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Utilising Real World Evidence to effectively inform decision making

Chris Rolfe, UK RWE Data and Product Manager
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Key topics

- Introduction
- Real World Data (RWD) vs. Real World Evidence (RWE) and its growing importance
- NHS Planning - past and present key NHS targets/initiatives
- Extracting the value from Real World Evidence (RWE) and translating it into actionable insights
- Providing NHS stakeholders with key evidence to support future planning and service designs
- Questions

Introduction

Introduction - Chris Rolfe

UK RWE Data and Product Manager

- NHS Data lead responsible for compliant use of NHS Digital and other RWE data sources
- Previously owned the entire lifecycle of a quantitative insight solutions portfolio
- Worked with many of the top 50 pharma companies, developing a reputation for converting complex customer challenges into easy-to-interpret, actionable insight
- Expert in the use of HES, MHLDDS, QOF, GP prescribing and Public Health datasets
- 10+ years experience in delivering innovative, compliant solutions that improve health and social care outcomes

Real World Data / Real World Evidence

Real World Data (RWD)

“data relating to patient health or experience or care delivery collected outside the context of a highly controlled clinical trial”

Real World Evidence (RWE)

“evidence generated from the analysis of real-world data. It can cover a large array of evidence types including disease epidemiology, health service research or causal estimation”

Source: National Institute for Health and Care Excellence (NICE) - https://www.nice.org.uk/

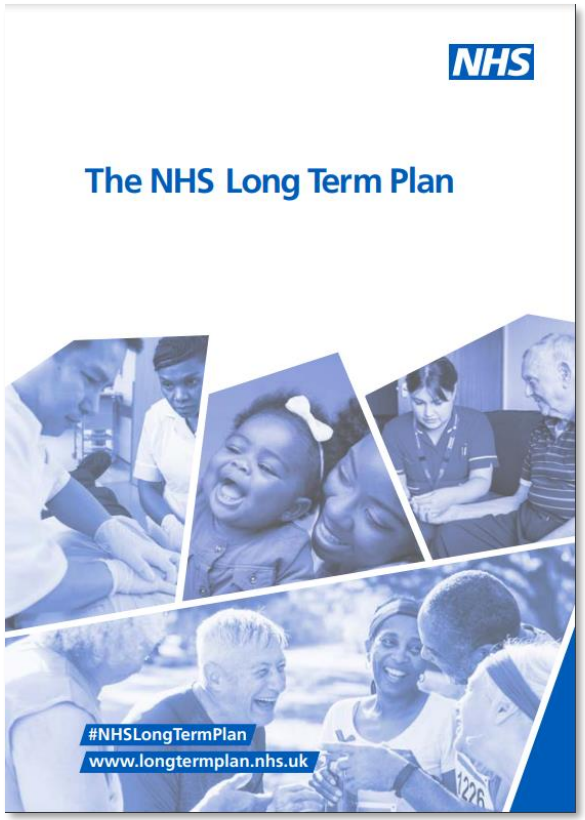
The ever-growing importance of RWE

- There is rising importance and focus on utilising RWE within the UK healthcare system
- The **NICE strategy 2021 to 2026** has led to the publication of the **NICE real-world evidence framework** (published June 2022)
- What does this mean?
  - Healthcare providers can expect to see **up-to-date evidence and data**
  - Life sciences industry can expect to see **better management of uncertainty in the evidence base**
  - Public and patients can expect to see a **quicker evaluation pathway, improving patient access to the best innovations**
- This is only achievable through the **effective use** of RWE

