



CareCosting

Presents Plixology®

A&E Frequent Attendees

Foundation Paper 2



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Understanding the characteristics and cost of A&E frequent attendees

Introduction

Accurate management of resources and effective delivery of care are paramount in ensuring the sustainability and success of Accident and Emergency (A&E) departments. One crucial aspect of this is understanding the dynamics surrounding frequent attendees in A&E settings.

These patients, who repeatedly seek care at emergency departments, present a unique set of challenges and opportunities for NHS Trusts. In this paper, we explore the importance of understanding frequent attendees in A&E departments and the implications it holds for resource allocation, financial sustainability, patient experience, and quality of care.

By delving into the complexities surrounding frequent attendees, healthcare providers can better navigate the challenges and leverage opportunities to enhance the overall effectiveness and efficiency of A&E departments.



Benefits

Understanding frequent attendees provides the opportunity to improve:

Resource allocation

Frequent attendees consume a disproportionate amount of healthcare resources, including staff time and supplies

Financial implications

Frequent A&E visits increase costs associated with staffing and procedures. By understanding demographics and reasons for attendance, Trusts can implement interventions to reduce costs and enhance financial sustainability

Patient experience

Frequent attendance may signal underlying issues like access barriers or chronic conditions. Addressing these factors improves patient experience and outcomes by providing more targeted and effective care

Appropriate care

Identifying frequent attenders allows the Trust to work collaboratively with the ICS to both understand the cost of frequent attenders but also to potentially focus and provide more appropriate care for high demand patients

Approach

We assess the cost of all Accident and Emergency (AE) attendances, followed by identifying the total cost of AE and patient demographics over a 12-month period. Additionally, we analyse the demand placed on the rest of the Trust.

Following this, we shift focus to examine patient demographics rather than attendance data, allowing us to construct a comprehensive profile of the patient rather than just the attendance itself.

We then to consider the various elements of secondary care, such as specialist appointments, diagnostic tests (Direct Access), and inpatient admissions, to fully understand the patient's healthcare journey within the system.

Plixology fundamentals in practice:

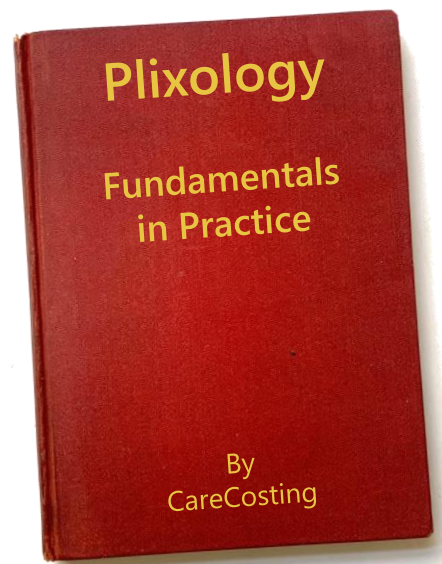
Understanding the **patient** and the **care activities** can deliver more benefit than understanding the cost of the episode or attendance alone



Understanding the characteristics and cost of A&E frequent attendees

Plixology Fundamentals in Practice

- **Causality** and reflecting **reality** are essential in modelling to understand **why** the Trust spends money
- By reflecting reality, a PLICS model can become a **digital twin** of the Trust
- Both **demand and supply** should be costed to help inform operational change
- Understanding the **patient** and the **care activities** can deliver more benefit than understanding the cost of the episode or attendance alone
- PLICS is **not just software**. Software can enable but it is not a silver bullet
- PLICS can be **enriched** with additional and derived data to provide greater value. The I of PLICs is as important as the C
- A PLICS model should **continually improve**. It is not a financial reconciliation



Constraints

The constraints to the approach include:

- Utilisation of data within the Secondary Care Trust only, with limited access to information from Primary Care, Mental Health, and Ambulance services.
- Integration of data from these additional sources based on NHS numbers to grasp the entirety of demand on the system.



