Population Health Management

Berkshire West and Frimley Roadmap

DRAFT
## Development and stakeholder inclusion

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<tr>
<th>Date/Ver.</th>
<th>Authors</th>
<th>Comment</th>
<th>Distribution</th>
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<tr>
<td>10/8 v1</td>
<td>KS</td>
<td>Initial strawman</td>
<td>Workshop 13/8</td>
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<tr>
<td>26/8 v2</td>
<td>KS/ JL/ workshop participants</td>
<td>Includes workshop output and input from Frimley Primary Care workstream meeting 23/8</td>
<td>Workshop 28/8 Wider stakeholders – Surrey Heartlands, Public Health, wider clinical &amp; commissioner input</td>
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<tr>
<td>7/9 v3</td>
<td>Second workshop attendees</td>
<td>Includes wider input on v2 and second workshop</td>
<td>As above</td>
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<td>13/9</td>
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<td>Berkshire West ICS Board</td>
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<td>9/10</td>
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<td>Health and Wellbeing Alliance Board, Frimley</td>
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<td>Programme Delivery Board, Frimley</td>
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<td>16/10</td>
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<td>Frimley ICS Board</td>
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- The development will continue to require wide stakeholder discussion; this will take time
The purpose of the roadmap

This roadmap has been produced by colleagues across Berkshire West and Frimley Integrated Care Systems (ICSs) as a guide for all health and care partners to:

• Build consensus about what population health management means and some core principles for its development
• Set out the benefits of adopting the approach for the public and the different parts of the health and care system, and how we will measure progress
• Summarise the ICSs’ progress and challenges to-date
• Describe how we can develop the required tools and capabilities… and the system changes that are needed to do so
• Propose how the information that enables the process will be brought together and kept safe
• Recommend an initial governance structure for developing population health management
• Highlight the links to national work and existing programmes such as connected care as well as key priorities such as self care
• Outline the milestones for the short, mid and longer-term and provide some examples of how the approach might be used
• Communicate our PHM vision to external bodies and the public in a consistent way
What is Population Health Management?

- Many views and definitions. We intend to use the national definition of Population Health and Population Health Management:
  - Population Health is an approach aimed at improving the health of an entire population. It is about improving the physical and mental health outcomes and wellbeing of people, whilst reducing health inequalities within and across a defined population. It includes action to reduce the occurrence of ill-health, including addressing wider determinants of health, and requires working with communities and partner agencies.
  - Population Health Management improves population health by data driven planning and delivery of care to achieve maximum impact. It includes segmentation, stratification and impactability modelling to identify local ‘at risk’ cohorts - and, in turn, designing and targeting interventions to prevent ill-health and to improve care and support for people with ongoing health conditions and reducing unwarranted variations in outcomes.

- PHM is a process, not an IT system; however, it is very reliant on good use of high quality information – population health informatics.
- It’s not a new idea – there is existing expertise in Public Health and commissioning especially. However, some aspects are better developed than others and a system-wide approach will bring greater gains than a fragmented one.
- As the definition is rather broad, later slides describe the scope – and limits – for the roadmap.
Where are we now?

- The most frequent concern from residents is that their care “sometimes doesn’t feel joined up”; or “the left hand doesn’t always know what the right hand is doing”

- Although progress has been made, this still applies both to individual care and how the ICS partners plan services and prioritise investments

- This is because whilst the public sees a single NHS, it is a fragmented and complicated set of organisations and the care, planning and prioritisation often span many of those fragments. However, information is not uniformly available that provides a complete picture

- Consequently we have incomplete evidence in making decisions. In turn it can be harder to gain agreement, some decisions may be poor, and our evaluation of changes may be incorrect

- This further enables variability in delivery, access, quality and outcomes, and becomes an obstacle to proactive care and care planning.

- Focus is often on individual organisations and their operational, contractual and performance matters, rather than being system and outcome focused; activity is often more scrutinised than outcomes

- There is a very wide range of individuals, groups, stakeholders and organisations with views on how population health management could help address this

What is our vision by 2025?

Our vision is to adopt a tailored Population Health Management approach that works both locally and for the system to support transformation. It will provide a single version of the truth from which decisions about the health and care delivery for our population can be made based on evidence and outcomes. Value will be seen in terms of outcomes.
Why adopt a population and system-wide approach?

