Patient-defined outcomes and population health management

Dr Caz Sayer, Chair

Working with the people of Camden to achieve the best health for all
Away from the past to a sustainable future?

A National Challenge...... A Local Response

The NEW NATIONAL HEALTH SERVICE

Your new National Health Service begins on 5th July. What is it? How do you get it?

It will provide you with all medical, dental, and nursing care. Everyone—rich or poor, man, woman or child—can use it or any part of it. There are no charges, except for a few special items. There are no insurance qualifications. But it is not a “charity.”

You are all paying for it, mainly as taxpayers, and it will relieve your money worries in time of illness.
Value, Valued and Values

- ‘Time after Time’
- PHM Approach
- PHM in Action
- Key Messages
Clinically led, innovative service re-design focused on an integrated model of care, planned and co-ordinated around the needs of patients and families.

Time after Time — Health Policy Implications of a Three-Generation Case Study

1 Sayer and Lee, NEJM Oct 2014

Three key messages:

- Reorganize care around achieving value for patients — and that we have to do it in more thoughtful and strategic ways
- Plan and deliver on wider system than just traditional clinical care
- Breaking the pattern requires long term investment in prevention and early intervention.
Within Camden there are many influencing factors that impact on the health of our population.
What are the issues facing Camden system through a health lens?

Three areas of financial opportunity for Camden were identified in the latest Commissioning for value packs (Oct 2016):
- Mental Health
- Cancer
- Gastroenterology

Long Term Conditions and Mental Health packs show the CCG areas for improvement:
- Cancer screening (treatment outcomes perform in line with peers).
- High rates of gastroscopy and colonoscopy.
- IAPT waits and recovery rates
- High volumes of hospital admissions and bed days for mental health
- End of life of care
- Social factors

Camden CCG has the following areas within the Improvement and Assessment Framework where improvement is required.

**Clinical Priority Areas** that require improvement:

<table>
<thead>
<tr>
<th>Domain</th>
<th>Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>Cancers diagnosed at early stage</td>
</tr>
<tr>
<td></td>
<td>62 day treatment</td>
</tr>
<tr>
<td>Learning disabilities</td>
<td>Reliance on specialist inpatient care for people with a learning disability and/or autism</td>
</tr>
<tr>
<td>Maternity</td>
<td>Women’s experience of maternity services</td>
</tr>
<tr>
<td>Mental Health</td>
<td>IAPT recovery rate</td>
</tr>
</tbody>
</table>

Areas from the **four domains** that require improvement:
- Cancer diagnosis at early stage
- IAPT recovery rate
- Children and young people mental health services for transition
- Crisis Care Mental Health Liaison
- Women’s experience of maternity services
- Digital interaction between primary and secondary care

Right Care

Insights

Second highest spend per weighted population in London, reflecting reliance on acute care.

Mental Health spend amongst highest in London, but variable outcomes.

In next 10 years Camden will see growth in LTCs, including dementia and mental health. (JSNA)

Sub-populations utilise services disproportionately to their share of the population.

Deprivation increases the likelihood of someone falling within the high utilisation segment.

Co-morbidities can influence likelihood of falling in high utilisation segment e.g. mental health, dementia.

People can move both ways between the segments to better health or more complex needs.

Multiple approaches are required to meet the needs of different sub populations e.g. ACS conditions

High volume activity but low complexity versus the high cost complex but low volume
Value, Valued and Values

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Population Health Management Approach

- Data available to health planners is available in aggregate form or shared by patients with individual clinicians.

- Our Population Health Management toolset describes **service utilisation as a proxy for health needs** of the local population by developing groupings based on similar health needs that can influence pathway redesign.

- This helped **bridge the gap** between aggregate and patient level information to **drive down variation in the quality of care and costs, while improving outcomes**.

- The most complex segment (most right) comprises of only **1.21%** of the population for **13%** of overall spend.
Impact of deprivation on health outcomes suggests we need to address wider determinants of health.

- Urgent care utilisation broadly equal, but as health needs become more complex the most deprived utilise more secondary care.
- Equal utilisation here but unequal utilisation as you get higher needs.
- Older people: 7 in 100 older people fall in high needs segment in North locality.
- Proportionate amount of most affluent accessing urgent care.
- Over representation of this section utilising secondary care by the poorest segment in the North.

