



Medicines Optimisation:

Background: Medicines Optimisation is a critical aspect of healthcare management, especially in the United Kingdom. It involves understanding and distinguishing between three key categories of drugs: Branded, Generic, and Biosimilar. These distinctions are crucial for healthcare professionals and patients as they impact treatment decisions based on safety, quality, effectiveness, and cost.

Branded Drugs: These are innovator drugs initially developed and marketed by pharmaceutical companies under patent protection. During this period, only the original manufacturer can produce and sell the drug. Branded drugs are often more expensive due to the extensive research, development, and marketing expenses incurred.

Generic Drugs: Generic drugs become available once the patent for a branded drug expires. They contain the same active ingredients as branded drugs and have equivalent safety, efficacy, and quality. Generic drugs are typically more affordable because manufacturers do not need to bear the costs of research and development.

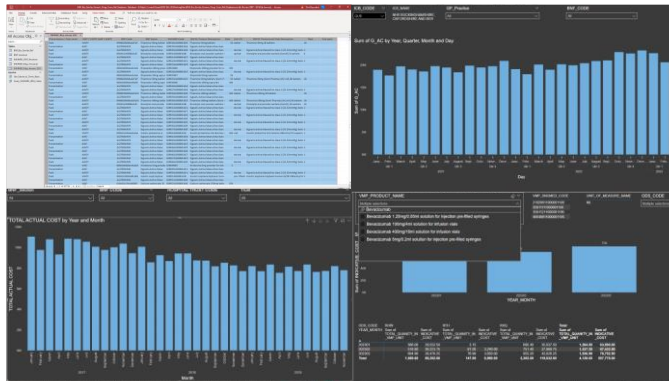
Biosimilar Drugs: Biosimilars are biologic products highly similar to already approved biological medicines. They are developed after the patent protection for the original biological product ends. While not identical, they undergo rigorous regulatory scrutiny to ensure safety, efficacy, and quality. Biosimilars provide more affordable alternatives to costly biologic medications.

The Approach: The process of medicines optimisation involves several steps:

- Identifying drugs suitable for investigation.
- Researching and identifying BNF Codes or SNOMED Codes specific to the selected drugs.
- Collaborating with healthcare organizations and their Drugs and Therapeutics Committees to update formularies.
- Identifying and agreeing upon alternative drugs regarding safety, quality, effectiveness, and cost.
- Finalizing the formulary.
- Continuously monitoring prescribing and use.
- Providing feedback to prescribers regarding adherence to the formulary.
- Repeating the process as necessary, focusing on different disease areas.

The Models: Various tools and databases are used in medicines optimisation, including:

- An Access Database for tracking and managing drug-related information.
- A BNF-Bio-Similar-Generic-Drug-Cross-Ref-Database to cross-reference drugs and their codes.
- A Power BI Model (Meds-Optimisation) for data analysis and visualization.
- Monitoring tools for ongoing evaluation.



The Method: The method involves systematically identifying BNF Codes and SNOMED Codes associated with specific drug names and populating a record table for subsequent investigation. This data is crucial for identifying, understanding, selecting, tracking, and managing drugs via the Formulary effectively. In summary, Medicines Optimisation is an essential component of healthcare management, combining data

analysis and formulary management to enhance the quality of care, reduce costs, and improve patient outcomes in the UK healthcare system. From previous modelling exercises, we have found that ICB investment in Drugs Used in Diabetes range between £331/Patient to £391/Patient and that individual GP Practice investment varies between around £800/patient to around £150/Patient. From this exercise it was difficult to see any logical reasons for these investment decisions. Taking an average ICB with a DM Register of about 85,000 registered Diabetes patients then the difference in investment choice between lowest and highest is about £5,000,000 per year.

BNF_Section	ICB_NAME	Year	Quarter	Month	Day
0001	All	2022			
ICB_NAME	Sum of DM_REGISTER	Sum of G, AC	G, AC divided by DM_REGISTER		
NHS 1 NORTH MERIDIAN INTEGRATED CARE BOARD	53555	20999900	391		
NHS SOUTH YORKSHIRE INTEGRATED CARE BOARD	90347	34793645	385		
NHS HAMPSHIRE AND ISLE OF WIGHT INTEGRATED CARE BOARD	107891	41422666	384		
NHS KENT AND MEDWAY INTEGRATED CARE BOARD	112902	43211733	383		
NHS MIDLAND SOUTH ESSEX INTEGRATED CARE BOARD	72252	27533606	381		
NHS SUFFOLK AND NORTH EAST SUSSEX INTEGRATED CARE BOARD	92903	35999892	380		
NHS DORSET INTEGRATED CARE BOARD	47880	18158059	378		
NHS COUNTRY AND WALES INTEGRATED CARE BOARD	56885	22098004	372		
NHS BLACK COUNTRY INTEGRATED CARE BOARD	93189	34690004	372		
NHS THAMES VALLEY NORTH YORKSHIRE INTEGRATED CARE BOARD	107415	39298952	372		
NHS GREATER MANCHESTER INTEGRATED CARE BOARD	107610	39324918	370		
NHS SHROPSHIRE, TELFORD AND WREKIN INTEGRATED CARE BOARD	31725	11952314	363		
NHS BRISTOL, NORTH SOMERSET AND SOUTH GLOUCESTERSHIRE INTEGRATED CARE BOARD	83033	30452510	360		
NHS RUSSEX INTEGRATED CARE BOARD	109893	36978480	360		
NHS CLYDE AND MERSEY INTEGRATED CARE BOARD	158998	57373903	359		
NHS STAFFORDSHIRE AND STOKES-CRANTON INTEGRATED CARE BOARD	76796	26914050	356		
NHS RUCKINGHAMSHIRE, OXFORDSHIRE AND RUTLAND INTEGRATED CARE BOARD	89672	31844435	354		
NHS EAST OF ENGLAND INTEGRATED CARE BOARD	74918	27681569	354		
NHS FRIMLEY INTEGRATED CARE BOARD	45008	16323991	354		
NHS GORWILLAM AND THE ISLES OF SOLWAY INTEGRATED CARE BOARD	34894	12232119	351		
NHS HEREFORDSHIRE AND WORCESTERSHIRE INTEGRATED CARE BOARD	50115	17504802	349		
NHS GAMBROUGHSHIRE AND PETERBOROUGH INTEGRATED CARE BOARD	52299	18239992	348		
NHS SHROPSHIRE AND SOUTH GLOUCESTERSHIRE INTEGRATED CARE BOARD	52484	19252374	348		
NHS ANGLIA INTEGRATED CARE BOARD	114479	39903484	348		
NHS DERBYSHIRE, LUTON AND MILTON KEYNES INTEGRATED CARE BOARD	62819	21714699	348		
NHS NORTH HAMPSHIRE INTEGRATED CARE BOARD	46555	16198458	346		
NHS NORTH YORKSHIRE AND WEST YORKSHIRE INTEGRATED CARE BOARD	85691	27489168	346		
NHS NORTH EAST LONDON INTEGRATED CARE BOARD	144035	49463003	343		
NHS BIRMINGHAM AND SOLIHULL INTEGRATED CARE BOARD	104828	37479000	343		
NHS GLOUCESTERSHIRE INTEGRATED CARE BOARD	37794	13813070	339		
NHS NORTH CENTRAL LONDON INTEGRATED CARE BOARD	85795	28881754	337		
NHS SOUTH WEST LONDON INTEGRATED CARE BOARD	81718	27091543	331		
NHS NORTH AND WEST OF ENGLAND INTEGRATED CARE BOARD	112126	41993200	321		
Total	2653228	124690000	345		