Carrying out checks on the date/time of key milestones during a patients' attendance at ED, to ensure that these are correct and not out of sync.

Any irregularities identified are queried with HSC Trusts for response. HSC Trusts are asked to provide a response on the query and confirm if the data is correct. If not correct, the HSC Trust indicates the correct information and an explanation for the error. Data will then be updated on the administrative system, which will be loaded into the regional Data Warehouse for the start of the following day.

HIB will re-download data for the HSC Trust and re-generate the data once the HSC Trust indicates that the administrative system has been updated.

Ambulance information is recorded for all Local Commissioning Groups (LCG's) in Northern Ireland, with the number of emergency calls and the time waited being reported for all journeys during each calendar month. As this data collection

represents a census of all journeys made by NIAS there is no error associated with statistical sampling techniques.

NIAS are provided with technical guidance outlining the methodologies to be used in the collection, reporting and validation of emergency care waiting times, which can be accessed at the link below:

<https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics#toc-1>

This guidance indicates NIAS will provide ambulance information on the 10<sup>th</sup> of each month. Data is stored in a secure drive before being processed and validated. HIB then liaise with NIAS regarding any queries which result from validation of the data, i.e. unusually large number of calls, excessive waiting times.

HIB and NIAS communicate regularly via telephone or email to discuss issues regarding collection, definitions, data quality or anything else of relevance.

In addition to this, NIAS have their own internal quality assurance checks and carry out data validation checks to ensure consistency in the data produced by HIB. Any data quality issues are dealt with reactively and resolved as they arise. NIAS have dedicated data quality resources to proactively manage data quality challenges. NIAS carry out internal data quality audits and are externally audited by SPPG.

HIB validates ambulance information by:

- Performing trend analysis on previous month/year's data; and,
- Identifying outlying data;

Any irregularities identified are queried with NIAS for response. NIAS are asked to provide a response on the query and confirm if the data is correct. If not correct, NIAS indicates the correct information and an explanation for the error. Data will then be updated on the administrative system, and HIB's records.

<p><b>Timeliness and Punctuality</b></p>	<p><b>Timeliness refers to the time gap between publication and the reference period. Punctuality refers to the gap between planned and actual publication dates.</b></p> <p>ED attendances, waiting times and ambulance data are published on an annual basis, approximately 7 weeks after the end of the financial year. Information published presents an analysis of ED attendances, waiting times and ambulance information during the last year with a comparison to the previous year.</p> <p>As per the requirements of the UK Statistics Authority the month of publication is announced a year in advance and the day of publication one month in advance of publication (available on <a href="https://www.gov.uk/">https://www.gov.uk/</a>).</p> <p>Information on attendances in EDs detailed in the Northern Ireland Hospital Statistics Emergency Care publication is sourced from the KH09a(ii) aggregate return submitted by each HSC Trust to HIB on a quarterly basis. Information on waiting times in EDs is sourced from the Regional Data Warehouse on the 8<sup>th</sup> day of each month for all EDs. Data for the Royal Acute Eye Service, up to and including 31<sup>st</sup> March 2018, was sourced directly from the Belfast HSC Trust in the form of an aggregate manual return. Ambulance information is sourced directly from NIAS on the 10<sup>th</sup> of each month.</p>
<p><b>Accessibility and Clarity</b></p>	<p><b>Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.</b></p> <p>The annual ‘Northern Ireland Hospital Statistics: Emergency Care’ National Statistics publication includes data visualisations, tabular data and commentary. In addition to this, all data tables are published in both Excel and Open Data Spreadsheet formats.</p> <p>The report includes notes for readers which cover: background to National Statistics; guidance on using the data and information on the types of EDs. It also details important links to additional guidance for readers on: the data collection, provision of data, data quality, contextual information, security and confidentiality, guidance on comparing ED waiting times across the UK and additional guidance on important terms and phrases.</p> <p>Emergency care attendances, waiting times and ambulance information are currently produced in PDF format and available to view / download on the Department’s website (link below):</p>