- Resource constraints, including financial and technological limitations, may hinder the implementation of strategies to seamlessly join patient-level information across the Integrated Care System (ICS), requiring careful allocation of resources and investment in infrastructure and workforce training..
- Resistance to change and organizational culture may present barriers to the adoption of new data integration processes and strategies within healthcare organizations, necessitating effective change management and stakeholder engagement initiatives.

What action can be taken?

By understanding the underlying factors contributing to frequent A&E visits and leveraging data-driven insights, Trusts can develop targeted interventions to improve patient outcomes and reduce healthcare costs.

Root cause analysis

Explore factors such as social determinants of health, access contributing to frequent A&E visits.

Advanced analytics

Utilize advanced analytics techniques to extract insights from patient data

Intervention Strategies

Implement targeted interventions tailored to the needs of frequent attendees.

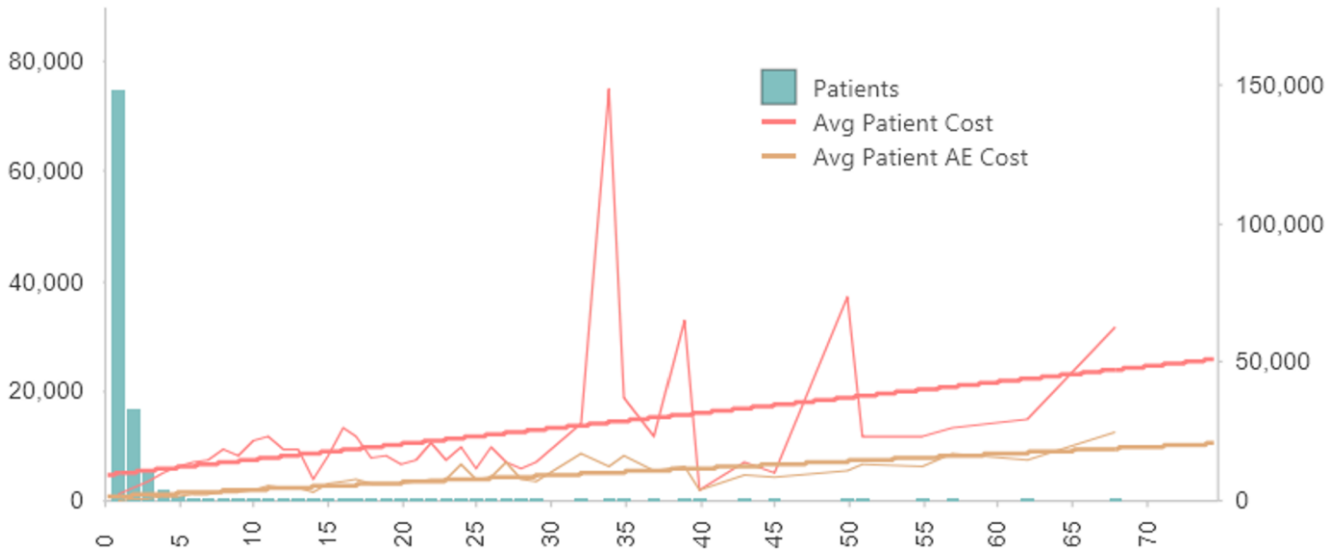
Collaborative Partnerships

Build partnerships with the ICS to facilitate holistic approaches to addressing frequent A&E attendance.

By addressing these factors collectively, healthcare providers can improve patient outcomes and optimize resource utilisation in emergency departments.

Understand the cost of the A&E attendance in relation to the wider cost to the Trust

A&E attendance impact on total Trust cost



The chart and table illustrate how patients attending more frequently significantly impact the overall costs of the Trust. Fewer attendances correspond to lower total average costs incurred, indicating that patients attending A&E more often contribute to a higher percentage of the total cost of care.