Population Health Management Level 1

Impact of deprivation on health outcomes suggests we need to address wider determinants of health.
Children: Age/Locality/Emergency Activity – Impact of wider determinants of health are manifested in over utilisation of secondary care from our most deprived locality

<table>
<thead>
<tr>
<th>Age/Locality/Emergency Activity</th>
<th>Healthy Individuals / limited need for healthcare</th>
<th>Maternity / Acute patients without LTCs with limited potential to use secondary care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,187  1,497  1,737  1,911  2,475  2,510  2,746  2,801  4,301</td>
<td>522  548  839  1,063  1,311  1,788  2,159  3,269  4,509</td>
</tr>
<tr>
<td>0-4</td>
<td>North Locality</td>
<td>6,555 (20.2%)</td>
</tr>
<tr>
<td></td>
<td>South Locality</td>
<td>6,449 (19.5%)</td>
</tr>
<tr>
<td></td>
<td>West Locality</td>
<td>4,890 (15.1%)</td>
</tr>
<tr>
<td>5-9</td>
<td>North Locality</td>
<td>2,179 (6.7%)</td>
</tr>
<tr>
<td></td>
<td>South Locality</td>
<td>2,232 (6.9%)</td>
</tr>
<tr>
<td></td>
<td>West Locality</td>
<td>1,245 (4.2%)</td>
</tr>
<tr>
<td>10-18</td>
<td>North Locality</td>
<td>2,910 (9.0%)</td>
</tr>
<tr>
<td></td>
<td>South Locality</td>
<td>4,121 (12.7%)</td>
</tr>
<tr>
<td></td>
<td>West Locality</td>
<td>1,724 (5.3%)</td>
</tr>
</tbody>
</table>

Note: The table shows the number of cases for different age groups and localities, along with the percentage of cases for each group. The Impact of wider determinants is reflected in the over-utilisation of secondary care from the most deprived locality.
Value, Valued and Values

‘Time after Time’

PHM Approach

PHM in Action

Key Messages
“Reorganize care around achieving value for patients – and that we have to do it in more thoughtful and strategic ways”

Partnership aim: “Health and care services will work together with local people to provide coordinated, proactive, accessible, good quality care in order to improve the health and well being of people in Camden.”

Shared outcomes: Reduce health inequalities, prevent early death, improve service users’ access to care, improve service users’ experience of care, enhance residents’ quality of care

Enablers: Integrated Digital Health and Care Records

Camden’s model of care emphasises the importance of care coordination and integrated multidisciplinary working.
The Future Generation -

Breaking the pattern through long term investment in prevention and early intervention

Children and Young People - Key Facts

- Domestic violence is the most commonly identified risk factor (31% of cases) in social care assessments
- Camden has the 11th highest rate of child poverty in the country
- 36.3% of children have one or more missing, filled or decayed teeth
- 37.6% of children in year 6 are overweight or obese
- 13.8% of pupils have special educational need
- Parents mental health is one of the top family risk factors, identified in 25% of cases at care assessment
- 76% of children are from minority ethnic groups (including white other)
- Under 18 conception rate per 1000 girls is 16.8 (2014)

Children and Young People Population Segments (health service utilisation)

<table>
<thead>
<tr>
<th>Healthy Individuals / limited need for healthcare</th>
<th>Maternity / Acute patients without LTCs with limited potential to use secondary care</th>
<th>LTC but healthy</th>
<th>LTC Patients who need regular management and or monitoring</th>
<th>Patients with LTCs and have high potential to use secondary care</th>
</tr>
</thead>
<tbody>
<tr>
<td>32,465 (71.28%)</td>
<td>11,411 (25.10%)</td>
<td>1,608 (3.54%)</td>
<td>16 (0.04%)</td>
<td>21 (0.05%)</td>
</tr>
</tbody>
</table>
Putting Population Health Management into Practice

Resilient Families Programme - planning and delivering on a wider system than clinical care
Planning and Delivering Together - Camden Children and Young Peoples Plan: ’Thrive’

Aims:
• Improved outcomes for Children and Young People
• Building individual, family and community resilience
• Getting it right first time
• Better use of partnership resources

