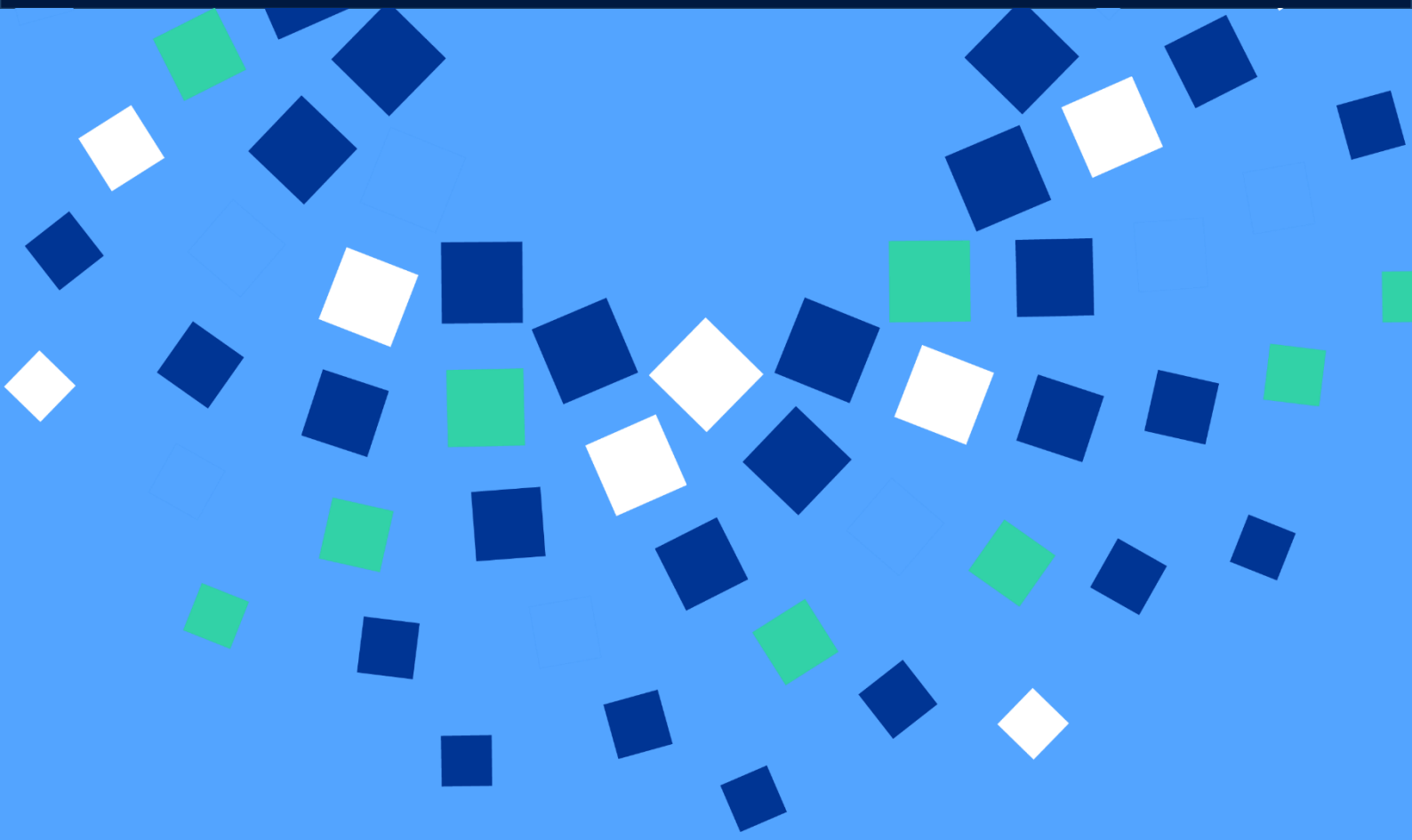
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Data Explained

Emergency Department Dataset (EDDS)