- Berkshire West and Frimley ICSs have significant challenges to address to continue to deliver accessible, high quality care within our available finances and in the face of increasing demand from the public. The ICSs need to have a more complete view of the activity, costs and true outcomes across the whole system. This will enable better understanding of:
  - How, why and where we can improve outcomes
  - We can decide the priorities for improving health and care at a system, Ward, local and individual level
  - We can better plan care and communicate with particular groups of residents
- Only a small part of overall health status is accounted for by direct healthcare provision. However, we often use little information about the wider determinants of health in our planning, communication and delivery. Consequently there is a risk of focusing on issues current service provision at the expense of longer-term consideration of health promotion, sickness prevention, and self-care
- The delivery of the ICS strategic priorities requires a widespread change in our culture. Governance, operations, our financial model, and coordination of care will all increasingly use a system view and outcome information as evidence for decisions. We will need to learn to use the richer, wider information well
Factors affecting health status and outcomes

Contributors to health outcomes

- **Health Behaviours 30%**
  - Smoking 10%
  - Diet/Exercise 10%
  - Alcohol use 5%
  - Poor sexual health 5%

- **Socioeconomic Factors 40%**
  - Education 10%
  - Employment 10%
  - Income 10%
  - Family/Social Support 5%
  - Community Safety 5%

- **Clinical Care 20%**
  - Access to care 10%
  - Quality of care 10%

- **Built Environment 10%**
  - Environmental Quality 5%
  - Built Environment 5%

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**We need to take action on all fronts**

- There is a double impact of not doing so – lost contribution to society through poor health and the direct costs to the health and care system of addressing avoidable ill-health and care needs; the overall impact affects all residents in the system
- Shifting focus and resource into the wider determinants requires a sustained discussion with the population to explain that this is key to long-term sustainability
### Population Health Management at different scales

<table>
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<tr>
<th>Level</th>
<th>Role of PHM – Short-term</th>
<th>Role of PHM – Long term</th>
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| Residents (individuals/families/carers) | • Health and care professionals across clinical settings having access to an individual’s care record for preventative initiatives.  
• Residents – individuals and carers – able to support self-care and self-report quality of life outcomes | • Personalised care plan and access to medical record to enrich with own personal information |
| Neighbourhood/Primary Care Network ~50k | • Strengthen wellbeing at ward and GP network/practice level  
• Support networking of practices & other non-hospital services  
• Proactive care & integrated models for defined population  
• Clinicians using patient level data for case identification and management and optimising how patients are directed through their pathway of care  
• Exploring network, practice and ward variation  
• Existing tools – e.g. Tableau | • Have 100% primary care network coverage  
• Develop proactive & differentiated models of care  
• Offer greater scope of services in primary care  
• Use data to analyse needs & identify people at risk of becoming acutely unwell/experiencing longer term health inequalities  
• Broader use of community resources for wellbeing |
| Place ~250 - 500k | • Typically borough/council level  
• Integrate hospital, council & primary care teams/services  
• Segmentation, risk stratification, and actuarial analysis to identify opportunities to redesign care and develop proactive interventions to prevent illness and reduce hospitalisation.  
• Integrated Care Providers building capability to track patients and combine real-time workforce, bed capacity and activity data to identify productivity opportunities | • Identify population segments with high utilisation or unmet need (population health analyses) and drive down inequalities of outcome, access and delivery  
• Develop integrated services and teams (NHS and social care) to keep people out of hospital  
• Network hospitals and mental health services to improve resilience and standardise care  
• Design new provider collaborations, alliances, contracts or organisational forms to ‘hard-wire’ integrated teams/services  
• Inclusion in town-level planning of wider determinants and community resources |
## Population Health Management at different scales

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</table>
| System  | • Population Health Strategy based on whole population health needs assessment and gap analysis to identify overall priorities.  
• Whole population profiling and system modelling to understand risk and potential mitigations.  
• Commissioning of outcome based care.  
• Manage performance and hold system to account over population health outcomes  
• Tools such as Connected Care | • Provision of population health analyses for places that segment by need and resource utilisation as well as opportunities to address wider determinants  
• Implement interoperable systems that allow data to flow between providers in real time, enabling proactive services  
• Establish collaborations between trusts (including groups, chains or mergers) to standardise care and improve efficiency  
• Bring all stakeholders in the system together with a common approach to population health |
| 1m+     |                                                                                         |                                                                                       |
| Super-  | • Local Health and Care Record Exemplar  
• Evidence generation and research on drivers of health  
• Planning of specialist services  
• Inter-system benchmarking | • Long term impact studies on major outcomes  
• Communication effectiveness and behavioural change studies |
| system  |                                                                                         |                                                                                       |
| 3-5m    |                                                                                         |                                                                                       |
Benefits for all parties