Outcomes:
1. Children and Young People safe and engaged
2. Thrive at school
3. Those with additional needs meet their full potential
4. Reduction in children living in poverty
5. Children and Young People protected from violence
6. Good physical and mental health

Examples of Impacts measured:
1. Reduce% young offenders receiving custodial sentences
2. Reduce % absences from school
3. Reduce repeat referrals to social care within 12 months
4. Reduce parental workless rates
5. Reduce Domestic Violence as presenting factor to MASH
6. Reduce % children overweight/obese
   Reduce mental health admissions

Example of Score-card

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Hospital admissions for mental health conditions</td>
<td>228.3</td>
<td>391.6</td>
<td>226.5</td>
<td>Reported annually</td>
</tr>
<tr>
<td>Children aged 4-5 overweight or obese in Camden schools</td>
<td>22.2%</td>
<td>20.4%</td>
<td>20.1%</td>
<td>Reported annually</td>
</tr>
<tr>
<td>Children aged 10-11 overweight or obese in Camden schools</td>
<td>34.4%</td>
<td>34.3%</td>
<td>37.7%</td>
<td>Reported annually</td>
</tr>
<tr>
<td>Hospital admissions due to alcohol specific conditions</td>
<td>35.5 (2012/13)</td>
<td>40.9 (2013/14)</td>
<td>37.7 (2014/15)</td>
<td>Reported annually</td>
</tr>
</tbody>
</table>

Reduce health inequalities & promote good physical and mental health

1. % of children overweight or obese
2. Hospital admission due to alcohol
3. Mental health hospital admissions
Co-Design and Co-production in Action leading to the creation of the value chain

- Minding the Gap - co-produced with a young people’s board from planning, to procurement and building design, young people’s transition protocol

- Real talk - a young people’s debate on mental health to give young people (14-21) innovative ways for them to become better informed about issues that affect them enable local young people to have a say in future service design/development

- Digital technology review - a review of how children, young people and their families use and would like to use digital technology to support their health. 350 parents, young people and professionals contributed to the work through surveys, focus groups and interviews.

- Pizza and chat - a creative space which allows young people to bring up ideas and thoughts in relation to mental health and potential service developments. The group meets monthly and has a membership of 54 young people and parents.

- Parent advisory group - a well-established group of parents who are consulted monthly on various health topics and deliver pieces of work. They also act as participation ambassadors attending local events to gather feedback.
Value chain for Children

**Activity**
- Early Post Natal Health
- Supporting Healthy Early Years
- Supporting Child Mental Health Services
- Promote best possible welfare for looked after children in Camden
- Use of new technology and innovation to improve access and completeness of care
- Promoting Emotional/Physical health and wellbeing to the children and young adults of Camden

**Output**
- Implementing first 1001 Days
- Childhood weight management services
- Immunisation Programs
- School Nursing for children and adolescents
- Minding the gap project
- Building resilience of children in Care
- Providing long term care to children with complex care needs
- Development of integrated hub: Electronic Single Point of Referral for more complete social and medical care records
- Empowering Families and providing cross-sectional support services across both health and social care services.

**Outcome**
- High breastfeeding initiation in Camden (90.5, National best 92.9%)
- Reduction in overweight or obese 4-5 year olds in Camden (22.2% 13/15)(13.1% 15/16)
- Population coverage MMR is increasing
- 83% of children had received a school entry health check at end of term 2.
- High rates of LARC contraception administered at Sexual Health Services in Camden under 25s
- Facilitating the transition of young people through into adult mental health services through case review.
- 100% of children in care have development checks completed
- Children in care with up to date immunisations (Camden 92.6) England (85.7)
- Integrated HUB service took 1854 referrals in 12 months
- Supporting families by providing access to effective and efficient services

**Impact**
- Providing the children of Camden the best possible start in life. Promoting school readiness
- Under 18s conception rate in Camden continues to reduce (16.8 Camden)(21.5 London)
- Reduction in Hospital Admissions for Mental Health Conditions (228.3 13/14) (225 15/16)
- Ensuring looked after children in Camden have good outcomes
- Getting it right the first time and improved quality of care
- Higher level/Long term goals of the programme. Impact attempts to look at how the lives of Camden’s patients improved.