- Patients with zero attendances (did not use A&E) on average cost the trust £1,294
- Patients with 10 attendances had an average A&E cost of £3,714 but an average total cost of £21,865
- 19 patients attended A&E <30 times & 1 patient attended 158 times in one year
- Cost to the Trust grows exponentially based upon the number of A&E attendances

No of Attendances	Patients	Avg Patient Cost	Avg Patient AE Cost	% Patients
0	168,539	£1,294	£0	62.56%
1	74,812	£1,987	£287	27.77%
2	16,790	£4,300	£626	6.23%
3	5,187	£7,060	£1,037	1.93%
4	2,000	£9,707	£1,409	0.74%
5	848	£12,215	£1,880	0.31%
6	454	£14,117	£2,178	0.17%
7	249	£14,589	£2,468	0.09%
8	143	£18,532	£3,129	0.05%
9	100	£15,937	£3,336	0.04%
10	65	£21,865	£3,714	0.02%
11	56	£22,771	£5,262	0.02%
12	43	£18,380	£4,630	0.02%
13	17	£18,599	£4,715	0.01%
14	14	£7,895	£3,412	0.01%
15	12	£15,878	£5,830	0.00%
16	11	£26,166	£6,902	0.00%
17	9	£23,207	£7,408	0.00%
18	11	£15,521	£6,034	0.00%
19	7	£15,938	£6,522	0.00%
20	4	£13,303	£5,985	0.00%
21	6	£14,050	£6,004	0.00%
Total	269,415	£2,066	£171	100.00%

Patient Demographics

Expanding traditional patient-level costing information with supplementary data points enhances the depth of healthcare costing analysis, providing a more comprehensive understanding of healthcare expenditures.

In addition to standard patient information like age and gender, integrating non-traditional PLICS data such as direct access, GP practice, and long-term condition demographics is essential. Incorporating population health also data provides insight into community-level health trends and healthcare disparities.

Connecting these data points to create real intelligence and utilising a story-driven analysis allows for a more comprehensive assessment of healthcare service demand and associated costs across various demographic segments.

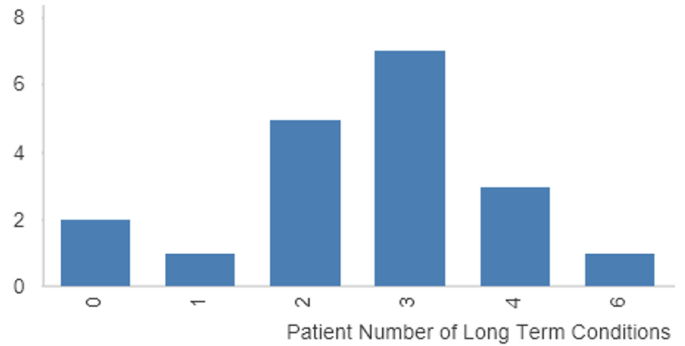


By joining up the data intelligently we can gain new insight

Many of the patients have long-term conditions identified

Of the 19 patients attending A&E over 30 times, 17 have long-term conditions known to the Trust. These long-term conditions are captured amongst the Inpatient and Outpatient data.

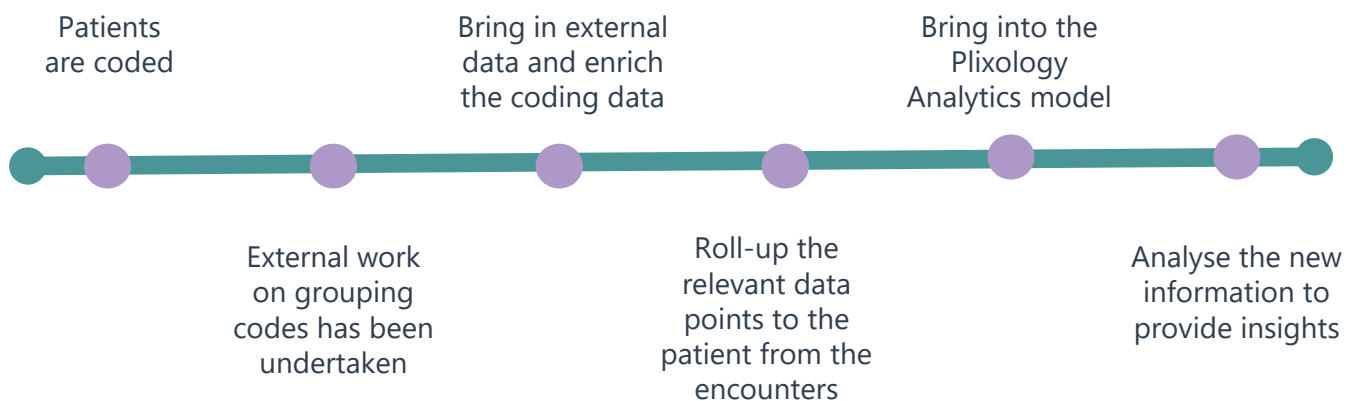
Regular attendees share conditions such as High Dependency, Mental Health and Cardiovascular complaints.