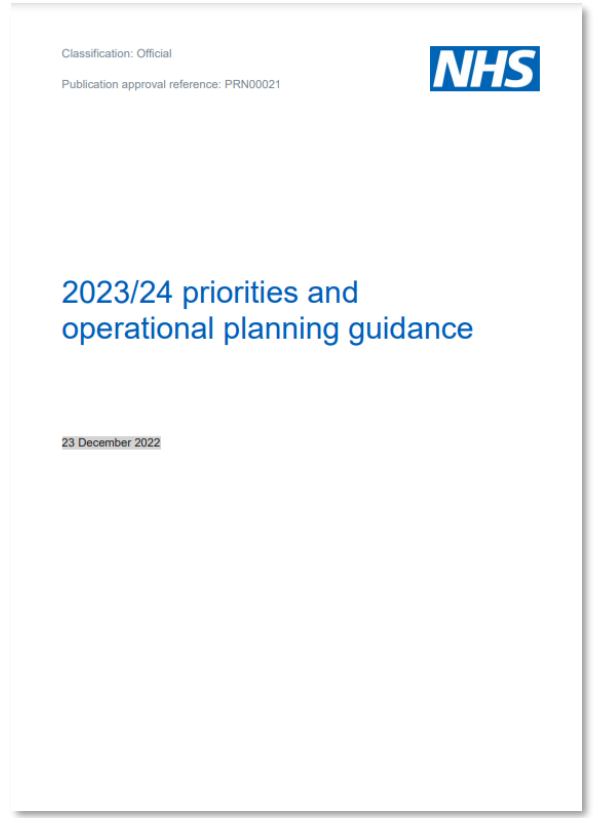
NHS planning – past and present

NHS planning

2014



2019



2022

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Five year forward view - 2014

The FYFV set out a vision for the NHS's future based on seven new models of care. Some key elements were:

- Focus on prevention – a **"radical upgrade"** – patient access to information, their own medical and care records, to support the management of own health and increase control patients have over their care
- **Integration** of urgent and emergency care services
- Three-year rolling reviews of **specialised care**
- New models of care - a **single entity** or group of providers take responsibility for delivering the range of primary, community, mental health and hospital services for **their local population**
- Multispecialty community providers – GP practices **come together in networks or federations** and collaborate with other health and social care professionals to provide more **integrated services outside of hospitals**.

Assessing the success of the FYFV

- Kings Fund published a paper, assessing the reconfiguration of clinical services https://www.kingsfund.org.uk/publications/reconfiguration-clinical-services

  - **Key finding –** *"More resources need to be invested (locally and nationally) in evaluating the impact of service reconfiguration, with comparative analysis of different models of care – and particularly their impact on quality and cost."*

  - **Key finding –** *There is no 'optimal design' for local services; their configuration will depend on the local context*

  - *Available **evidence** points to a positive impact of integrated care programmes on the quality of patient care and improved health or patient satisfaction outcomes (Nolte and Pitchforth 2014)*

- Nolte and Pitchforth 2014 – "For completeness, we also extracted **data** on core health outcomes such as health status, quality of life or mortality, as well as process measures."

NHS Long Term Plan - 2019

The NHS Long-Term Plan was launched in January 2019 setting out key ambitions for the NHS over the next 10 years. Some key elements were:

- More action on **prevention** and **health inequalities**
- A **new service model** for the 21st century – boosting out-of-hospital care
- Reducing pressure on **emergency hospital services**
- Local NHS organisations will increasingly focus on population health – moving to **Integrated Care Systems** everywhere
- Better care for **major health conditions** – e.g. Cancer, CVD, Stroke, Diabetes

Assessing the success of the NHS long term plan

- The Health Foundation has published a paper, assessing the progress of the long-term plan and the COVID-19 pandemic's impact https://doi.org/10.37829/HF-2021-P08

  - **Key finding** – *"Some long-term plan commitments have been accelerated by the COVID-19 response, such as improving access to remote consultations in primary care and outpatients. These changes will need careful monitoring and evaluation."*

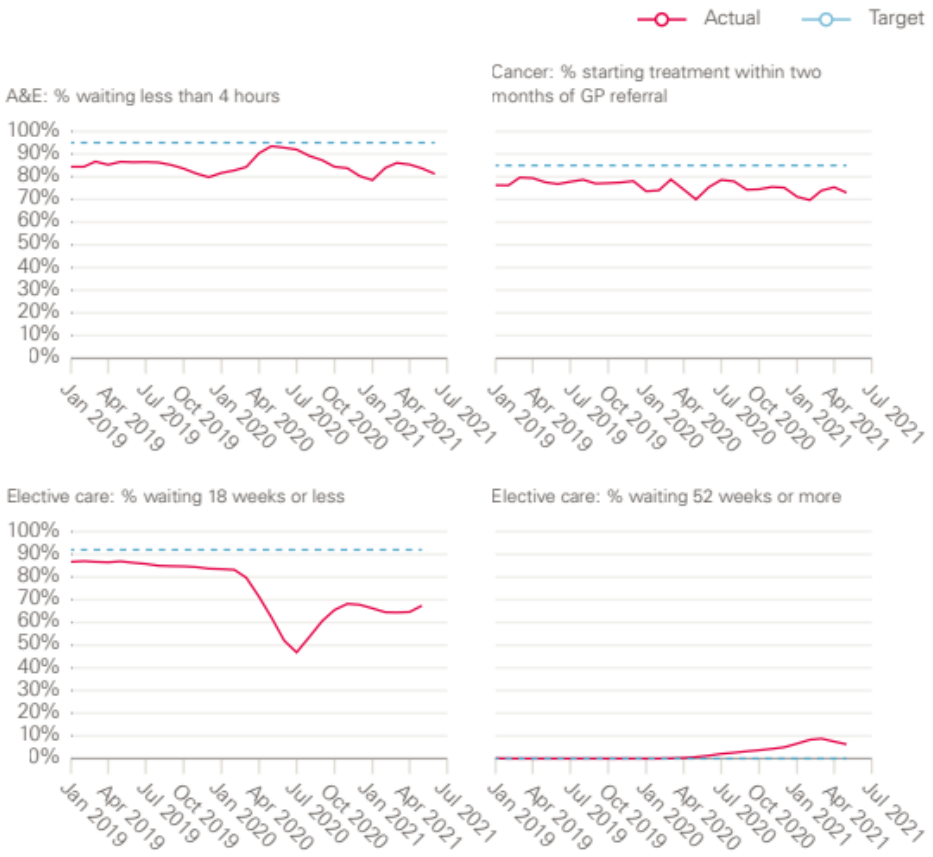
  - **Key finding** – *"COVID-19 has exposed and widened existing inequalities in health and care in England."*