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Date: October 2026

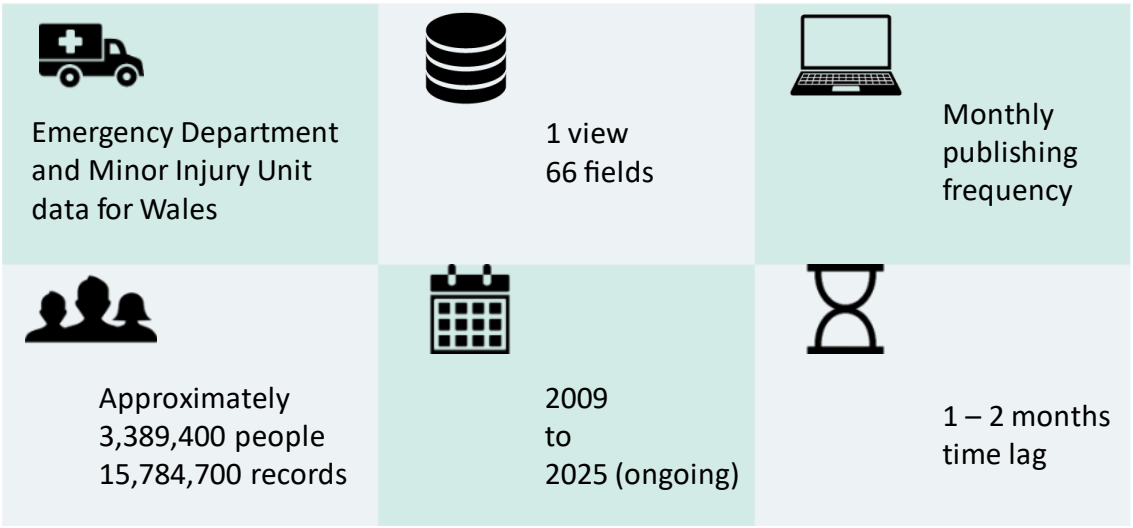


Summary

This Data Explained summarises experiences and learning from working with the Emergency Department Dataset (EDDS). This publication is intended to help guide future researchers using this data and to provide feedback on future data development and documentation.

The administrative data discussed in this Data Explained was made securely available through an approved SAIL project via the independent Information Governance Review Panel (IGRP) – project 1934. The data used in this research project comes from Digital Health and Care Wales (DHCW) and was accessed through the Secure Anonymised Information Linkage (SAIL) Databank. The data were not originally collected for research, and gaps and inconsistencies in their recording are expected; some are detailed below.

Overview



Introduction

The Emergency Department Data Set for Wales (EDDS) contains details about attendances to, and activity in, NHS Wales Emergency Departments and Minor Injury Units (MIUs) (Office for National Statistics, n.d.). Welsh patients treated in English emergency departments are not included, but English patients treated in Welsh emergency departments are.

Emergency Departments (EDs) provide immediate assessment and treatment to patients with serious injuries or illnesses. Major Accident & Emergency (A&E) departments provide a consultant-led service to treat acute illness or injury for patients of all ages, 24 hours a day, with resuscitation facilities and access to specialist diagnostic services. Other EDs and MIUs can also receive accident and emergency patients without appointment, but they do not meet the full criteria for a Major ED department and generally receive and treat less serious illness and injury over more restricted hours (Knowledge and Analytical Services, Welsh Government, 2013).

The EDDS was originally developed to provide the Welsh Assembly Government with information on service management, waiting times, and emergency care (Hawes, 2009). Since 2009, Health Boards (HBs) have been required to

submit data monthly. However, a 2017 review of the EDDS data found it inconsistent and of poor quality, unable to consistently describe the reasons patients attend or the treatments they receive. Therefore, as part of the wider Six Goals Programme for Urgent and Emergency Care, the EDDS will be replaced by the Welsh Emergency Care Data Set (WECDS), which is based on the English Emergency Care Data Set (ECDS) (Welsh Government, 2024). Sites selected as early implementers transferred to WECDS data collection from April 2025. Further information and timelines on when these data sources will become fully operational and complement and/or replace parts or all of EDDS are not currently known, so EDDS will continue to be collected and used as a data source within SAIL.