NHS Number	Age	Gender	No Long term Condition Types	No Long Term Conditions	Patient Long Term Condition Types	Patient Long Term Conditions	No of AE
#####	30	2 - Female	2	2	High Dependency,Lifestyle	Diabetes,Obesity	158
#####	49	1 - Male	2	3	High Dependency,Lifestyle	Diabetes,Obesity,Smoking	68
#####	28	2 - Female	3	3	Learning disabilities,Mental Health and Ne...	Asthma,Epilepsy,Learning disabilities	62
#####	36	1 - Male	2	2	Lifestyle,Mental Health and Neurology	Depression,Smoking	57
#####	66	2 - Female	3	3	Cardiovascular,High Dependency,Mental...	Blood pressure,Depression,Diabetes	55
#####	17	2 - Female	3	3	Lifestyle,Mental Health and Neurology,Res...	Asthma,Depression,Smoking	51
#####	12	1 - Male	2	2	Learning disabilities,Mental Health and Ne...	Epilepsy,Learning disabilities	50
#####	32	2 - Female	1	1	Mental Health and Neurology	Depression	45
#####	40	1 - Male	1	2	Mental Health and Neurology	Depression,Epilepsy	43
#####	18	2 - Female	0	0	-	-	43
#####	61	2 - Female	0	0	-	-	40
#####	86	1 - Male	3	4	Cardiovascular,Lifestyle,Respiratory	Asthma,Blood pressure,Heart failure,S...	39
#####	33	2 - Female	4	6	Learning disabilities,Lifestyle,Mental Healt...	Asthma,Depression,Epilepsy,Learning...	37
#####	63	1 - Male	3	3	Cardiovascular,Learning disabilities,Mental...	Blood pressure,Epilepsy,Learning disa...	37
#####	70	2 - Female	3	3	Lifestyle,Mental Health and Neurology,Res...	COPD,Depression,Smoking	35
#####	47	1 - Male	3	3	Cardiovascular,Lifestyle,Mental Health and...	Blood pressure,Depression,Smoking	34
#####	52	1 - Male	3	4	Cardiovascular,Lifestyle,Mental Health and...	Blood pressure,Depression,Obesity,Sm...	32
#####	62	1 - Male	4	4	Cardiovascular,High Dependency,Lifestyle,...	Blood pressure,Depression,Diabetes,S...	32
#####	24	1 - Male	2	2	High Dependency,Lifestyle	Diabetes,Smoking	32
Total							950

Process for applying Long-term condition data

This process involves mapping LTC data to patient information, leveraging external data sources to enrich information. Integrated into the Plixology Analytics model, this data enables insightful analysis, enhancing healthcare decision-making and patient outcomes.