  - **Key finding** – *"Waiting lists for hospital care are the worst on record, at over 5.45 million at the end of June 2021, while only two-thirds of community services are reported to have been fully restored."*

  - **Key finding** – *"Government currently has no national strategy for reducing health inequalities in England and public health budgets were 24% smaller per capita in 2021/22 than in 2015/16. Increased investment in the NHS must go alongside investment in the wider services that shape health."*

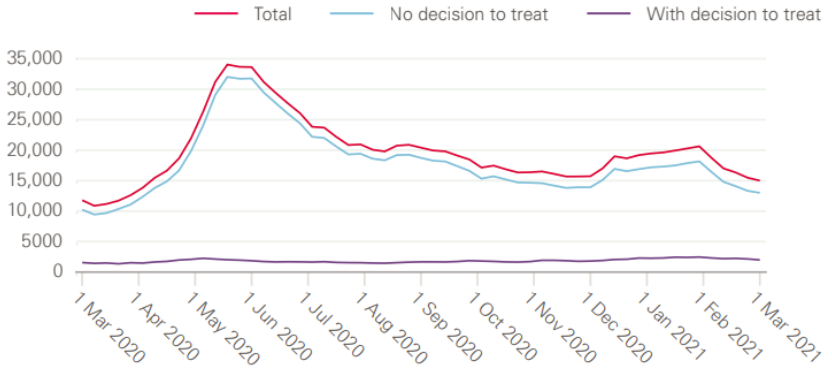
Examples of RWE use in the long term plan assessment

Figure 8: Performance against selected waiting time standards, England, January 2019–April 2021



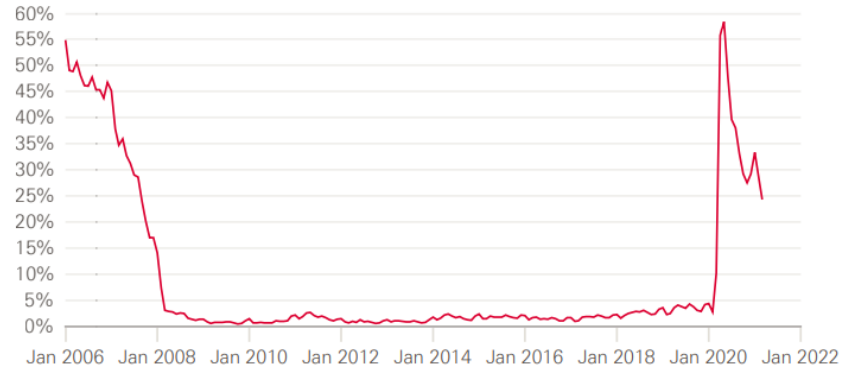
Source: NHSE, A&E Attendances, 2021, NHSE, RTT waiting times, 2021, NHSE, Cancer waiting times, 2021

Figure 3: Monthly total of patients waiting over 62 days following an urgent referral for suspected cancer, England, March 2020–April 2021



Source: NHSE, Management information on cancer, 2021

Figure 4: Percentage of patients waiting 6 or more weeks for diagnostic tests, England, January 2006–January 2021



Source: NHSE, Monthly Diagnosis Data, 2021

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NHS Operational and Planning Guidance - 2022

The NHS Operational and Planning Guidance was launched in December 2022, outlining the goals for the 2023/24 service. The guidance takes into account the COVID impact, "Our immediate priority is to recover our core services and productivity." Some of the key elements are:

- Improve **ambulance response** and **A&E waiting times**
- Reduce **elective long waits** and **cancer backlogs**, and improve performance against the core diagnostic standard
  - delivery of around **30% more elective activity** by 2024/25 than before the pandemic
- Deliver an **appropriate reduction** in outpatient follow-up (OPFU) in line with the national ambition to reduce OPFU activity by 25% against the 2019/20 baseline by March 2024
- Make it easier for people to **access primary care services**, particularly general practice

NHS Operational and Planning Guidance - 2022

National NHS objectives 2023/24

	Area	Objective
Recovering our core services and improving productivity	Urgent and emergency care*	Improve A&E waiting times so that no less than 76% of patients are seen within 4 hours by March 2024 with further improvement in 2024/25
		Improve category 2 ambulance response times to an average of 30 minutes across 2023/24, with further improvement towards pre-pandemic levels in 2024/25
		Reduce adult general and acute (G&A) bed occupancy to 92% or below
	Community health services	Consistently meet or exceed the 70% 2-hour urgent community response (UCR) standard
		Reduce unnecessary GP appointments and improve patient experience by streamlining direct access and setting up local pathways for direct referrals
	Primary care*	Make it easier for people to contact a GP practice, including by supporting general practice to ensure that everyone who needs an appointment with their GP practice gets one within two weeks and those who contact their practice urgently are assessed the same or next day according to clinical need
		Continue on the trajectory to deliver 50 million more appointments in general practice by the end of March 2024
		Continue to recruit 26,000 Additional Roles Reimbursement Scheme (ARRS) roles by the end of March 2024
		Recover dental activity, improving units of dental activity (UDAs) towards pre-pandemic levels
	Elective care	Eliminate waits of over 65 weeks for elective care by March 2024 (except where patients choose to wait longer or in specific specialties)
		Deliver the system- specific activity target (agreed through the operational planning process)
	Cancer	Continue to reduce the number of patients waiting over 62 days
		Meet the cancer faster diagnosis standard by March 2024 so that 75% of patients who have been urgently referred by their GP for suspected cancer are diagnosed or have cancer ruled out within 28 days
		Increase the percentage of cancers diagnosed at stages 1 and 2 in line with the 75% early diagnosis ambition by 2028
	Diagnostics	Increase the percentage of patients that receive a diagnostic test within six weeks in line with the March 2025 ambition of 95%
		Deliver diagnostic activity levels that support plans to address elective and cancer backlogs and the diagnostic waiting time ambition
	Maternity*	Make progress towards the national safety ambition to reduce stillbirth, neonatal mortality, maternal mortality and serious intrapartum brain injury
		Increase fill rates against funded establishment for maternity staff
	Use of resources	Deliver a balanced net system financial position for 2023/24
	Workforce	Improve retention and staff attendance through a systematic focus on all elements of the NHS People Promise
	Mental health	Improve access to mental health support for children and young people in line with the national ambition for 345,000 additional individuals aged 0-25 accessing NHS funded services (compared to 2019)
		Increase the number of adults and older adults accessing IAPT treatment
		Achieve a 5% year on year increase in the number of adults and older adults supported by community mental health services
		Work towards eliminating inappropriate adult acute out of area placements
		Recover the dementia diagnosis rate to 66.7%
		Improve access to perinatal mental health services
	People with a learning disability and autistic people	Ensure 75% of people aged over 14 on GP learning disability registers receive an annual health check and health action plan by March 2024
		Reduce reliance on inpatient care, while improving the quality of inpatient care, so that by March 2024 no more than 30 adults with a learning disability and/or who are autistic per million adults and no more than 12–15 under 18s with a learning disability and/or who are autistic per million under 18s are cared for in an inpatient unit
	Prevention and health inequalities	Increase percentage of patients with hypertension treated to NICE guidance to 77% by March 2024
		Increase the percentage of patients aged between 25 and 84 years with a CVD risk score greater than 20 percent on lipid lowering therapies to 60%
		Continue to address health inequalities and deliver on the Core20PLUS5 approach

- Page 7 of the 2022/23 Operational and planning guidance provides both qualitative and quantitative objectives

- Some quantitative targets are:
  - **<76%** of patients seen in A&E within 4 hours by March 2024
  - Continue on the trajectory to deliver **50 million** more appointments in general practice by the end of March 2024
  - Eliminate waits of over **65 weeks** for elective care by March 2024
  - Cancer - continue to reduce the number of patients waiting over **62 days**
  - Increase the percentage of cancers diagnosed at stages 1 and 2 in line with the **75% early diagnosis** ambition by 2028
  - Increase the percentage of patients aged between 25 and 84 years with a CVD risk score greater than 20 percent on lipid-lowering therapies to **60%**