EDDS coverage began in April 2009 and was still active at the time this report was produced in 2025.

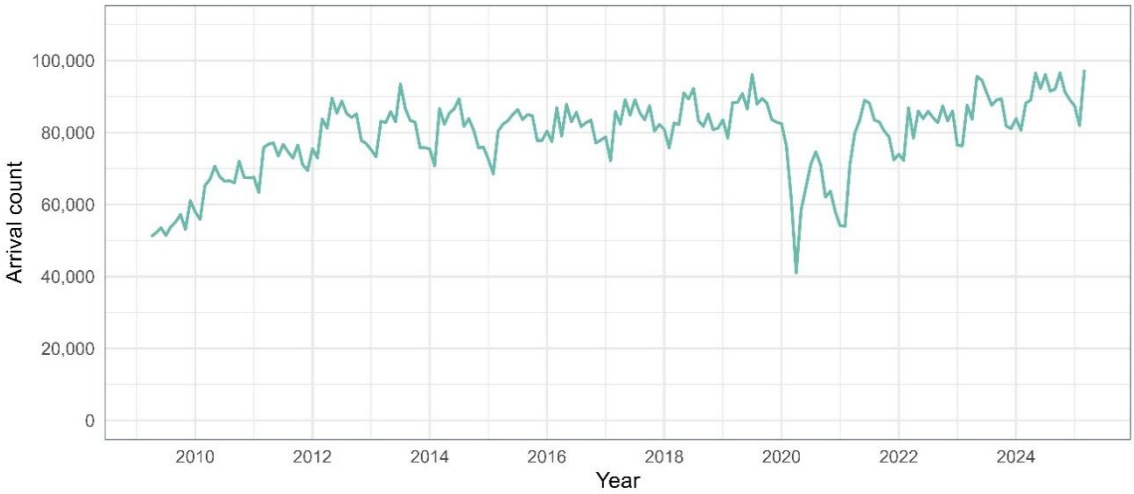


Figure 1 - Count of EDDS arrivals per month.

How is the data collected?

EDDS data are collected and coded at individual hospitals; they are then electronically transferred to NHS Wales (Office for National Statistics, n.d.). Data consistency standards exist for the information submitted by Local Health Boards to improve confidence and ensure it can be actively used in decision-making and service improvement. This includes validation checks, such as ensuring that the arrival date and time occur before the discharge date and time, as well as an expected 100% completion rate for specified fields (Hawes et al., 2012). However, local differences in recording practices may exist, particularly within minor A&E departments and MIUs (HDRUK, 2025). Digital Health and Care Wales (DHCW) receive the individual HB reports and collates them at a national level.

A timeline of key EDDS events is provided below. This list is not exhaustive but aims to cover the most significant changes relevant for data users.

