



Session 3D: Using data to drive transformation

The NHS Atlases of Variation in Healthcare

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Aim

- To reduce unwarranted variation in healthcare

Objectives

- To increase value in healthcare – achieving maximum value from the resources allocated, and achieving the optimal allocation of resources
- To improve quality in healthcare

Definition of unwarranted variation:

“Variation in the utilization of health care services that cannot be explained by variation in patient illness or patient preferences.”

Wennberg JE (2010) *Tracking Medicine: A Researcher's Quest to Understand Healthcare*

NHS Atlases of Variation in Healthcare: contribution to sustainable care and sustainable populations

Types of unwarranted variation

- 1. Effective care – interventions for which the benefits far outweigh the risks; in this case, the right rate of treatment is 100% of patients defined by evidence-based guidelines to be in need; in this case, unwarranted variation is generally a matter of under-use**
- 2. Preference-sensitive care – when more than one generally accepted treatment option is available, such as elective surgery; in this case, the right rate should depend on informed patient choice but treatment rates can vary extensively due to differences in professional opinion**
- 3. Supply-sensitive care – clinical activities such as consultations, diagnostic tests and hospital admissions, for which the frequency of use relates to the capacity and performance of the local healthcare system; these indicators commonly reflect care for people with long-term conditions; high rates of use do not necessarily reflect better outcomes**

Why is unwarranted variation important to a sustainable healthcare system?

“Variation is a thief. It robs from processes, products and services the qualities that they are intended to have. ... Unintended variation is stealing healthcare blind today.”

DM Berwick (1991)

Medical Care 29; 1212-1225

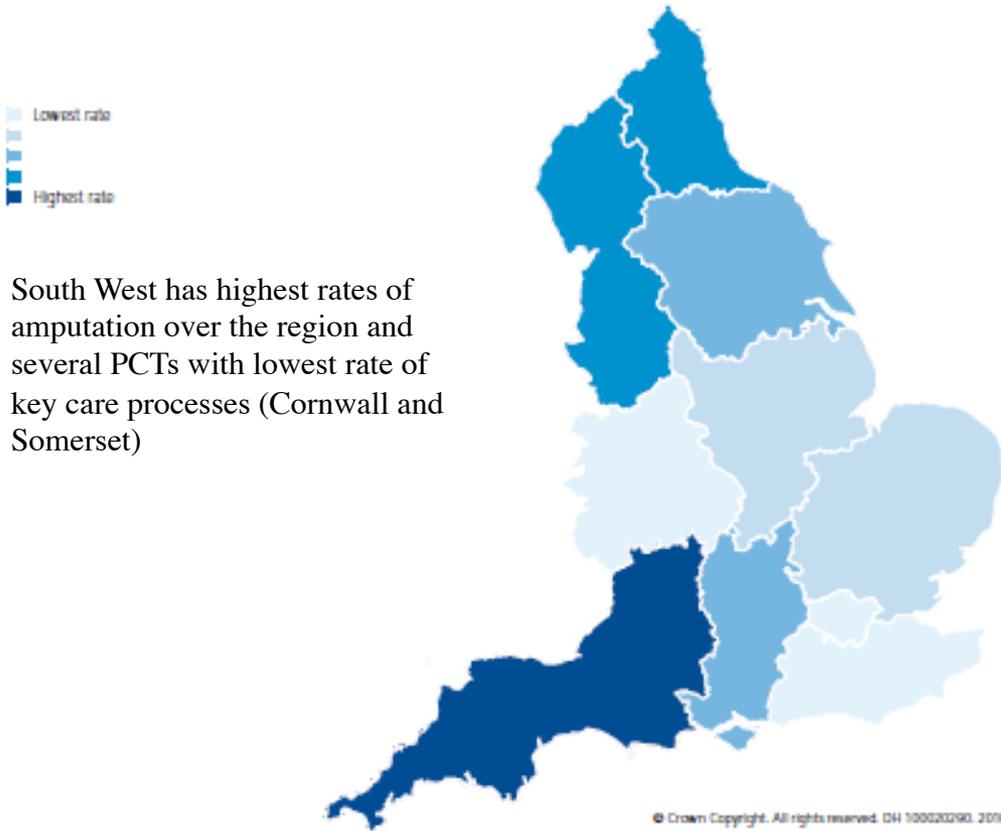
Are we providing care in a sustainable way?

The need to tackle unwarranted variation

Nine key care processes for people with diabetes (NICE guidance)