Activities are the tasks and actions carried out by the children's program. These are considered to be within the area of control internal to the CCG.

Outputs are the desired immediate changes to patients due to actions carried out by the programme.

Outcomes are demonstrable positive changes as a result of the outputs that the programme is designed to deliver.
**Peer Review: GP Quality Dashboard**

The dashboard presents clinical outcomes, referral rates, A&E attendances, QOF reporting and patient experience, and is presented at monthly locality meetings.

The element of peer review helps identify the variation between practices, and share the successes of good practice

**CCAS: Referral Management Hub**

81% of Camden GPs agree that CCAS provides a good service

100% are called within 120 hours of referrals being received

**Training & Education**

10 Events held with a total of 728 attendees (Jan-Dec 2016)

**Specialist Services**

Team around the practice offers flexible approach to mental health interventions which has assessed **2042 patients** in General Practice over 2 years

Care Navigator Services supports patients to gain access to voluntary & community services, recording **1527 onward referrals** over two years

**GP Website**

Details of **34 clinical care pathways** are hosted on the GP website recording over 190K website hits (Jan-Dec ‘16)

- 92% strongly agree or agree that the site is an essential tool in their practice

**CCAS**

**GP Website**

<table>
<thead>
<tr>
<th>Current (63% of all 1st OP E-Referrals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st OP Routine Referrals – Accepted and Rejected</td>
</tr>
<tr>
<td>Community Dermatology</td>
</tr>
<tr>
<td>PoLCE Applications Assessing</td>
</tr>
<tr>
<td>CICS Registering of Referrals</td>
</tr>
</tbody>
</table>
Published in 2014 the first ‘Camden Story’ reviewed needs, utilisation and outcomes across Camden and from there a transformation programme focused on four condition segments:

- Long Term Conditions
- Mental Health
- Frail Elderly
- Children and Primary Care

For each segment a 'care planning' approach was adopted.

Multi-disciplinary teams (MDTs) involving providers across health and social care were established at local practice and - for the most complex cases - borough levels.

Patients referred to an MDT were added to a 'risk register' and assigned a care co-ordinator who would develop a care plan with the patient to be managed through the MDT.

Information was shared through the Camden Integrated Digital Record.

To illustrate, elderly people with complex needs told commissioners that the most important outcome for them was ‘to spend more time at home’ and an approach to achieving this was produced.

The relevant outcome hierarchy model is shown here.
Putting the information to work: value of health & social care MDT approach

**Benefit to the patient:**
*Increased time spent at home*

72% of patients spent the same amount or more time at home following MDT case management.

**Benefit to the CCG:**
*Secondary care savings*

An estimated £560k has been realised in secondary care savings since the MDT began.

- Emergency admissions average monthly saving 2014 is £25,770
- A&E average monthly saving 2014 is £1140

**Benefit to the Provider:**
*Fewer emergency beddays*

An 18% reduction in emergency beddays for these patients. This extra capacity can be used to treat elective patients who actually need to be in hospital.

Value and the MDT

Sayer-NEJM Catalyst 2016
Camden is already top performing CCG based on Elective and Non-elective admissions per 1000 weighted population.

**Non-elective Inpatient Admissions per 1000 weighted population**
#, Camden vs National Top Decile

- 2013-14: 97.2 (Camden CCG), 101.2 (National Top Decile)
- 2014-15: 94.2 (Camden CCG), 101.4 (National Top Decile)
- 2015-16: 90.4 (Camden CCG), 94.7 (National Top Decile)

**Elective Inpatient Admissions per 1000 weighted population**
#, Camden vs National Top Decile

- 2013-14: 21.3 (Camden CCG), 21.4 (National Top Decile)
- 2014-15: 20.9 (Camden CCG), 21.4 (National Top Decile)
- 2015-16: 18.6 (Camden CCG), 18.7 (National Top Decile)

SOURCE: HES
Where next when top performing?