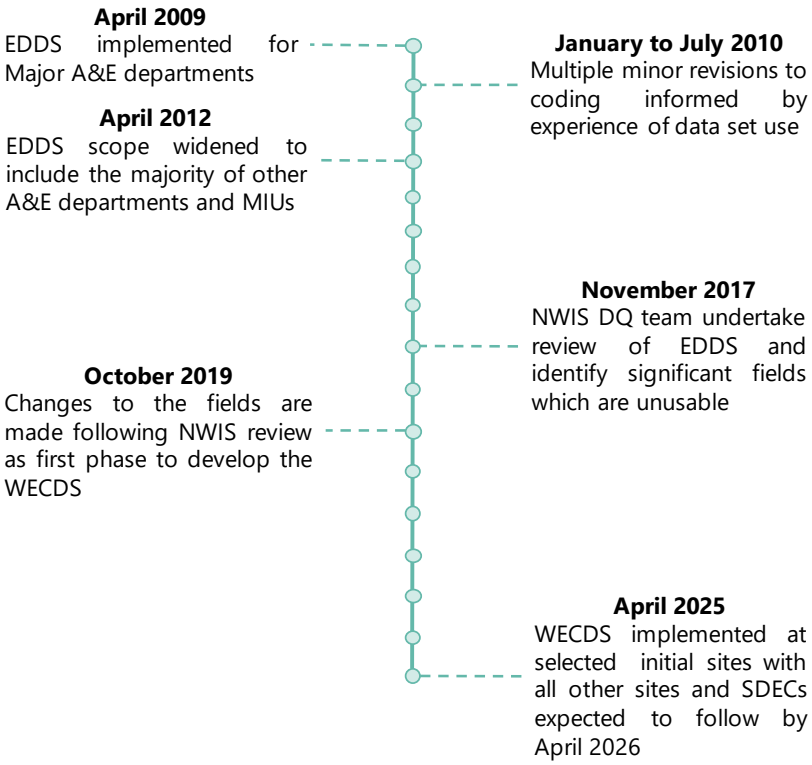


Figure 2 - Timeline of key events impacting the contents of the EDDS.

Data structure and linkage

EDDS is provided within SAIL as a single, individual-level table, with each record representing a unique attendance. The data includes a unique Anonymised Linkage Field (ALF) for each individual, enabling robust linkage to other data sources in the SAIL Databank.

Key variables

Injury and casualty diagnosis data are recorded in three-character alphanumeric format within EDDS, and at least one diagnosis code should be entered for each EDDS attendance record. The most frequently recorded diagnoses are provided below for information.

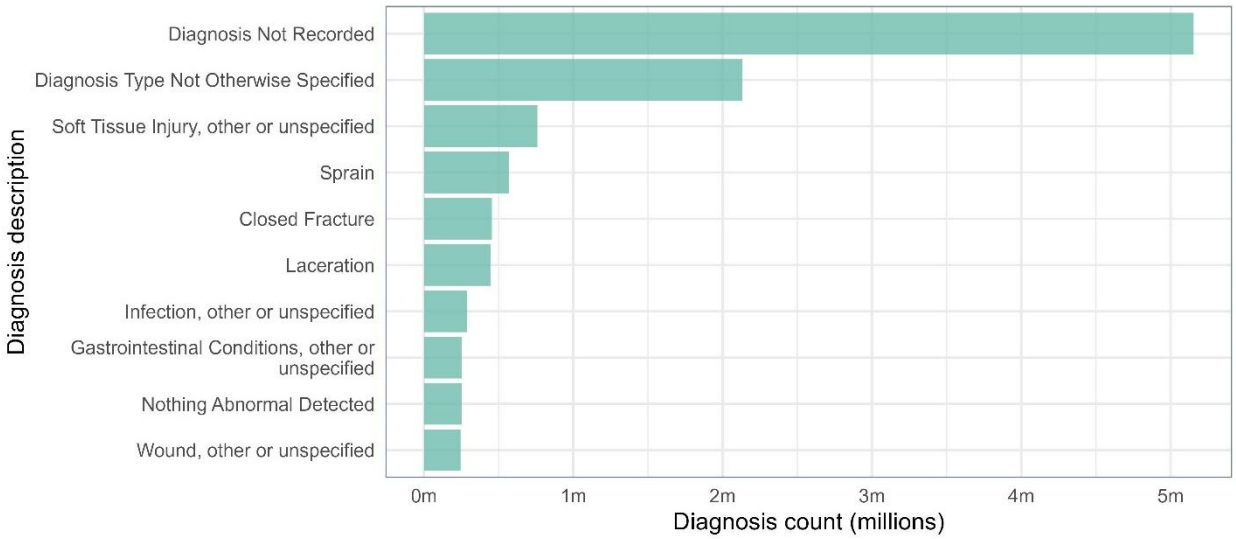


Figure 3 - Counts of the top 10 main diagnoses recorded in the EDDS DIAG_CD_1 field.