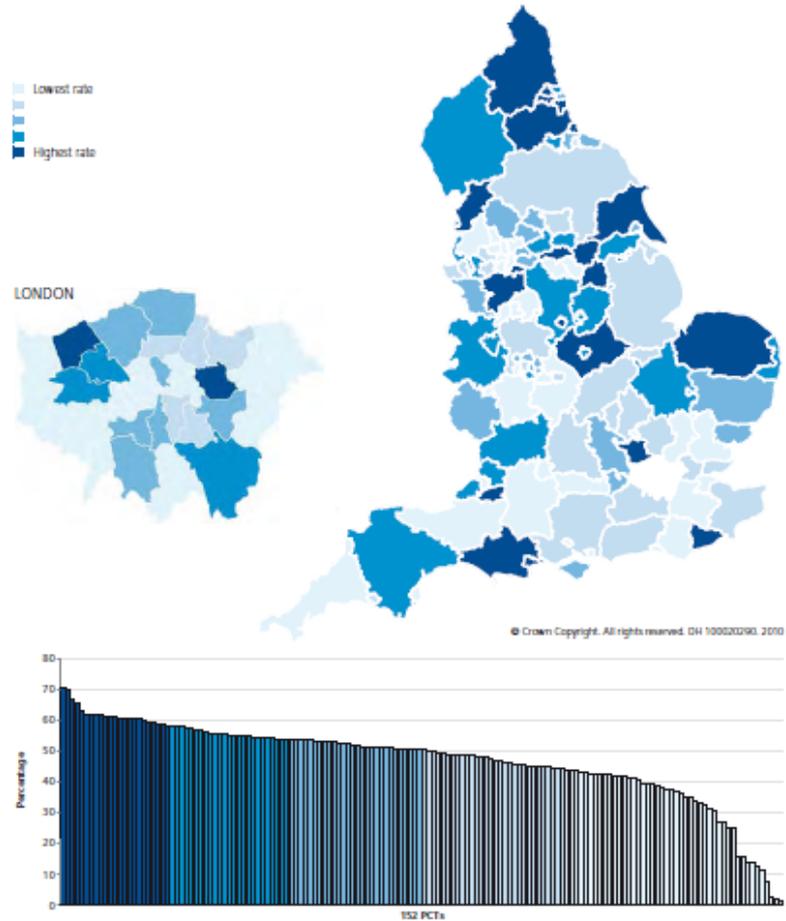
1. HbA1c measurement
2. Cholesterol measurement
3. Creatinine measurement
4. Micro-albuminuria measurement
5. Blood-pressure measurement
6. Body mass index measured
7. Smoking status recorded
8. Eye examination
9. Foot examination

Map 3: Incidence of major amputations in a five-year period (2004/05-2008/09) per 1000 patients with registered Type 2 diabetes in 2008/09 by SHA



South West has highest rates of amputation over the region and several PCTs with lowest rate of key care processes (Cornwall and Somerset)

Map 4: Percentage of people with diabetes receiving nine key care processes by PCT 2008/09



There is a 35-fold variation in the percentage of people with diabetes receiving nine key care processes. When the five PCTs with the highest percentages and the five PCTs with the lowest percentages are excluded, a fivefold variation remains.

Magnitude of variation

There is a twofold variation among strategic health authorities (SHAs) in the incidence of major amputations per 1000 patients with registered Type 2 diabetes.

Are we providing care in a sustainable way? Potential outcomes if we do not address unwarranted variation

For individual patients

Potential for increased harm, disability, reduced quality of life, and in some cases reduced life-expectancy (effective care); over-treatment (over-use)

For families and carers

Potential for increased stress from providing care and from loss of income

For populations

Opportunity costs for treatment for other groups and/or opportunity costs for other sectors, e.g. Education or public sector transport & active travel

For the NHS

Potential for increased use of resources as intervention occurs at a later date or when it is not needed; opportunity costs within the health service

For the country

Reduced economic, social and environmental sustainability

For the environment

Potential for increased use of non-renewable resources, and for increased pollution and waste

Using data to drive transformation

Never focus on the mean:

It can result in inertia – an argument to do nothing by the organisations in the middle of the distribution, the temptation to be complacent if organisations are doing better than the mean, and the excuses around denial if organisations are doing worse than the mean – all ignore the opportunity to take action to improve

The mean can be unacceptably poor (e.g. key care processes for people with diabetes)

Do not place undue focus on the outliers – even the best may have room for improvement especially compared with performance in other countries, e.g. transplantation

Encourage all services to improve – small changes in all services delivered at a local level add up over time to quality improvements for the NHS as a whole.

Reduce the variance – it is not enough to improve performance, it is important to narrow the distribution, i.e. reduce the variability

Tackling unwarranted variation: the case for change

Salford integrated diabetic footcare service

- Re-organised & streamlined the footcare pathway for people with diabetes
- Community care and secondary care acted as one service

Outcomes over 4 years

- Major amputation rate fallen by two-thirds, number of foot ulcers has decreased by one-third, and savings of over \$1 million (estimated)

Luton PCT – emergency admissions for epilepsy in children

Community specialist epilepsy nurse investigated unwarranted variation – Luton had the highest rate of emergency admissions for epilepsy in children, double that of all but one demographically similar PCT

Areas for improvement: Education of families, Pre-hospital care, Education of ambulance service for pre-hospital management, and Network care pathways (seizure urgent care pathway developed)

At-risk populations identified, including those receiving substandard care, who can be targeted for interventions appropriately & cost-effectively

The NHS Atlases of Variation in Healthcare: posing questions about sustainability

“A good map is worth a thousand words, cartographers say, and they are right: because it produces a thousand words: it raises doubts, ideas. It poses new questions, and forces you to look for new answers.”

Franco Moretti (1998)

Atlas of the European Novel 1800-1900

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Thank you