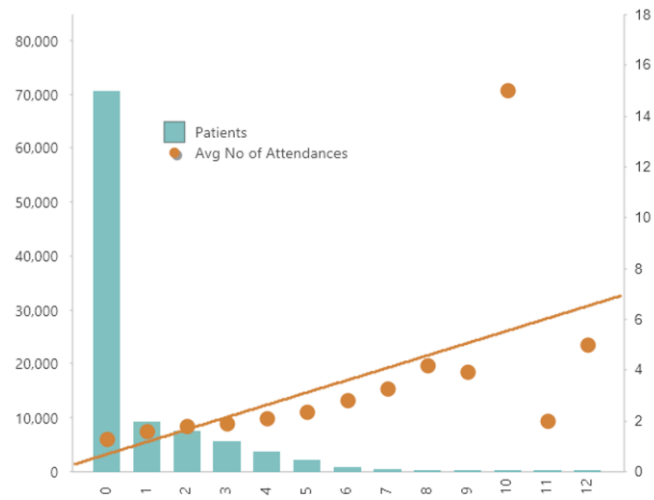


A&E appears to show a link between the number of long-term conditions and A&E usage

More conditions effects attendances

The presence of multiple long-term conditions often leads to increased attendance at Accident and Emergency (A&E) departments, driving up healthcare costs.

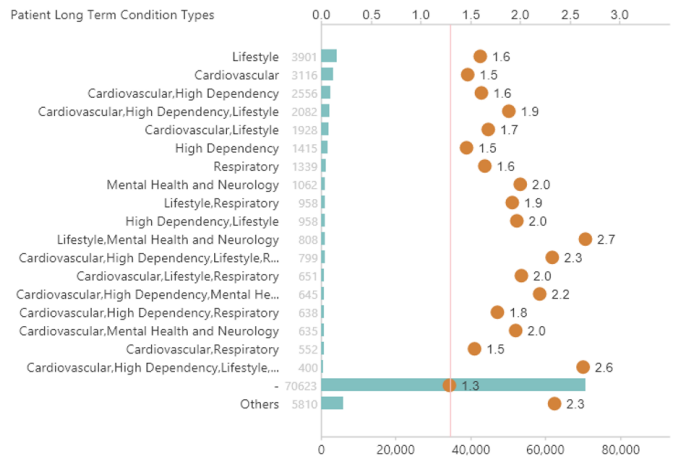
Patients with multiple conditions require comprehensive care and may experience frequent exacerbations or complications, prompting visits to A&E. Additionally, the higher risk of acute events associated with certain conditions, limited access to primary care, and fragmented care contribute to A&E utilization. Addressing these factors is essential to reduce healthcare costs and ensure optimal patient care.



Different conditions have an impact

Different long-term conditions have varying impacts on A&E attendance and healthcare costs. Cardiovascular or Respiratory conditions often lead to acute exacerbations, driving frequent emergency visits and higher costs.

Mental health conditions also play a significant role, with patients presenting to A&E for crises, adding complexity and cost to care. Understanding these impacts is crucial for targeted interventions to manage costs while ensuring timely care for patients.



This analysis is only possible by joining the data and extrapolating conditions from inpatient and outpatient records and applying it to AE

Joining up the data across the ICS

This highlights the current demand placed on the Trust's resources, emphasizing that the demand on the Integrated Care System (ICS) is expected to be even greater. Considering this, it prompts questions about how healthcare providers can better assist patients while alleviating pressure on A&E services.

Additionally, it raises the importance of collaboration with the broader healthcare system to support these patients effectively. Furthermore, it underscores the need to shift focus towards preventive measures and curative interventions to address healthcare challenges proactively.

Using data across the ICS to drive innovation is key and evidence is growing of this proving successful.

- Localised Solutions
- Holistic Care Provision
- Enhanced Data Sharing
- Improved Patient Journeys
- Improved Healthcare Prevention Strategies
- Quality Improvement
- Improved Outcomes
- Resource Utilisation
- Benchmarking
- Business Cases



Contact CareCosting to claim your FREE Plixology Canvas

What is the Plixology Canvas?

The Plixology[®] Canvas, developed by CareCosting, allows a Trust to quickly review and identify how, where and what they should focus on to realise potential from PLICS

Developed over 2 years through research and drawing on over 30 years' experience with over 40 Trusts in all sectors, the Canvas provides the entry point into the Plixology[®] methodology which has one objective:

Help Trusts realise potential from PLICS

Why use it?

