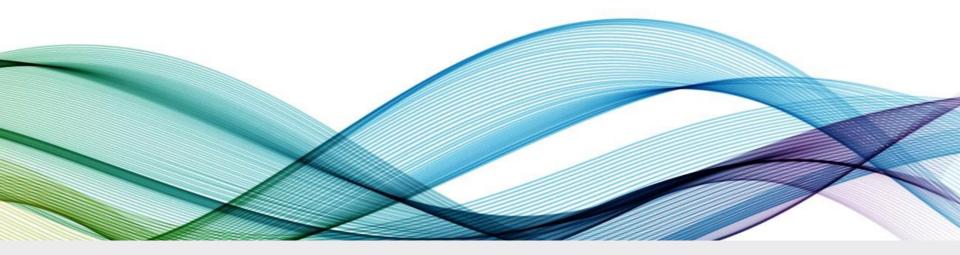
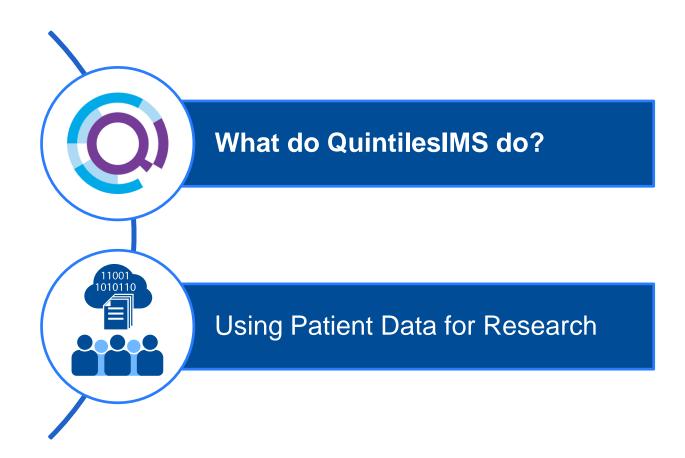


Commercial Uses of Real World Data to Support the NHS and the Pharmaceutical Industry

Tim Sheppard, General Manager, Northern Europe







Quintiles & IMS Health



Improve clinical trial design and execution



Improve access to medicines



Demonstrate value of medicine and measure outcomes

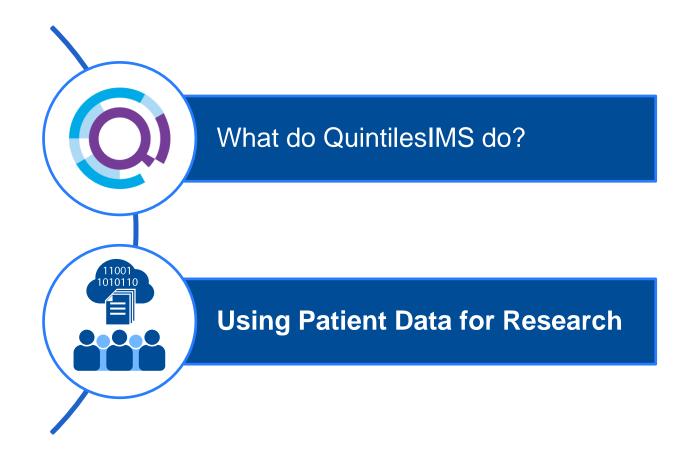


Commercial use of Real World Data resolving industry needs, and producing tangible benefits to patients

