NHS WALES HEALTHCARE DASHBOARDS

Dashboard 2 - A&E Performance Dashboard

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This report summarizes the step-by-step process of creating the Dashboard 2, **A&E Performance page** in Power BI using a synthetic NHS Wales dataset.

The page tracks **emergency care performance**, including attendances, wait times, ambulance activity, and conversion rates.

Data Preparation

Before creating visuals, we prepared the dataset for Power BI:

Calculated Columns

- **Age Band**
  Categorized patients into ranges for filtering and grouping:

```
Age Band =
SWITCH(
    TRUE(),
    'nhs_data'[age] <= 17, "0-17",
    'nhs_data'[age] <= 39, "18-39",
    'nhs_data'[age] <= 64, "40-64",
    "65+"
)
```

Bins

- **A&E Wait Time Bins**
  Created bins for histogram visualization:

1. Right-click ae_wait_minutes → **New Group** → **Bin size:** 60 minutes
2. Named the new column **A&E Wait Bins**

Measures Created

Core A&E KPIs

A&E Attendances

```
A&E Attendances =
CALCULATE(
    COUNTROWS('nhs_data'),
    FILTER(
```

```
        'nhs_data',
        'nhs_data'[admission_type] = "A&E Admission"
    )
)
```

Average A&E Wait (minutes)

```
Average A&E Wait (mins) =

CALCULATE(

    AVERAGE('nhs_data'[ae_wait_minutes]),

    'nhs_data'[admission_type] = "A&E Admission"

)
```

% A&E Seen Within 4 Hours

```
A&E Seen <4hrs =
CALCULATE(
    COUNTROWS('nhs_data'),
    'nhs_data'[admission_type] = "A&E Admission",
    'nhs_data'[ae_wait_minutes] <= 240
)

% A&E Seen <4hrs =
DIVIDE(
    [A&E Seen <4hrs],
    [A&E Attendances]
)
```

Ambulance Callouts

```
Ambulance Callouts =
CALCULATE(
    COUNTROWS('nhs_data'),
    'nhs_data'[admission_type] = "A&E Admission",
    'nhs_data'[ambulance_called] = 1
)
```

Average Ambulance Response Time

```
Average Ambulance Response (mins) =
CALCULATE(
    AVERAGE('nhs_data'[ambulance_response_minutes]),
    'nhs_data'[admission_type] = "A&E Admission",
    'nhs_data'[ambulance_called] = 1
)
```

A&E Conversion Rate (Admitted Patients)

```
A&E Conversion Rate =
DIVIDE(
    CALCULATE(
        COUNTROWS('nhs_data'),
        'nhs_data'[admission_type] = "A&E Admission",
        'nhs_data'[length_of_stay_days] > 0
    ),
    [A&E Attendances]
)
```

Visuals Created

#	Visual	Type	Measure / Field	Notes
1	Event Date	Slicer	event_date	Filter by date

2	Gender	Slicer	sex	Filter by sex
3	Age Range	Slicer	Age Band	Filter by age group
4	Local Health Board	Slicer	local_health_board	Filter by geography
5	A&E Attendances	Card	A&E Attendances	Total count of A&E admissions
6	Average A&E Wait	Card	Average A&E Wait (mins)	Mean wait time in minutes
7	% Seen Within 4 Hours	Gauge	% A&E Seen <4hrs	KPI with 4-hour target
8	Ambulance Callouts	Card	Ambulance Callouts	Count where ambulance_called = 1
9	A&E Attendances Over Time	Line Chart	A&E Attendances or count of event_id	Trend over months/years
10	Average Ambulance Response	Line Chart	Average Ambulance Response (mins)	Trend for patients transported by ambulance
11	A&E Conversion Rate	Gauge	A&E Conversion Rate	% of patients admitted
12	A&E Wait Times Histogram	Clustered Column	Count of event_id	X-axis = A&E Wait Bins, Y-axis = count, filtered to A&E only

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Filters and Interactivity

- All visuals interact with **slicers**: Event Date, Gender, Age Band, Local Health Board.
- Visual-level filters applied for:
    - Admission type = “A&E Admission” (for all relevant visuals)
    - Ambulance callouts = 1 (for response time line chart)

Summary

The **A&E Performance page** provides a clear overview of emergency care activity:

- Track total attendances and wait times
- Monitor compliance with 4-hour target
- Visualize ambulance activity and response times

- Identify conversion rates to inpatient admissions
- Analyze the distribution of waiting times

This page is **interactive**, allowing filtering by date, age, gender, and local health board.

☑ **Result:** A fully functional, interactive **A&E Performance dashboard page** ready for Power BI deployment and reporting.