Assessing the viability of the operational and planning guidance

- One of the biggest talking points within the NHS right now, which has a target assigned within the operational and planning guidance, is the **elective wait times**
- The target to increase elective activity by 30% of pre-pandemic levels is an ambitious one
- Between January and September 2019, the NHS completed **12.4 million** pathways from the waiting list. Over the same period in 2022, it completed **11.8 million** pathways, **5% fewer** than in 2019

Number of people treated from NHS waiting lists

Month	Total Treated 2022	Total Treated 2019	Admitted 2022	Admitted 2019	Non-Admitted 2022	Non-Admitted 2019
Jan	1,238,558	1,500,753	226,856	317,121	1,011,702	1,183,632
Feb	1,258,534	1,317,524	247,802	284,212	1,010,732	1,033,312
Mar	1,439,878	1,401,057	282,545	305,356	1,157,333	1,095,701
Apr	1,176,098	1,326,224	233,919	280,209	942,179	1,046,015
May	1,388,157	1,398,839	282,535	295,881	1,105,622	1,102,958
Jun	1,300,923	1,353,704	265,878	289,203	1,035,045	1,064,501
Jul	1,280,435	1,493,426	265,098	314,280	1,015,337	1,179,146
Aug	1,337,495	1,281,412	275,828	275,267	1,061,667	1,006,145
Sep	1,366,264	1,369,040	280,872	288,230	1,085,392	1,080,810

Source - NHS England's Consultant-led RTT Waiting Times Data September 2022 update

We must now consider, how do we assist the NHS in achieving this goal, if real world evidence is suggesting a trend in the wrong direction?

Assessing the success of the NHS plans

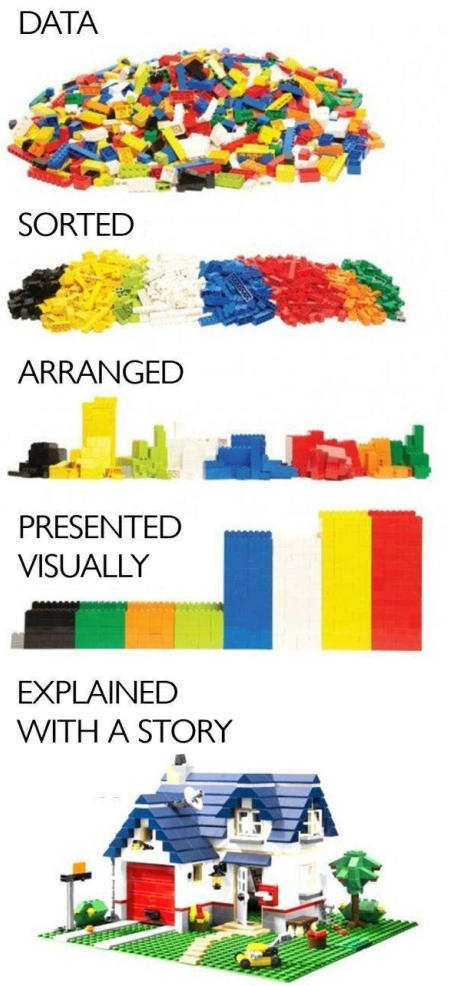
You'll notice some key themes across the NHS policies – **models of care, prevention, urgent care, health inequalities**

The ability to assess and quantify the success and/or impact of the NHS plans are underpinned by the same method used to demonstrate the potential improvements in healthcare provision and patient outcomes:

REAL
WORLD
EVIDENCE

Extracting the value from RWE and providing actionable insight

Extracting actual value from RWE



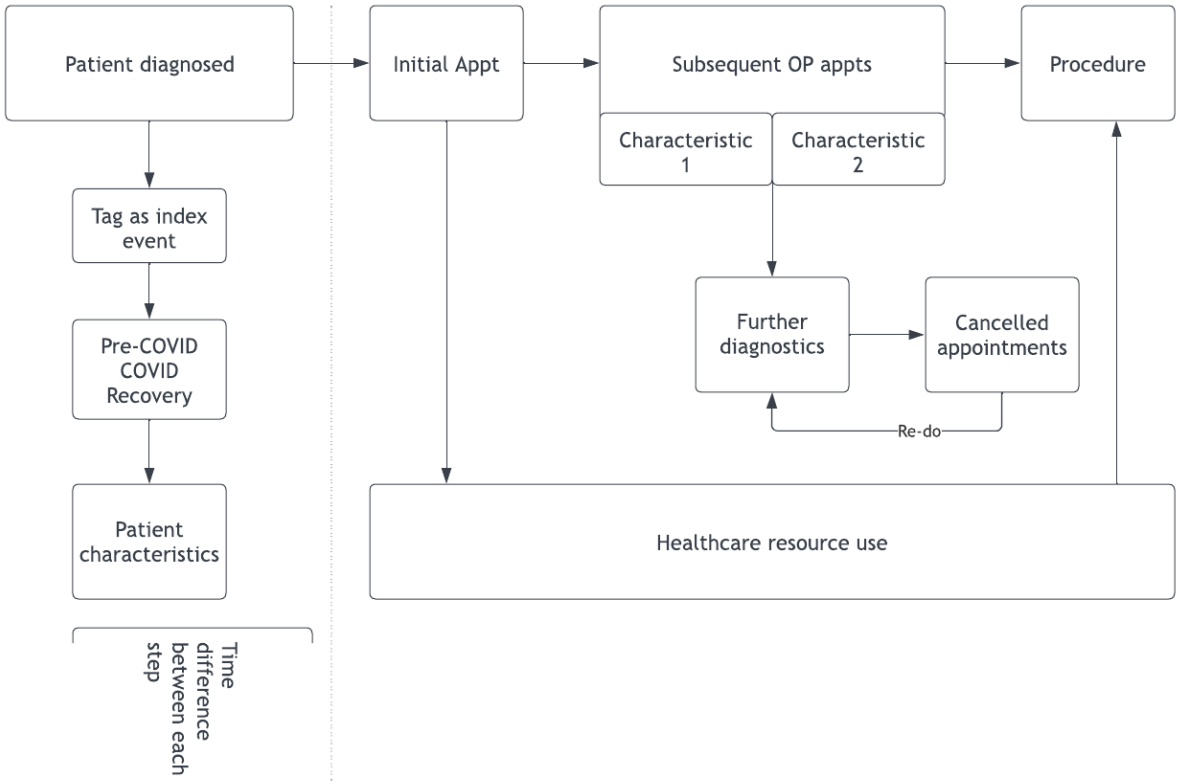
- We've likely all seen this image shared across professional platforms in the last 2 years
- Much of the current focus is on the first 3 steps to ensure further linked datasets and registries are available as providing evidence becomes more and more complex
- Traditionally, people have stopped at step 4, believing that this provides the end user with simplistic visualisations that remove the complexity, thus providing the answer
- Until you take real world evidence and present it as a story, you are leaving the user to come to their own conclusions and providing scope for misinterpretation
- The story should in any way manipulate the results, however, provide insights into what this means – answering the pivotal **"so what?"** question

Real world evidence for NHS stakeholders

- Providing NHS stakeholders with data simply **does not inspire change**. It can often muddy the waters further and in many cases, too much data is produced and the key messages are lost
- Assessing the existing pathways in full, along with **quantifying potential change** based on existing **real world evidence baselines** in one part of the puzzle
- An additional consideration is the one that many people ask – what keeps these stakeholders up at night? With this, we can refer back to the many objectives/targets that we have discussed today
- Previous analysis and studies provide fantastic evidence – the key, however, is translating this into **actionable insights**
- We'll now discuss a genericised example that brings this approach to life

Real world evidence for NHS stakeholders

Take a care pathway – previously, only analysis on this pathway would have been provided in reports, dashboards or infographics



- Validate the pathway with your stakeholder
- Track patient cohorts to view real world activity and healthcare resource use
- Assess whether another activity is relevant that has not previously been considered
- Align what the data tells you with the objectives of the stakeholders – do not modify the narrative purely to meet a goal