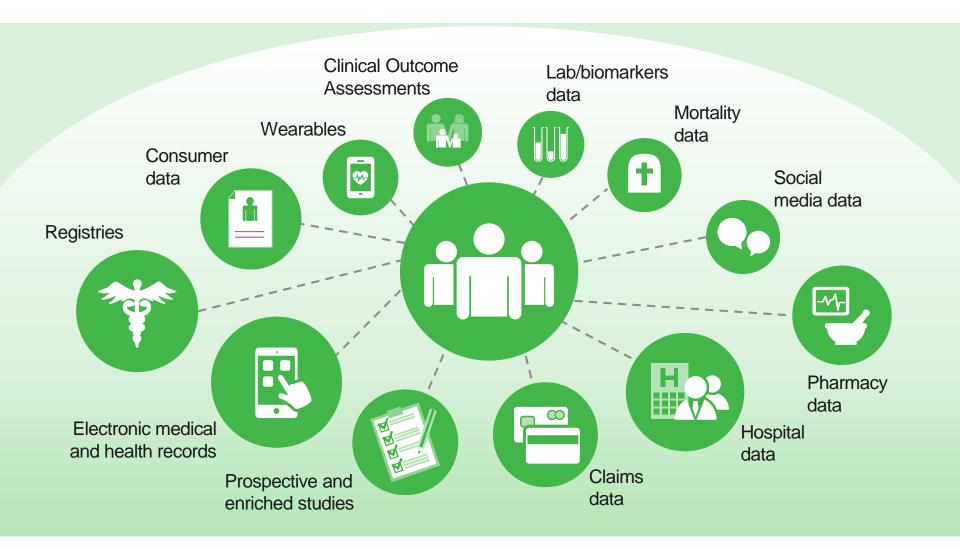
Healthcare Need Patient Benefits Pharma Benefits ✓ Effective Drugs get to ✓ Better targeted R&D Disease insights: patients more quickly, in investments, and study prevalence, diagnosis, R&D treatment patterns, and the greatest areas of design for Randomised unmet needs **Clinical Trials** patient need ✓ Fewer patient adverse More sophisticated Insight on how drugs are Medical being used, patient events, and improved recommendations on affairs & safety, and drug patient responses to who gets drugs, and safety effectiveness drugs how they are taken ✓ More sophisticated cost Quicker and more Inform assumptions on effectiveness models for Health positive funding disease prevalence, drug funding applications **Economics** diagnosis, treatment, and decisions, quickening burden of disease access to effective drugs ✓ More effective and Earlier access to drugs **Insight about how** efficient brand promotion Commercial patients are diagnosed. for the most appropriate & education to the right monitored, and treated, patients **Doctors**



Agenda

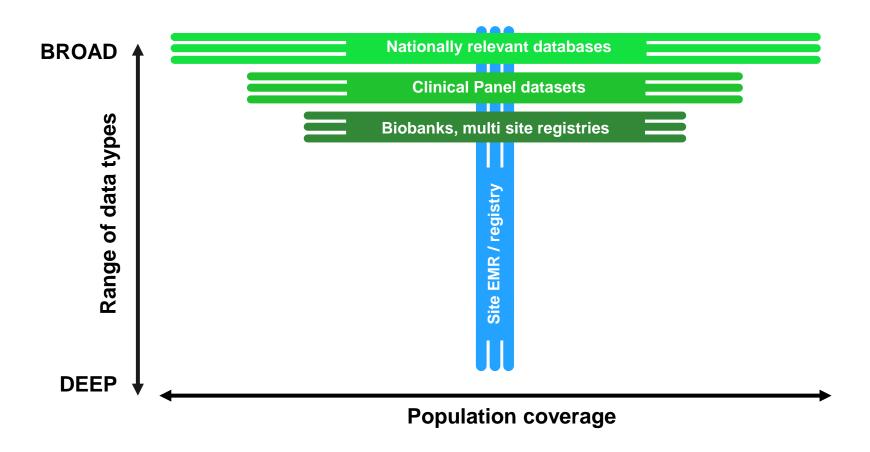








QuintilesIMS can also identify and source data from third parties, and combine with other datasets...





Rare diseases are not so rare, but finding those patients is taking too long



350 million people suffer from a rare disease worldwide¹

40% of patients are misdiagnosed initially²



7,000 rare diseases have been identified

QuintilesIMS

brings more HOPE to rare diseases sufferers



physicians (avg.)
are seen before diagnosis³

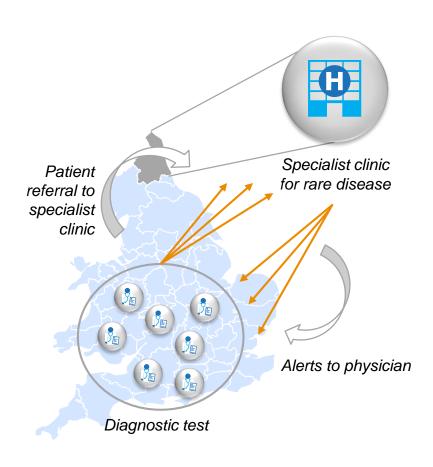


50% of rare disease sufferers are children'

years (avg.) before an accurate diagnosis³

Same methodology applies to any disease with a delay in diagnosis (rare or non-rare). Hepatitis C, Ankylosing Spondylitis, NASH are just some examples of non-rare diseases that suffer from a delay in diagnosis, and can benefit from this methodology

Rare disease detection using patient data



- National coverage of all hospital episodes in England collected in single data source
- Partnership with specialist clinic to develop risk stratification algorithm to find undiagnosed patients
- Alerts sent from specialist clinic via mail to physicians with guidance to screen named patients for rare condition
- Physicians carry out diagnostic test
- Newly diagnosed patients referred to specialist clinic



Today's Clinical Trials Present Familiar Challenges. And New Complexities.