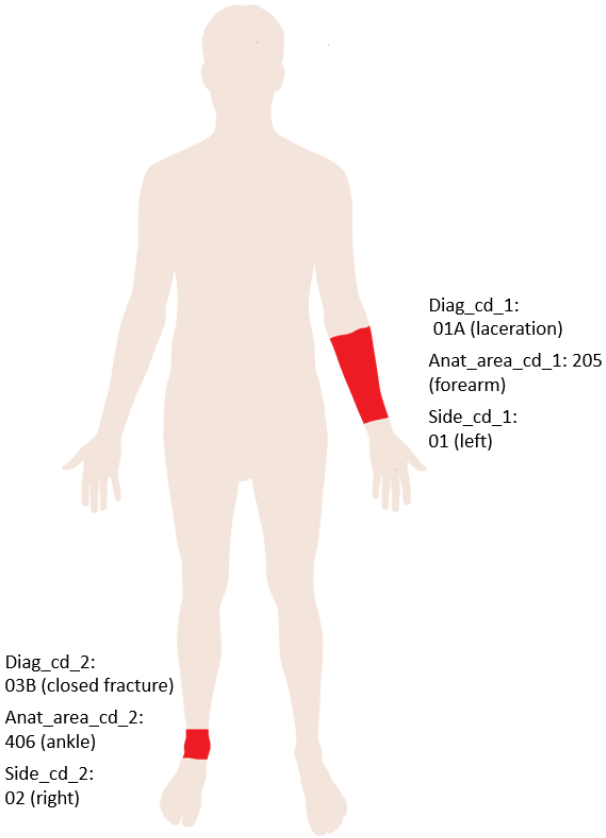


Figure 4 - Example of how the DIAG_CD, ANAT_AREA_CD and SIDE_CD are assigned to an individual.

Where the diagnosis relates to an area of the body, then an anatomical area and anatomical side should also be captured. EDDS diagnoses (*DIAG_CD*), anatomical areas (*ANAT_AREA_CD*) and anatomical sides (*SIDE_CD*) are numbered from one to a maximum of six entries per attendance record. The nature and affected area of the injury are matched to the numeric fields; i.e., anatomical area 1 and anatomical side 1 correspond to diagnosis 1. Only one anatomical area code and one anatomical side code can be recorded per diagnosis.

Not all diagnoses relate to an area of the body (e.g., 15A – diabetes or 31A – chronic alcohol abuse). When the diagnosis does not relate to an area of the body, the *ANAT_AREA_CD* would generally be recorded as 998 (not applicable), 999 (not specified), or left blank.

Up to six treatment and six investigation codes can be entered within an EDDS record, and unlike anatomical areas, treatments and investigations do not have a one-to-one relationship with diagnoses, so the treatment and investigation numbers should not be used to match the diagnosis number.

The NHS Wales Data Dictionary (DHCW, Data Standards Team, n.d.) contains nationally agreed standard codes used for recording within A&E data and is therefore a useful resource for understanding and interpreting the EDDS. Some useful fields are listed below, but full structural metadata is provided by HDRUK (2025a).