	<p><a href="https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics">https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics</a></p> <p>A summary infographic of the key facts from each release is also published on the Department's website at the link above.</p>
<p><b>Coherence and Comparability</b></p>	<p><b>Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain.</b></p> <p>Information in the 'Northern Ireland Hospital Statistics: Emergency Care' publication on the number of (a) new attendances (b) unplanned review attendances (c) planned review attendances, and (d) total attendances per quarter is sourced from the KH09 Part 2 aggregate return. The KH09 Part 2 return is provided to HIB on a quarterly basis by each HSC Trust.</p> <p>Information on emergency care waiting times reported in the 'Northern Ireland Hospital Statistics: Emergency Care' publication is based on information recorded by each ED in their respective administrative systems which record ED activity (Northern Ireland Regional Accident &amp; Emergency System &amp; SYMPHONY). HIB access this information from the Regional Data Warehouse on the 8<sup>th</sup> of each month for all EDs. Data for the Royal Acute Eye Service, up to and including 31<sup>st</sup> March 2018, was sourced directly from the Belfast HSC Trust in the form of an aggregate manual return.</p> <p>Comparability of emergency care data is dependent on the subject area, as prior to 2014, the level of detail available on emergency care waiting times was limited for each ED.</p> <p>Between 2008 and 2014, the only ED waiting times information released related to performance against the ED waiting times target for each department, i.e. under 4 hours, 4 to 12 hours and over 12 hours.</p> <p>However, following the introduction of the ED clinical quality indicators in April 2014, comparable information is available for each of the areas below:</p> <ul style="list-style-type: none"> <li>• Total attendances each month;</li> <li>• Time waiting from arrival to triage;</li> <li>• Time waiting from triage to start of treatment;</li> <li>• Number of re-attendances within 7 days;</li> <li>• Number leaving before treatment complete;</li> <li>• Time waited for patients admitted to hospital;</li> <li>• Time waited for patients not-admitted; and,</li> <li>• Attendances which were referred by a GP.</li> </ul>



ED attendances and waiting times information is also broadly comparable across each of the four UK jurisdictions; although, there are a number of key differences in how emergency care waiting times are reported in each. With this in mind, we would ask readers to be cautious when making comparisons across the UK.

In particular, readers should avoid making comparisons between Northern Ireland and England on the 12 hour measurement, as these are not equivalent measures. Additional information on comparing emergency care waiting times information for Northern Ireland and England is detailed on pages 11 – 13 of the 'Additional Guidance' document at the link below:

<https://www.health-ni.gov.uk/publications/emergency-care-waiting-times-additional-guidance>

DoH statisticians have also liaised with colleagues in England, Scotland and Wales to clarify differences between the emergency care waiting times reported for each administration and have produced a guidance document to provide readers with a clear understanding of these differences (link below).

<https://www.health-ni.gov.uk/publications/emergency-care-waiting-times-additional-guidance>

HSC Trust are provided with technical guidance outlining the methodologies to be used in the collection, reporting and validation of emergency care attendances and waiting times, which can be accessed at the link below:

<https://www.health-ni.gov.uk/publications/emergency-care-waiting-times-additional-guidance>

This guidance indicates that data on ED attendance type is submitted to HIB by each HSC Trust on a quarterly basis in the form of a KH09a(ii) aggregate return. The date HIB will extract the ED waiting times information from the Regional Data Warehouse in each month for all ED's is also indicated.

Ambulance information in the 'Northern Ireland Hospital Statistics: Emergency Care' publication is based on information recorded by NIAS. HIB receive an aggregate summary of ambulance information from NIAS on the 10<sup>th</sup> of each month.

Comparability of ambulance information is dependent on the subject area, as prior to 2014, category C calls were based on calls made by members of the public. However, as of 14<sup>th</sup> June 2014, the number of category C calls also includes calls made by Health Care Professionals (HCP).