In an era of targeted therapies and tightly defined patient populations, you need a new approach



Improving patient care with the Cancer Vanguard

Establish Medicines Utilisation



Patient Benefits

Benefits

Patient medication more consistently aligned to recognised best practice



Use status to share findings so they can benefit wider care management



Support a mutually beneficial focus area of analysis with NHS

Identify Unwarranted Variations



Align patients treatment more consistently to recognised best practice



Improve the effective use of NHS resources



in medicine usage between centres in the real-world

Drive Citizen Engagement



Amplifying the patient voice, ensuring patient centric healthcare service redesign



Enhance NHS understanding of patient experience, ensuring patient centricity



Clear insights into patient experience during treatment

Model Potential Savings



Realised savings ensure continuously improving healthcare delivery



Supporting medicines optimisation as part of routine practice



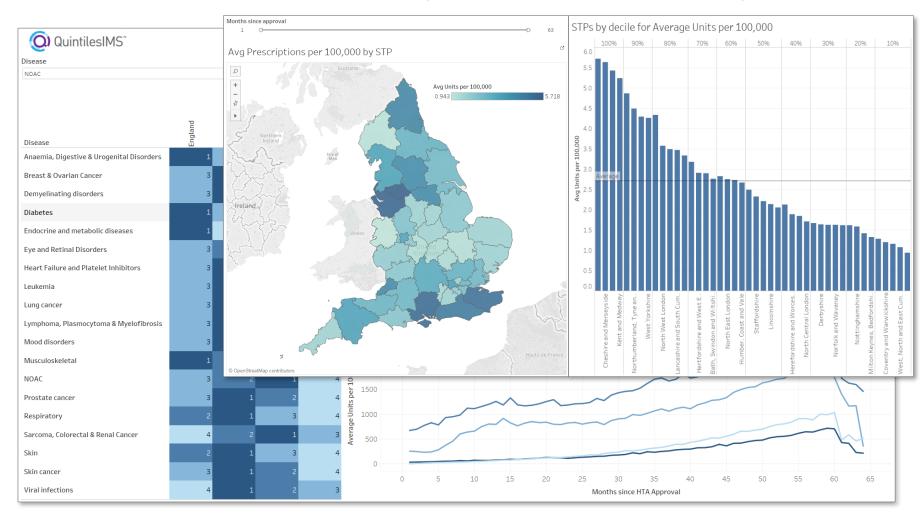
Improve outcomes & support the NHS to change behaviours





Dashboards provide international benchmarking

With country drill downs assessing rate of uptake by NHS region





Case study: New methods of pharmacovigilance – direct to patient validation study

Conducted with European Medicines Agency

Situation

To assess the extent to which data collected directly from pregnant women provides information on medication use and other potential risk factors throughout pregnancy, and is suitable for research purposes, including:

- How well can consumers report drug use and outcomes?
- How much medication usage (eg OTC or prescribed but not taken) is not recorded in electronic health or prescription records?
- Are there additional risk factors not typically recorded?

Solution

- Compare self-reported medication use with data from electronic health records and national prescription data.
- Data collected in 4 countries, 4 languages



Results

- 83% used ≥ 1 non-pregnancy-related medication during pregnancy or the preceding month;
 24% reported using OTC medications;
 7 % reported not using prescribed medications
- Additional risk factors not found in EMR were reported.
- Validation of clinical outcomes of special interest may be warranted



Information Security at QuintilesIMS

Key drivers requiring responsible security practices

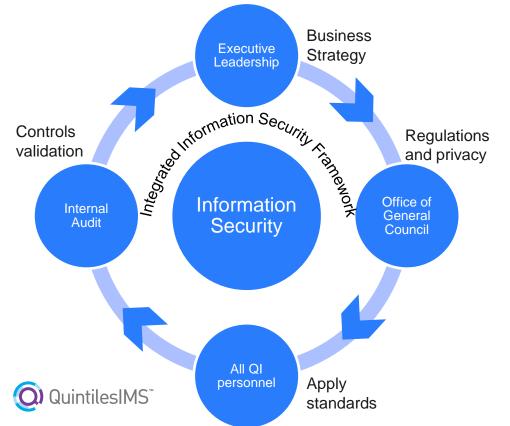
- QuintilesIMS (QI) Contracts and client expectations
- Protection of assets, reputation and Intellectual Property



20 petabyte dat 100⁺ countries

5000⁺ customers

Legislation and regulation, including data privacy and biopharmaceutical services



QuintilesIMS Pledge

- Global Integrated Information Security Framework
- Comprehensive security safeguards
- Dedicated security experts and resources as part of the Global Information Security team
- Draw on the knowledge and insight of external cybersecurity experts and vendors
- Training and awareness for internal and external users



