NHS
North West London

North West London Integrated Care Pilot: Business Case

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Acknowledgements

This business case is the output of almost a year of hard work by clinicians, managers and external supporters across the North West London sector and especially within all of the provider organisations.

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Section A: Summary of Integrated Care Pilot

0. Executive Summary

The vision of the Integrated Care (IC) pilot in North West London (NWL) is to improve outcomes for patients; create access to better, more integrated care outside of hospital, reduce unnecessary hospital admissions and enable effective working of professionals across provider boundaries.

Clinicians in NWL have developed a unique model that will see clinicians working together in multi-disciplinary groups within a multi-disciplinary system supported by overarching enablers including a joint governance model, aligned incentives, information sharing and organisational development. The IC pilot will launch on the 31st May and will include acute providers, general practice, community care, social care and mental health. Patient representation will also be an important element of the pilot.

Professionals across NWL aspire to raise the quality of care that is delivered for patients, whilst improving their professional experience and making better use of resources in a challenging economic environment. Today, there are important challenges in both the quality of care for patients, frustrations in the professional experience – inadequate flows of information or access to appropriate expertise – as well as a significant productivity challenge. While these challenges are widely acknowledge, providers have struggled to deliver improvements due to misaligned incentives, uncoordinated decision making and clinical practice and limited sharing of patient information.

Improved integrated care can involve introducing measures such as the:

- Development of a patient registry and patient segmentation
- Provision of integrated care plans
- Clear clinical protocols and care pathways
- Responsibilities to ensure timely and adequate delivery of planned care,
- Providing a forum for discussing complex patients
- Regular performance reviews of the integrated approach

Clinical transformation will be at the heart of the IC pilot with a focus on enabling clinicians to work together in improving care for patients with diabetes and the elderly, who account for 10% of the population but absorb 28% of the spend on healthcare in NWL.

The key to delivering these new care pathways will be a multi-disciplinary system which sets out core activities (e.g., risk stratification, care planning and case conferences etc.) that clinicians need to perform together across their local population. To deliver these activities, clinicians will work together in local groups supported by representatives from all providers who will hold one another to account for fulfilling their mutual obligations.

In addition to transforming the way that care is managed through identified clinical changes and pathways, overarching enablers will be introduced, delivered through overall changes to how the governance, finance and information arrangements work across providers, to improve the way that clinicians and managers can collaborate:

- *Joint Governance:* Collaborative decision making body across providers to drive change in the system through a central board, supporting committees and an operational team

- *Aligned Incentives:* Innovative financial model to incentivise clinicians to deliver desired change through IC pilot model and provide the necessary resources to deliver these changes
- *Information tool:* Custom made tool to support the delivery of integrated care through the IC pilot allowing healthcare professionals to plan and deliver care as part of a multi-disciplinary group
- *Organisational development and culture:* Focus on transforming the way clinicians work together and reinforcing the necessary collaborative nature required within integrated care

These enablers are unique and specific to NWL and will be delivered through comprehensive and in-depth proposals for the governance and financial arrangements for the IC pilot, a specific evaluation framework and a bespoke information tool.

All providers joining the IC pilot will enter into a detailed Memorandum of Understanding, Establishment Agreement, Hosting Agreement; and IT Managed Service Agreement which together establish the infrastructure, funding arrangements and requirements providers must sign up to.

Once the IC pilot is underway, there will be a need for monitoring, reacting to and assessing the IC pilot's progress. This is crucial so that MDGs and the Integrated Management Board (IMB) can know how they are performing and so they may take the necessary steps to ensure improved outcomes are achieved. Four mechanisms have been designed and established to enable this:

- *Management Information:* Metrics dashboard on the information tool to present and track output including activity, care-planning and quality indications; and launch of quarterly audit to look at performance on qualitative metrics
- *Performance Management:* System that will use the vision for the IC pilot and management information to track performance, enable discussions and review and set targets for reinvestment payments
- *MDG Assurance Process*: Process for ensuring that MDGs are adhering to the guiding principles of resource use including care-plan ramp-ups and attendance of multi-disciplinary meetings
- *Evaluation Framework*: Internal and external overall assessment of whether the IC pilot was a success or not by taking an in-depth look at outputs and performance of the IC pilot model

The ICP has been designed by local clinicians who have come together in seven working groups to determine every aspect of the Pilot, and by a transitional integrated management board which has set the direction and approved the development of the proposition. It must be owned by local clinicians and it will be local GPs, in their future role as commissioners, who determine whether it has achieved its goal of providing better quality care for patients at more affordable costs.

Section B: Plan and background for the pilot

1. Vision for Integrated Care in NWL

The vision of the integrated care pilot is to improve outcomes for patients at the minimum necessary cost; create access to better, more integrated care outside of hospital; reduce unnecessary hospital admissions and enable effective working of professionals across provider boundaries.