Field name	Description	Use
ALF_PE	Anonymised linkage field (person ID)	Data linkage with other SAIL data sources
PROV_UNIT_CD	The provider unit code	To establish the local health board
ARRIVAL_MODE	Method of arrival	To establish the principal method of arrival
ADMIN_ARR_DT	Attendance arrival date	To establish the arrival or start date
ADMIN_ARR_TM	Attendance arrival time	To establish the arrival or start time
ATTEND_GROUP	Attendance reason group	General reason for the attendance
ATTEND_CATEGORY	Attendance category	To establish if it is the first or a follow-up attendance
TRIAGE CATEGORY	The triage category is assigned after initial assessment	To establish the urgency of attendance
DIAG_CD_1 to _6	The diagnoses associated with attendance (up to 6 can be recorded)	To establish the reason for attendance, e.g. type of injury
ANAT_AREA_CD_1 to _6	The anatomical area the diagnosis is associated with	To establish the area of the body affected
SIDE_CD_1 to _6	The side of the anatomical area the diagnosis is associated with	To establish the side of the body affected, or whether this was bilateral
INVEST_CD_1 to _6	The investigations or procedures conducted (up to 6 can be recorded)	To establish investigations conducted on the patient. Note that the investigation number is not indicative of the diagnosis or anatomical number, i.e. investigation code 1 can relate to a diagnosis code number
TREAT_CD_1 to _6	The treatment received (up to 6 can be recorded)	To establish the treatment received by the patient. Note that the treatment number is not indicative of the diagnosis or anatomical number, i.e. treatment code 1 can relate to a diagnosis code number
DISCHARGE	The attendance outcome on discharge	To establish the outcome of the attendance, e.g. whether the attendance resulted in referral to GP, hospital admission or death
ADMIN_END_DT	Attendance end date	To establish the end date
ADMIN_END_TM	Attendance arrival time	To establish the end time

Table 1 - Key fields available in EDDS.

Further fields are available which are only applicable to specific situations, such as the location where the injury took place (*LOCATION_TYPE*), the mechanism of injury (*MECH_OF_INJ*), sporting activity undertaken at the time of injury or incident (*SPORT*) and the nature of road user type for use with road traffic collisions (*ROAD_USER*). There is also a field to identify whether alcohol was involved in the attendance (*ALCOHOL_IND*).

What can the data be used for?

The EDDS provides a valuable resource for epidemiological research because it contains rich data about the patient care delivered in Emergency Departments. Within SAIL, the EDDS can be used as a standalone data source or linked to other data sources via *ALF_PE* to map a patient's journey.

The diagnosis, investigation, and treatment coding in EDDS is less precise than the International Statistical Classification of Diseases (ICD-10), the OPCS Classification of Interventions and Procedures (OPCS-4), or Read codes found in other SAIL health data sources, so EDDS's strength does not lie in the specifics of patient conditions. However, when combined with other data sources, it can provide crucial insights. An example of such work is *The Impact of Co-occurring Homelessness and Substance Misuse on Secondary Healthcare in Wales* (James et al., 2025), which uses EDDS data in combination with other data sources to model counts of Emergency Department attendances against homelessness, types of substance abuse, and sex. EDDS data was also particularly important for COVID-19 pandemic research (Office for National Statistics, n.d.).

Outside SAIL, the EDDS data is used to produce government statistics, including various data summaries and performance monitoring in A&E departments in Wales, such as waiting times (StatsWales, n.d.). The EDDS is combined with the ECDS for England to analyse wider interactions with Emergency Department care (Office for National Statistics, n.d.), and it is combined with 111 and ambulance data to report on unscheduled care activity and performance in NHS Wales (Welsh Government, 2025).

Data limitations encountered

NULL *ALF_PE*: Within SAIL project schemas, an anonymised linkage field (*ALF_PE*) is added to the records to enable linkage between data sources. ALF_PE is derived from the person's NHS number by double encryption (the first encryption occurs in DHCW and the second in SAIL). If the NHS number is not supplied in the data extract, then matching methods are applied" (HDRUK, 2025b). Without an *ALF_PE*, it is not possible to link person events within EDDS or to other data sources in SAIL, and SAIL epidemiological research commonly excludes records where *ALF_PE* is missing.

Compared to other health data sources, the proportion of EDDS events without an *ALF_PE* is fairly high. This may be partly due to the nature of the emergency department environment. When version 1.1 of the EDDS Data Validity Standards was produced, Hywel Dda HB raised a concern about the 95% target for NHS number completion, stating, "it isn't always possible to obtain this in a pressurised environment" (Hawes, 2009). As the NHS number is the primary method for generation of the *ALF_PE*, a high rate of missing or incorrect NHS numbers could explain a low completion rate for *ALF_PE*.