Residents & Patients

- Health risk assessments to support life-style choices and behaviour change
- Have the knowledge, skills and confidence to optimise health and wellbeing – self care
- Reduced duplication in interactions with multiple services
- Upload data and goals to clinical record via apps and devices
- Able to access personal health record
- Digitally interact with care professionals
- Direct booking from home

Care Professionals & Clinical Teams

- Clinically-based decision-support tools at the point of care
- Access re-identification services to support intervention
- Access shared care records across the continuum of care
- Access intelligence to understand if patients receive the right level of care, in the right-setting at the right time

Public Sector Organisations

- Access to information to promote accountability and service improvement
- Identify efficiency improvements to improve value for money
- Understand variation through comparison to improve outcomes
- Provide information which supports collaborative working between multiple organisations
- Using data to take long term planning decisions which ensure sustainability and evaluate decisions fairly
- Use and strengthen our use of community resources
Framework for population health management

**Infrastructure:** what are the basic building blocks that must be in place?
1. **Organisational Factors** - defined population, shared leadership & decision making structure
2. **Digitalised care providers and common longitudinal patient record**
3. **Integrated data architecture** and single version of the truth
4. **Information Governance** that ensures data is shared safely, securely and legally

**Intelligence:** opportunities to improve care quality, efficiency and equity
1. **Supporting capabilities** such as advanced analytical tools and software and system wide multi-disciplinary analytical teams, supplemented by specialist skills
2. **Analyses** - to understand health and wellbeing needs of the population, opportunities to improve care, and manage risk
3. **Reporting** the performance of the ICS as a whole in a range of different formats
4. **Outcome based**: moving from performance to outcome based reporting

**Interventions:** proactive clinical and non-clinical interventions to prevent illness, reduce the risk of hospitalisation and address inequalities.
1. **Workforce development** – upskilling teams, realigning and creating new roles
2. **Community well-being approaches**, social prescribing and social value projects
3. **Assistive technologies, machine learning** and digital tools to empower patients and smooth care transitions

**Incentives (Funding and risk):** introducing new funding models to support the development of population – centred, outcome based care, while also developing arrangement for risk sharing
1. **Governance model**– agree on risk sharing and managing funds. Responsive to risk
2. **Assistive technologies** and digital tools to empower patients and smooth care transitions
3. **Incentives alignment**, ROI modelling and risk sharing mechanisms
4. **Confidence** within the intelligence analysis
5. **Resilience and sustainability** of providers - not an additional burden on GPs
Our seven core design principles

- Personal information will continue to be held securely
- Identifiable information will be used only for the individual’s care planning and provision
- Wider information will be used to optimise population care planning and provision (secondary use)
- Information should be held at the individual level with controls at the point of access, not the point of storage
- System partners commit to working as a system – so residents experience a joined up health and care system
  - Working transparently and openly
  - Providing their information and supporting a streamlined mechanism to manage information governance
  - Promoting and investing in improving data quality
  - Embracing evidence-led prioritisation and building competency
  - Letting go of inefficient historical practice
- The tools need to support both locally-determined priorities and larger-scale, cross-system ambitions
- Reporting on outcomes and quality improvement; focusing on end-to-end care rather than individual organisations
Possibilities – some examples

- Pathway compliance. E.g. tracing groups of patients from 111 call to see who does/does not comply with advice … and then finding ways to communicate better with people who do not follow the advice.
- Addressing variation through benchmarking with more closely matched comparison groups (segmentation and cohorting); identifying where previous aggregation has masked inequality
- Predicting readmission risk … and providing enhanced discharge. Factoring wider context such as living alone
- Understanding care needs and health status at a micro level (postcode) … and sending targeted communication such as council tax insert
- Accurate comparison of delivery models or evaluation of new services
- Long-term analysis of outcome markers to support people who will otherwise be the group with multiple long-term conditions in a few years’ time
- Supporting self-reported measures of quality of life to move our outcomes towards what really matters to residents
- Whole system capacity and demand and bed states – where is there a suitable care home place? Where is the pressure in primary care and what is the escalation response?
- Which of the many interventions in people with diabetes is best at controlling HbA1c well?
- Individuals/families have both a variable understanding of the services available (and how to use them appropriately) and a variable knowledge of self care/healthy lifestyles. How might we flex our communication to reflect this – incentivising responsible residents?
## Development milestones (process and tools)