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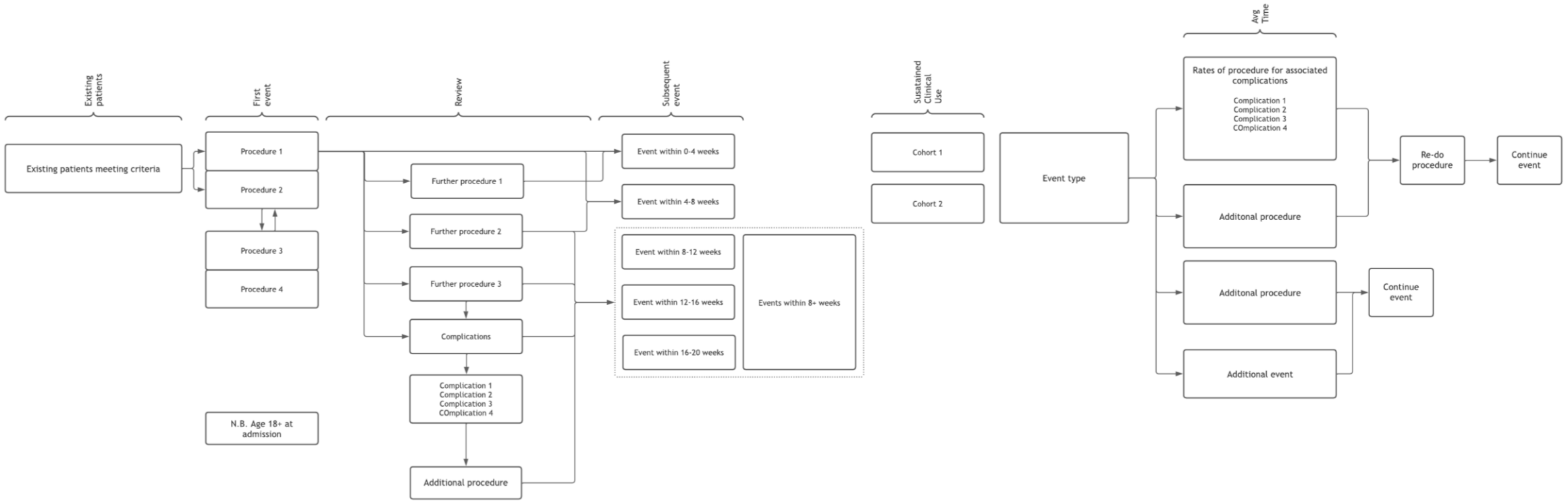
Real world evidence for NHS stakeholders

By fulling assessing the pathway with both key, relevant stakeholders, and fully analysing the relevant patient cohorts, you can build a fuller, more complex picture of the pathway:



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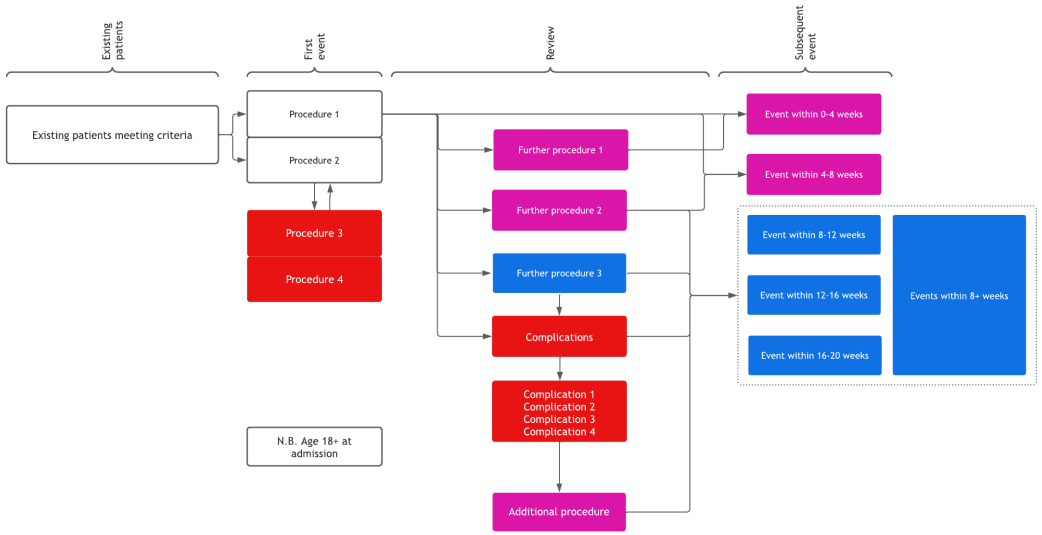
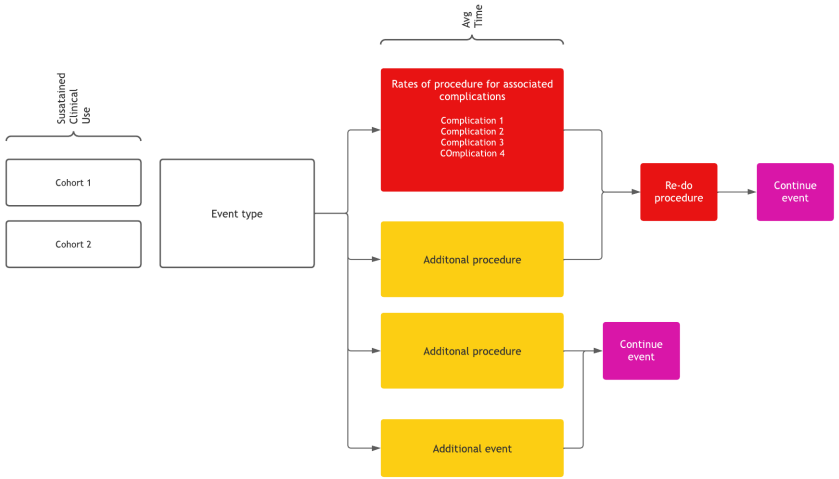
Real world evidence for NHS stakeholders