It provides a quick overview of PLICS in the Trust in a simple and straightforward way

- The visual format of the Canvas enhances accessibility and can be understood by everyone
- It's simple to update and can be easily shared with colleagues and stakeholders
- Clarifies how different aspects of PLICS are related to each other
- The Plixology Canvas template can help facilitate an ideas session to define your PLICS status & strategy

Who is it for?

- Any Trust wanting to reignite or build on their current PLICS solution
- Any Trust or ICS looking to maximise value from patient level data and cost
- Any Trust looking to understand and identify potential savings and improvements without impacting patient outcomes

Observations and context

- PLICS promised much, but has it delivered the expected value you were hoping for?
- CareCosting has witnessed the transformative potential of PLICS when implemented effectively
- Analytics and AI thrive on rich data and a robust model; PLICS can serve as the key source for operational understanding
- Before computers, there were products and services, but PLICS is both and neither - it's not software, but software enables it. PLICS is aptly described as an **Information Product**

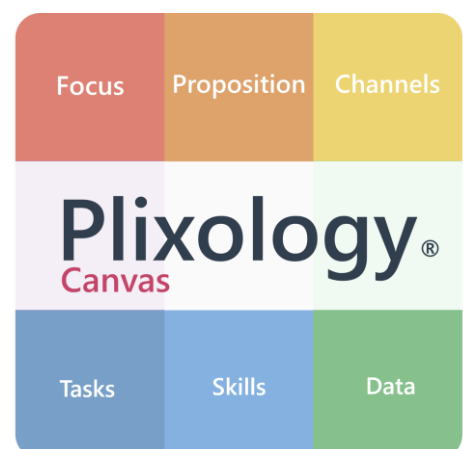
The Plixology Canvas is inspired by the Business Model Canvas & the Gartner Quadrant principles and is the first step to towards realising the potential of PLICS within the organisation

Contact CareCosting for further details

In addition to the standard report and the excel tool kit the first 5 enquiries to quote this foundation paper will also receive a free canvas session and tailored report based on its findings.

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Recent CareCosting successes

Awards & accreditations

CareCosting were proud to be shortlisted for both regional and national HFMA awards

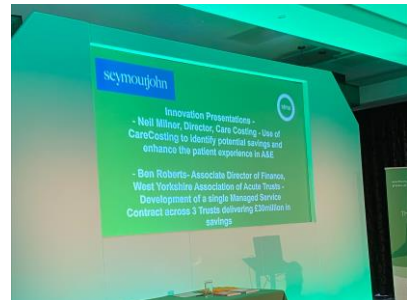


Recognition from outside of the NHS demonstrates our commitment to using the latest technology and principles



Industry recognition

CareCosting were delighted to have had the opportunity to present on the innovation platform of the HFMA Yorkshire & Humber Branch conference in September 2023



Recently we had a case study published by the Profitability Analytics Centre of Excellence. PACE, is an independent, non-profit, community of professionals dedicated to developing ways for organisations to strategically manage and improve revenue and cost, using causal analytic models to help make better, more informed decisions and drive greater value creation



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Client testimonials (visit www.carecosting.co.uk for more)

"In an environment characterised by ambiguity and change CareCosting are enabling the Trust to follow a patient journey across primary and secondary care, this allows us to look at boundary spanning activity in a way we haven't been able to before.

We can now begin to look at the whole system and determine targeted interventions, align our strategic objectives in the trust, create programmes of change and use the data to open a dialog with Clinical staff in a way that truly gets them engaged as it starts with the patient but ultimately effects the bottom line. "

Andrew Bertram
Finance Director
York and Scarborough Teaching Hospitals NHS Foundation Trust

"CareCosting continually prove to be a trusted and knowledgeable source of guidance and support. Their team members are responsive and professional, and our relationship continues to grow based on these foundations. I would recommend engaging with them to all organisations looking to develop their costing operations and strategy."

Mahmoud Hassan
Director – OnPoint Advisory

I hope that lots of NHS organisations benefit from both your skills and experience - as I was very lucky to do during my "Stockport years".

Hayley Ringrose
Experienced NHS Finance Manager
Motivating people to overcome barriers