Different approaches are needed for different segments

Relative Impact of Co-Existing Different Diseases on Utilization

Cost of Emergency Admissions for ACS Services According to Complexity of Segment

<table>
<thead>
<tr>
<th>Segment</th>
<th>Population in this segment</th>
<th>Number of patients who had at least one emergency admission for ACS conditions</th>
<th>Number of emergency admissions for ACS conditions</th>
<th>Total cost of ACS conditions*</th>
<th>Average number of admissions per patient</th>
<th>Cost of ACS admissions per person in the segment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute/maternity patients without LTCs with limited potential to use secondary care</td>
<td>50,903</td>
<td>7,545</td>
<td>13,339</td>
<td>$44,469,067</td>
<td>1.8</td>
<td>$874</td>
</tr>
<tr>
<td>LTC patients who need regular management and/or management</td>
<td>4,609</td>
<td>1,256</td>
<td>1,504</td>
<td>$2,524,985</td>
<td>1.2</td>
<td>$548</td>
</tr>
<tr>
<td>Patients with LTC and have high potential to use secondary care</td>
<td>3,001</td>
<td>2,233</td>
<td>6,013</td>
<td>$21,570,126</td>
<td>2.7</td>
<td>$7,188</td>
</tr>
</tbody>
</table>

The ability to understand and quantify the impact of different disease combinations on service utilisation enablers planners to target resources effectively. E.g. patients with Atrial Fibrillation having two or more comorbidities was found to increase the cost of care threefold.

Further opportunities are identified through reviewing ACS conditions for high volume low cost and low volume high cost patients.
Where next when top performing?

Adult inpatient utilisation of population segments by HRG chapters

- The figure on the left looks at the distribution of secondary care utilisation by HRG chapter. This includes all types both electives and non-electives.
- Type of secondary care activity utilised varies by segment.
- Less than 6% of the people who are admitted for Digestive System Disorders are from complex segments.
- In contrast over 20% of admissions to respiratory or Endocrine system is from the most complex.
- Digestive system activity is predominantly planned, whilst respiratory activity is predominantly unplanned.
Where next when top performing?

Older people inpatient utilisation of population segments by HRG chapters

- The variation in older people differs from adults. 32% of utilisation of digestive system are by most complex segment.

- Nearly half of the activity in infectious diseases are by people in most complex segments.
Hot-spotting example

A data-driven process for timely identification of extreme patterns in a defined region of the healthcare system. Used to guide targeted intervention and follow-up to better address patient needs, improve care quality, and reduce costs.

The chart shows the risk (probability of patients falling in the two most complex segments) by their characteristic. The baseline characteristics are white British, aged 50 living in a locality with average health deprivation (within Camden) having no hypertension and none of the lifestyle concerns. Moving from bottom to top the increase in risk is shown adding/changing a certain characteristic. For example, keeping all other factors same but changing the ethnicity to Bangladeshi increases the risk by 1.8%.

Moving upwards a Bangladeshi aged 60 with higher deprivation having hypertension, obesity and learning difficulties have a 53% risk of falling in complex segments. This risk increases with age and other factors being added.
The response to our local population health challenge was to implement the Camden Diabetes Integrated Practice Unit (IPU).

Our local monitoring measures the impact of key metrics. The data shows prevalence increasing and the number of unplanned admissions decreasing.

This impact can also be seen at a national level with Camden falling within the top performing category in the recently published clinical indicators.
Value, Valued and Values

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How has the outcome landscape changed?

Source: NHS Right Care, CCG Spend and Outcome tool
Patient experience measures

A wide range of patient experience outcome measures are monitored in the toolset.

% of people who feel supported to manage their long term conditions
Key Messages

- **Planning** at an individual level is not practical, but the ability to **group patients** with similar health needs and to find ways to respond more effectively and efficiently to these needs can help us to deliver measurable improvements in patient **outcomes** and reduce **costs** to the system.

- **Different segments** need **different approaches**: patients who are mainly healthy will benefit from universal approaches (e.g. improving access particularly in primary care), whereas those with the most complex conditions require more individually tailored, integrated approaches to maximise value.

- **All segments** of the population can **move in both directions** (toward both higher and lower service utilisation)-understanding the impact of the disease process or the interventions is important in planning future services

- Linking deprivation data to the tool demonstrates the **adverse impact of deprivation on health** suggesting the need to invest more widely in improving health outcomes

- Understanding the population health needs **facilitates strategic planning** and informs service re-design and impact and is essential to **closing the 5 Year Forward View 3 gaps**

- For longer-term sustainability the NHS and Social care must focus on **stopping doing things that do not add value**