111 online publication

Data quality statement

Contents

Background

111 online (https://111.nhs.uk/) is a fast and convenient alternative to the 111 phone service. People enter some information about themselves and their main symptom and are then asked a series of questions about their health problem. They can find out how to get the right healthcare in their area, such as whether they need to see a GP or seek urgent care.

111 online can be used to triage people aged 5 and over, or to obtain emergency repeat prescriptions for people of any age (from March 2023 onwards).

The website is built and maintained by the 111 online team in NHS England. Data on all activity carried out via the website is collected and stored on our secure cloud platform.

The data must go through multiple layers of processing before it can be analysed. All identifiable data is removed before it reaches the analysis stage and is only accessed in exceptional circumstances.

Data quality issues for the 111 online dataset can be present at both the data collection and data analysis stages.

Data collection

Data is collected automatically via the website and the 111 online team determines what information is audited. As the service is continually evolving, updates to the auditing process are common. If one of these updates impact the quality of the statistics presented in this publication it will be documented in Changes to the service and data quality updates.

Changes to the service can also impact metrics legitimately, rather than due to data quality reasons. When we expect a large change to the service to affect measures, we will also detail this in Changes to the service and data quality updates.

Data analysis

The data audited from the website is exceedingly complex, and there are often many ways to approach the same analytical question. This generally stems from the fact that a user's route through the website is rarely linear. Users can use the back button to change their answers, they can complete more than one triage, and they can re-open sessions days or even months later. The Data item specification and glossary gives detail on how this is handled for each measure, but the general approach is to use the last thing that happened that month for that user. The implications of this are discussed further below.

Interpreting user behaviour

Sessions vs journeys

When a user lands on the 111 online homepage, a Session ID is generated. This Session ID can then be remembered by our auditing processes, depending on the user's behaviour and browser settings.

A new Session ID is generated when:

- The user closes the tab looking at 111 and 12 hours pass before they revisit the site

- The user clears their cookies before they revisit the site

The Session ID stays the same when:

- The tab looking at 111 is closed but 111 is visited again within 12 hours

- The page is refreshed or the user clicks on the home page button within 12 hours

- The browser is closed but the user's settings automatically re-load previously open tabs, even after 12 hours

- The tab looking at 111 is kept open, even after 12 hours

A Journey ID is generated when the user selects a pathway from the list of categories or using the search function. Each session can have more than one journey. Around 12% of sessions start more than one journey that day, and around 17% of sessions start more than one journey that month.

Sessions are considered to be a better representation than journeys of one user's experience of the service.

For a visualisation of the user experience, see 'Flow diagram of a session' within the Data item specification and glossary.

Choosing the last activity of the session

Activities can happen more than once within a session, or even within a journey, such as reaching a disposition or sending a referral (see 'Glossary' in Data item specification and glossary for definitions).

Therefore, the metrics in this publication are based on the last thing that happened for that session within the month. This means that:

- If a user completes more than one triage in the same session, only one is counted

- If two users complete a triage each in the same session, only one is counted

- Repeating the analysis on a daily basis and then summing the values across the month would generate a different result to when the month is considered as a whole

For more details on the calculation of each measure and what is considered to be the "last" thing that happened, see the Data item specification and glossary.

Patient location and mapping geographical area

User postcode

Users of 111 online must enter the postcode of where they are at that time before starting a Triage. This is so that they can be shown services available in the area. The postcode provided by the user is used to assign the session an ICB and a Region.

The validity of the postcode is checked, but we do not know whether it represents the accurate location of the patient.

111 online is available in England only, so invalid postcodes or those located outside of England are rejected on entry.

Unknown location

During 2020, 111 online received very high volumes of traffic related to Covid-19. For some of this time, users could complete a simple triage that directed them to information on Covid-19 without having to enter their postcode. This means that there were high volumes of cases without an associated ICB during this time: 20% completed sessions for the whole of 2020 or 45% for March 2020.

Additionally, in extremely rare instances (a total of 132 completed sessions in 2023), postcode does not appear in the dataset used for analysis, even though the user entered it on 111 online.

In all of these cases, the completed sessions with unknown location are included in the national counts, but are not visible in the regional or ICB breakdowns.

Time series

The time series was generated using geographical boundaries and disposition mappings correct at the time of running.

The metrics for January 2022 to June 2023 were calculated in July 2023; the metrics for January 2020 to December 2021 were calculated in August 2023; the metrics for January 2019 to December 2019 were calculated in September 2023.

From July 2023, each month of data is run the following month and added to the time series.

During 2020, the 111 online service was being updated rapidly and frequently to respond to the changing environment caused by Covid-19. New dispositions were created to cover Covid self care, callbacks, and to provide links to online information or test kits. These dispositions and their groupings are listed in the Data item specification and glossary. The impact of the Covid-specific pathways on location information of users is discussed in Patient location and mapping geographical area.

Other disposition-based measures also appear at different points in the time series; this reflects when that disposition group was introduced on 111 online.

The Redirections measure is only provided from November 2022, following a significant re-design of the 111 online homepage to more effectively direct users to the right resources.

Changes to the service and data quality updates

Here we list changes to the 111 online service that may noticeably impact the metrics presented in the publication (from May 2022 only). This is not a comprehensive change log for 111 online, which is a continually evolving service. The addition or removal of a single disposition is not mentioned unless it is believed to be of particular interest.

We also detail known data quality issues that affect specific time periods, in addition to the general notes described in this document that apply to the dataset as a whole.

Start date	End date End date is left blank if the event is a permanent change to the service	Description	Measures potentially affected
06/05/22		A new blood pressure mini-triage was introduced.	Disposition: Other digital services
16/11/22		A new menopause mini-triage was introduced.	Disposition: Other digital services
25/01/23		Dx0009 'Pathway not found 999' was created for emergency situations not catered for by 111 online.	Disposition: Ambulance – category 1 or 2
14/03/23		Emergency prescriptions became available for children aged 0-4.	Disposition: Urgent repeat prescription
27/11/23		A new PMS mini-triage was introduced.	Disposition: Other digital services
04/12/23		The Covid-19 guided entry option was removed from the 111 online homepage.	Redirections
31/01/24		Pathways dispositions Dx01126 and Dx01127 became reachable on 111 online.	Disposition: Ambulance – category 1 or 2

Contact and revisions

This document is produced and maintained by the 111 online team, NHS England, nhs111online@nhs.net.

It is published as part of 111 online statistics, alongside the documents:

- Data item specification and glossary

- 111 online metrics – monthly data files

- 111 online metrics – time series

Publication date	Change
13th July 2023	Initial version
10th August 2023	Time series now starts at January 2021 – updated information in sections 'Time series' and 'Patient location and mapping geographical area'
14th September 2023	Time series now starts at January 2020 – updated information in sections 'Time series' and 'Patient location and mapping geographical area'
12th October 2023	Time series now starts at January 2019 – updated information in section 'Time series'
14th December 2023	New mini-triage introduced – updated information in 'Changes to the service and data quality updates'
11th January 2024	Covid-19 guided entry removed – updated information in 'Changes to the service and data quality updates' Updated information in 'Patient location and mapping geographical area' to include the number of sessions with unknown postcode in 2023
8th February 2024	New dispositions reachable – updated information in 'Changes to the service and data quality updates'