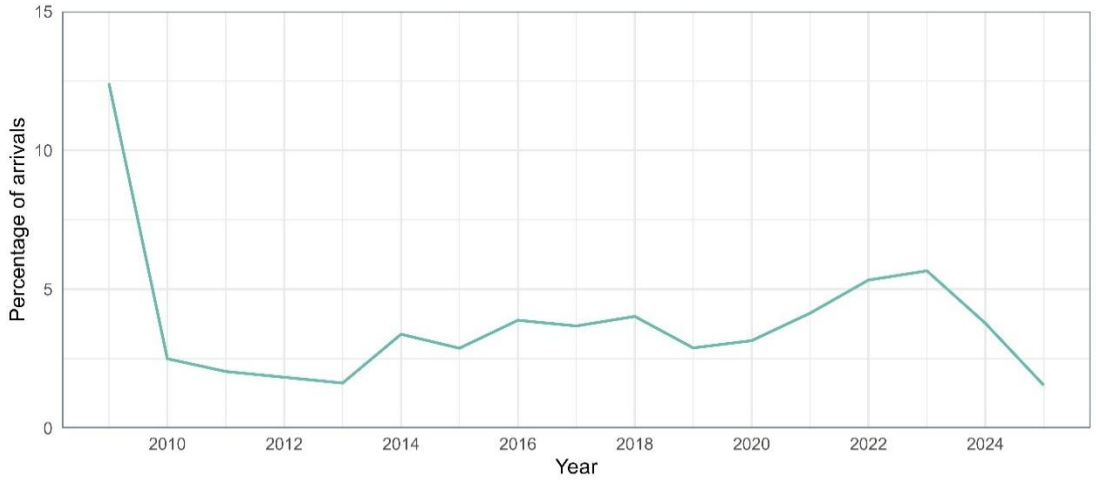


Figure 5 - Percentage of EDDS arrivals per year where ALF_PE is null.

***DIAG_CD* is NULL or 99Z (no diagnosis recorded):** While a diagnosis should be recorded, this is not always the case. Missing entries have improved over time, but there is still a relatively high proportion in which code 99Z (no diagnosis recorded) is entered. There are diagnosis codes to record when nothing abnormal was detected (97Z) and when the diagnosis type was otherwise unspecified (98Z), so neither of these scenarios should result in a null or 99Z diagnosis code.

***DIAG_CD* truncated to three characters for Aneurin Bevan LHB (7A6);** Aneurin Bevan LHB (7A6) submitted *DIAG_CD* using only the first three characters of ICD-10 codes for a period of a few years, reducing diagnosis code granularity for affected records. This has since been resolved.