To guide the way the IC pilot was developed by the Transitional Integrated Management Board (TIMB) and the 7 clinically-led working groups established to develop the pilot, the following mission statement was set out which articulates what all the providers involved in the IC pilot are trying to achieve together through the pilot:

- Deliver high quality care for patients that makes an improvement in patient outcomes and satisfaction
- Increase the level of trust, coordination and collaboration across clinicians with GPs, consultants and other providers working together towards better patient care
- Become a 'beacon' for delivering integrated care to the local population
- Create a vehicle for delivering productivity and efficiency improvements within and across the various providers
- Improve the satisfaction of clinicians and healthcare workers across the sector through their ability to deliver proactive care
- Make the IMB, as a representative group of providers, accountable for ensuring the successful and timely launch of the IC pilot
- Ensure all providers are on-board and signed-up to pilot by giving ample opportunity to engage in the project and shape the IC
- Ensure that all stakeholders are engaged including third sector, users of services and carers of those users

2. Context for Integrated Care Pilot

Plans for launching the IC pilot in NWL have been underway for sometime. The original concept was designed from the beginning of summer 2010 and aimed to address three overall objectives. Firstly, it defined what a pilot would comprise of and what it would cover. Secondly, it sized and quantified the financial impact of such a pilot. It finally looked at the key enablers, changes and milestones required for launching. Through the engagement of clinicians and management across the NWL sector; a proposition of what would be possible in NWL was developed and taken to the Secretary of State at the end of 2010.

Within the initial scoping; a core question that was addressed by clinical working groups was the clinical pathways to focus on for the pilot. The decision was taken to focus on elderly care and patients with diabetes due to the strong national and international evidence demonstrating the potential to improve quality of care in these areas and the financial position as well as the potential seen in NWL for these care pathways.

The original design for the IC pilot was based on the catchment of North West London. Originally it was felt that those practices referring more than 70% of inpatient activity to

Imperial College Healthcare (ICH) would be those interested in participating. However, the scope was extended to those with a 50% referral rate. The geographical scope of the design included the London Boroughs of Brent, Ealing, Hammersmith & Fulham, Hounslow, Kensington & Chelsea and Westminster. Exhibit A illustrates the geographical scope of the pilot and the issues and objectives that the original design set out to achieve.

The initial scope of the IC pilot was solely ICH but as other providers have become increasingly excited and enthusiastic about the potential that the pilot can deliver – Chelsea and Westminster NHS Foundation Trust has declared its intention to join the pilot in a second wave in July.

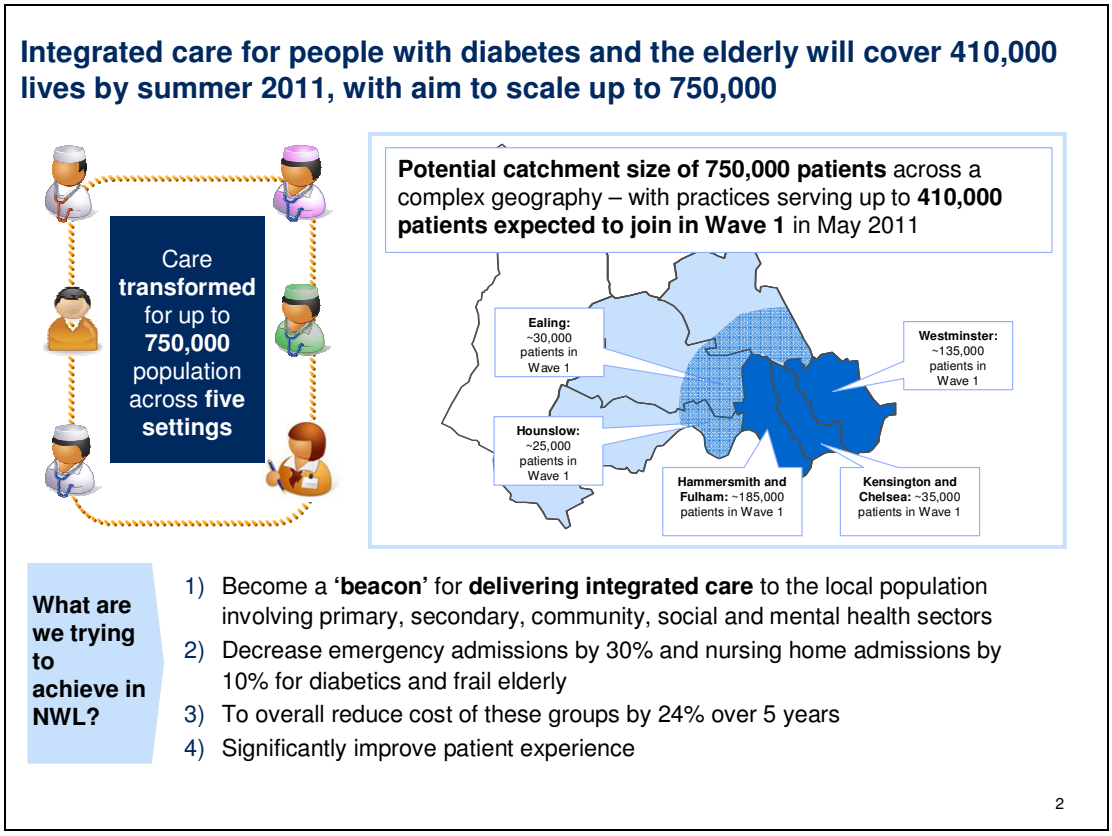

Exhibit A: Background for integrated care in North West London

3. Benefits of Integrated Care

The IC pilot aims to test the hypothesis that integrated care can to improve outcomes for patients at the minimum necessary cost; create access to better, more integrated care outside of hospital; reduce unnecessary hospital admissions and enable effective working of professionals across provider boundaries.