In November 2019, a new Revised Clinical Response Model (CRM) was introduced by the NIAS, which changed the way calls were handled and categorised by the NIAS. This led to a change in the way the NIAS handled urgent and emergency calls but

	<p>brought the NIAS in line with the national Ambulance Response Programme (ARP). Consequently, it was not possible to compare information on calls by category prior to the change on 12th November 2019.</p> <p>Ambulance information is not comparable across the four UK jurisdictions. With this in mind, we would ask readers to be cautious when making comparisons across the UK.</p> <p>HSC Trust are provided with technical guidance outlining the methodologies to be used in the collection, reporting and validation of emergency care waiting times, which can be accessed at the link below:</p> <p><a href="https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics#toc-1">https://www.health-ni.gov.uk/articles/emergency-care-and-ambulance-statistics#toc-1</a></p>
<p><b>Trade-offs between Output Quality Components</b></p>	<p><b>Trade-offs are the extent to which different aspects of quality are balanced against each other.</b></p> <p>None</p>
<p><b>Assessment of User Needs and Perceptions</b></p>	<p><b>The processes for finding out about users and uses, and their views on the statistical products.</b></p> <p>Data presented in this publication helps to meet the information needs of a wide range of internal and external users.</p> <p>Within DoH, the ‘Northern Ireland Hospital Statistics: Emergency Care’ statistical publication is used by policy officials to monitor demand / provision of emergency care and ambulance services, to help assess HSC Trust performance, to help assess NIAS performance, for corporate monitoring, to inform and monitor related policy, for Ministerial briefing and to respond to Private Office enquiries and parliamentary/ assembly questions.</p> <p>It is also used by researchers looking at NIAS and HSC Trust performance and by service users and other members of the general public to hold NIAS and HSC Trusts and government to account.</p> <p>User feedback is invited in this publication. Readers are provided with contact details for the relevant statistician. Further details are placed on the statistics website:</p> <p><a href="https://www.health-ni.gov.uk/topics/doh-statistics-and-research/officialstatistics-and-user-engagement#toc-4">https://www.health-ni.gov.uk/topics/doh-statistics-and-research/officialstatistics-and-user-engagement#toc-4</a></p>
<p><b>Performance, Cost and Respondent Burden</b></p>	<p>Emergency attendances are sourced from the KH09a(ii) aggregate manual return submitted by each HSC Trust to HIB on a quarterly basis. Waiting times are generated directly from the administrative systems used to manage the emergency care service in each emergency care department. Ambulance data is generated directly from the administrative systems used to</p>

	<p>manage the NIAS service. Using data which is already available within administrative systems places a reduced burden on data providers and also means that HIB avoid the costs of implementing dedicated data collection exercises.</p>
<p><b>Confidentiality, Transparency and Security</b></p>	<p><b>The procedures and policy used to ensure sound confidentiality, security and transparent practices.</b></p> <p>Emergency care attendances data is sourced from the KH09a(ii) aggregate manual return submitted by each HSC Trust to HIB on a quarterly basis. The collated data on attendance types are stored on a dedicated database on a secure drive before being processed and validated. Information is validated with each HSC Trust at the end of the year prior to publication.</p> <p>Emergency care waiting times data is extracted from the information from the Regional Data Warehouse <sup>2</sup> for all EDs. Data for the Royal Acute Eye Service, up to and including 31<sup>st</sup> March 2018, was sourced directly from the Belfast HSC Trust in the form of an aggregate manual return.</p> <p>The downloaded data is stored in a secure drive before being processed and validated. Data is then processed as per the agreed technical guidance within 2 days of being downloaded.</p> <p>Ambulance data is received from NIAS on a monthly basis. The data is stored in a secure drive before being processed and validated.</p> <p>All information produced is aggregated and treated for confidentiality prior to release. HIB's 'Statistical Policy Statement on Confidentiality' can be found in the Statistics Charter at:</p> <p><a href="https://www.health-ni.gov.uk/publications/doh-statistics-charter">https://www.health-ni.gov.uk/publications/doh-statistics-charter</a></p>

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<sup>2</sup> The Regional Data Warehouse is a secure repository of health care information sourced from HSC administrative and management systems. It is refreshed and updated on a daily basis.