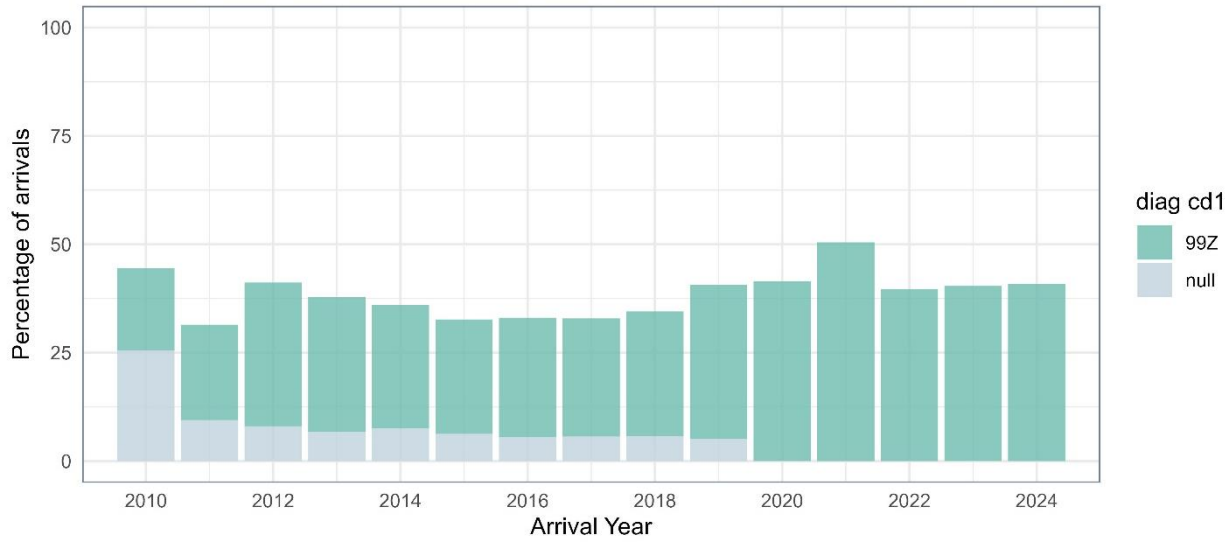


Figure 6 - Percentage of arrivals where DIAG_CD_1 is NULL or 99Z (diagnosis not recorded).

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Glossary

Abbreviation	Description
A&E	Accident and Emergency
ADR UK	Administrative Data Research UK
ALF	Anonymous Linkage Field
AWIS / AWISS	All Wales Injury Surveillance System
DHCW	Digital Health and Care Wales
ECDS	Emergency Care Data Set (England)
GP	General Practice
HB	Health Board
HDRUK	Health Data Research United Kingdom
ICD-10	International Statistical Classification of Diseases Version 10
IGRP	Information Governance Review Panel
MIU	Minor Injury Unit
NHS	National Health Service
NWIS	NHS Wales Informatics Service
OPCS-4	OPCS Classification of Interventions and Procedures 4th Edition
SAIL	Secure Anonymised Information Linkage (SAIL) Databank
SDEC	Same Day Emergency Care
WECDS	Welsh Emergency Care Data Set

Supplementary material: Timeline of key changes with references

Timeline of key dates:

- April 2009 - EDDS implemented;
- January to July 2010 – Multiple minor revisions to coding informed by experience of data set use, including the addition of cardiac resuscitation treatment codes (Welsh Information Standards Board, 2010a) (Welsh Information Standards Board, 2010b);
- April 2012 - EDDS scope widened to include the majority of other A&E and MIU activity (previously recorded on the Situation Reporting System SITREPS) (Knowledge and Analytical Services, Welsh Government, 2013);
- November 2017 – NHS Wales Informatics Service (NWIS) Data Quality team review the EDDS, and identify significant fields in the data set which are unusable, many of which are being left blank (Welsh Information Standards Board, 2019);
- October 2019 – Unusable fields are removed and new fields added as the first phase to develop the Welsh Emergency Care Data Set (WECDS) following NWIS review (Welsh Information Standards Board, 2019);
- April 2025 – Early implementation sites move to WECDS, with all other sites including SDECs expected to follow by April 2026.

Disclaimer

This work was produced using administrative data accessed through the SAIL Databank. The use of the data in this work does not imply the endorsement of the SAIL Databank or data owners in relation to the interpretation or analysis.

This work uses research data which may not exactly reproduce National Statistics aggregates.

Acknowledgements

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This Data Insight has been produced by the ADR Wales Ymateb research team. It provides a snapshot of informative research currently underway at ADR Wales but is not intended to provide a complete picture of work undertaken within this field or the ADR Wales programme of work. The information presented in this Data Insight has been reviewed by ADR Wales colleagues with expertise within this thematic area and accepted to be accurate at the point of publication. Views expressed in this Data Insight are those of the researchers and not necessarily those of ADR Wales partner organisations.

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Publication contact

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