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<tbody>
<tr>
<td>• Dashboards for System overall and reducing variation, integrated care</td>
<td>• Detailed analysis of population segmentation and risk stratification to identify targetable patient groups</td>
<td>• Predictive capability: readmission and mortality – flags for clinicians</td>
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<tr>
<td>• System level issues, goals, key questions defined through analysis of benchmarked data and existing health needs analysis against current service provision (un-warranted variation, gaps in care, triple fail events)</td>
<td>• Demand/capacity picture across urgent care pathways and pathway compliance</td>
<td>• Design and execution of longer-term impact studies in prevention and self-care</td>
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<tr>
<td>• Activity and health profiles at ward, GP network and practice level</td>
<td>• Tailored communications for ward level populations</td>
<td>• Shift to outcomes-based assessment and prioritisation</td>
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<tr>
<td>• First analytical tools from Connected Care; platform design</td>
<td>• Role clarity for where information reviewed/acted upon</td>
<td>• System costs re-cast on activity-drivers basis</td>
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<td>• Stocktake of data sets and sources</td>
<td>• Connected Care analytics platform in use</td>
<td>• Full benefit realisation may take 10 years</td>
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<td>• Agree information governance and security framework across system</td>
<td>• Development of supporting training/competency tools</td>
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# Development milestones (capability)

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<td>• Leadership for PHM in place with a supporting PMO which connects to all tiers of the system</td>
<td>• Financial risk understood across the system – unmitigated trends and mitigated modelling undertaken using actuarial techniques</td>
<td>• Sustained engagement across system partners to continue to build and embed the vision for proactive and preventative integrated care</td>
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<tr>
<td>• Clear Information Governance structure with lead DPO; demonstrable compliance to enable use of integrated data set</td>
<td>• Workforce mapping and modelling to determine gaps and new role definition</td>
<td>• Adoption of evidence-based models and theories of behaviour change both for organisational decision making and individual clinician and citizen decision making</td>
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<tr>
<td>• Due diligence of PHM capabilities and mapping to existing transformation plans and ICS workstreams</td>
<td>• Implementation plan designed for interventions and contributing resources agreed at all tiers which makes a clear and compelling case for change</td>
<td>• OUTCOME: Tailored care provided for individuals with demonstrable improvement in the health and wellbeing of population</td>
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<tr>
<td>• Complete NHS England PHM Maturity assessment</td>
<td>• Systematic implementation of interventions and ongoing transformation of PHM supporting capabilities</td>
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How? By using Connected Care

Connected Care will be the underpinning platform across the system. Some example analyses are already available.

Now/soon

- Connected Care with limited, patchy and narrow data
- Users
- First examples live
- Various standalone information sets

Future

- Comprehensive Data, rich, broad
- Connected care-based analytics platform replaces standalone information sets; information security and privacy controlled at access

Use what we already have well

Develop the future
- Data Mart 1: patient identifiable
- Data Mart 2: pseudo-anonymised
- Data Mart 3: fully anonymised
What next – 3-6 months

DSCRO

SUS Feed

Clinical & Social Systems

Connected Care Intelligence Platform

UK HD

National Reference Data

Wider data sources

Anonymised local data e.g. primary care

System Dashboard

Care Delivery Dashboards
Risks and challenges

• What is managed where? Many groups interested; some imprecision on purpose, reporting and responsibilities
  • ICS Board (WB & F); Programme Board (F – Julian Emms); Local Digital Roadmap Board (F – Nigel Foster); Connected Care Board (WB & F – Mark Sellman); Information Board (F – John Lisle); LHRCE Board (WB & F & others – new appointee); Digital Transformation Group (WB – Katie Summers); Information Governance Group (WB & F)
  • Early task: map responsibilities, memberships and reporting. Merge some groups in system? Across systems?

• Information governance – ensuring we follow the rules *and* can undertake the analyses we need
  • Broaden sharing agreements; sign off architecture; clear authority for system IG group
  • The Connected Care design matches a legally tested architecture

• Commissioning Support Unit stance

• Loss of focus
  • Thin resources; easy to spread too thin for progress
Near term timetable

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<th>July</th>
<th>Aug</th>
<th>Sept</th>
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<td>Identification of system PHM Leads including Exec SRO and initiate contact with national PHM sponsors</td>
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<td>Launch and invite to national PHM Community of Practice</td>
<td>Co-design of future system oversight indicators and metrics</td>
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<td>Assessment of system PHM maturity and agreement of support needs</td>
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<td>Data mapping</td>
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<td>System wide agreements on information contribution and IG</td>
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<td>Development of medium-term plan</td>
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<td>Support systems to utilise NHS England’s PHM ‘products’ (flatpack, library of good practice, how-to guides, etc.)</td>
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<td>Design of bespoke externally supported development programme</td>
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<td>Delivery of 12-week development programme</td>
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Iterate with wide stakeholder groups

Support implementation of clear and measurable PHM Plan for 19/20
Support needs

- Will be defined once scope and direction agreed