Workforce / Efficiency

Emergency Admissions

Elective Waits

Reduction in OP

Now, to translate into actionable insight, link and demonstrate areas of the defined pathway that could be improved back to the key NHS objectives – **quantify these with real world evidence**

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Providing NHS stakeholders with key evidence

Real world evidence driven change

What is the NHS striving to achieve?

Work in partnership as systems to make the most effective use of the resources available to us across acute, community, primary and social care settings

Tackle inequalities in outcomes, experience and access

Develop the workforce required to deliver multidisciplinary care closer to home, including supporting the rollout of virtual wards and discharge to assess models

Enhance productivity and value for money

Offer the right care, at the right time, in the right setting

Examples of real world evidence driven change

The challenge

In the current standard of care for Head and Neck cancer, patients eligible for curative treatment receive either surgery (with or without postoperative radiotherapy) or definitive radiotherapy (with chemotherapy). Harvey Walsh has worked with an Academic Health Science Network (AHSN) and an organisation to present analysis for alternative treatment pathways that reduce the need for chemotherapy.

The solution

The data enabled the organisation to engage with key opinion leaders at a national level and at The Royal College of Radiologists. A steering committee has been set up with a high level of interest as the benefits for both the patients and the NHS continue to be evaluated, especially throughout the COVID pandemic.

The impact

The benefits include:

- Radiotherapy department efficiencies, with more accurate Radiotherapy and less chance of misfire
- Enablers - more patients can be treated effectively
- Reduction in need for chemotherapy, thus reducing potentially unnecessary side effects on patients, improving their quality of life and freeing up chemotherapy capacity for other patients

Examples of real world evidence driven change

The challenge	There is a national target of reducing infection, both community and hospital-acquired.
The solution	Harvey Walsh has worked with a wound care company to produce a dashboard that is being used in ongoing engagements with providers and commissioners to review SSI rates in their local area, types of SSI and model the changes in treatment pathways that demonstrate the change in SSI rates and variation over time.
The impact	This has led to a decrease in preventable surgical site infections in UK hospitals, resulting in fewer patients having preventable infections post-surgery, less hospital follow up and lesser financial consequences for the NHS. Each admission for SSI costs on average £1800, so each time one is prevented there is a direct financial saving to the NHS and one less patient is admitted to the hospital.

Examples of real world evidence driven change

The challenge	Previously, IBS patients would have to go through the healthcare system for several years before receiving an accurate diagnosis. A new, non-invasive technology enables accurate diagnosis of IBS, which can also be utilised at home, in the community or GP surgeries. Patients then do not have to go to the hospital for invasive diagnostic tests and instead do a simple test at home, the results of these tests are returned to the GP within 48 hours allowing for accurate treatment and advice to be given to the patient.
The solution	The team utilised real world evidence to analyse the number of patients by CCG who attended for invasive diagnostic testing, quantified the cost, and modelled the numbers of patients who had no further activity and thus provided each CCG with a baseline of potential cost savings
The impact	This has resulted in fewer patients having to undergo invasive diagnostic procedures such as endoscopy or colonoscopy, whilst still not receiving an accurate diagnosis. This has led to improved patient experience, improved patient management and outcomes with patients then being able to undergo treatment far earlier. It will also result in financial savings for the NHS and will reduce the number of patients requiring the invasive diagnostic tests

Summary

- The NHS is currently facing unprecedented pressures, let alone demanding targets that currently seem a long shot at best
- There is enough “NHS bashing” to go around – the days of simply identifying the scale of the problem are now counterproductive
- Solutions to day-to-day challenges should be provided clearly and concisely with robust real world evidence
- A clear focus on how new pathways and solutions will aid the NHS in moving closer to their targets is key – quantify the gains that can be realised in the real world
- Drive the inclusion of RWE in future decision-making, enabling the NHS to be transparent with how future goals and targets are set

Any Questions?

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Thank you for attending

Contact me at chris.rolfe@openhealthgroup.com if you'd like to discuss any RWE related topics further

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