The benefits are expected to create three overall opportunities for patients, clinicians and the broader system:

3.1 Improve the quality of patient care

Patient experience and quality of care will be improved through:

- Stricter adherence by all health professionals to evidence based care protocols used across multiple organisations

- The provision of high quality services outside of hospital
- Pro-active care to ensure long term conditions do not deteriorate and patients do not need acute care
- Greater support for self care
- Increased involvement in their care planning with multi-disciplinary teams drawn from the various constituent organisations of the ICP

Specific benefits to people with diabetes and the elderly are detailed in sections 10 and 11 below.

3.2 Create a richer professional experience

Clinicians will be supported to provide high quality care through:

- Involvement in development of evidence based care protocols for use across multiple organisations. The IC pilot allows all clinicians and care professionals the opportunity to develop protocols to be applied by their colleagues from other settings.
- Greater development opportunities across multiple settings and organisations. All professionals in the IC pilot will benefit from direct input through multi-disciplinary groups and other opportunities for creating real-time support from their colleagues.
- Access to better (more and improved quality) information about their patient's care by implementing improved information flows between providers, allowing each to access the most up to date records regarding patients in their care.

3.3 Improve the financial position

The financial context of the current environment demands significant cost savings from organisations across the health economy. Integrated care provides a win-win solution – through working together providers can create savings of ~10% in the two pilot pathways which can be shared between commissioning and providing organisations, allowing commissioners to deliver healthcare within budget while providers are able to avoid price deflation by reducing unnecessary hospital care.

These benefits can be realised in both the short and longer term. Initially the majority of savings will be seen in the high-need, high-cost patient segments. In the longer term, as efforts in primary prevention and overall well-being pay dividends, the number of people developing medical conditions later in life will be reduced.

Modelling, based on the improvements made in other systems, shows that an IC pilot of a population of 380,000 in NWL could reduce health and social care spend for people with diabetes[1] by £2.1m after 1 year and a further £4.8m after 5 years and for the elderly by £7m after 1 year and a further £5.4m over 5 years. Further modelling suggested this would mean a reduction in emergency admissions of ~1,300 admissions across the pilot population. The financial savings were based on a 08/09 baseline of £189.5m of emergency care for both pathways.

[1] Elderly people with diabetes have been included in the elderly segment for this business case

4. Background: The need for integrated care

NWL faces a £1 billion financial gap in 2014/15, which must be closed while improving the quality of care for the local population which, in some areas, lag behind national indicators. While clinicians have a deep understanding of the best pathways of care based on national and international evidence, these are not consistently applied on the ground, and clinicians describe care as reactive and uncoordinated, with too many delays and duplication between providers.

Patient satisfaction levels are variable, with many frustrated by the difficulty of securing an appointment and the lack of information they have about their own healthcare. Despite the best efforts of individuals, the *system* itself is insufficiently responsive to patients' healthcare needs. Simultaneously healthcare spend has risen. Patients' use of hospitals continues to grow 3–4 times more rapidly than population growth. The burden on the healthcare system grows as more and more people develop higher risk of long term conditions or serious medical problems. There are three systemic underlying challenges which cannot be addressed by any single provider:

- *Incentives are not aligned and in some cases are perverse.* Hospitals are incentivised to perform more, expensive activity while primary and community care have limited incentives to ensure that care is properly coordinated across all settings.
- *Organisational boundaries prevent coordinated decision making.* Providers have few effective forums through which to come together on a regular basis to discuss the health of the population. Budgetary decisions about the deployment of healthcare resources are made by each provider in isolation from its peers, rather than jointly determining what is required.
- *Information exchange is slow and incomplete.* Very little data flows between primary, community, acute, social care, and other providers even though they work with the same set of patients. Each provider monitors its own set of information and there is not one "single source of truth" around which conversations can be had across providers

Previous efforts at improvement have not effectively tackled these barriers. International experience shows us that integrated care can eliminate the barriers between providers that hinder improvements in patient experience and outcomes.

Locally, operational and strategic plans call for the shift of care out of hospital. Nationally, the new government supports care that focuses more on outcomes, closely aligns health and social care services, is tailored with and to the individual patients, and is data-driven.

5. Core components of the integrated care model in NWL

The NWL IC model (exhibit B) has been developed to:

- Improve and create reinforcing mechanisms for clinicians to work together across settings of care
- Clearly outline the steps required to deliver care in a multi-disciplinary system
- Establish underlying enablers to deliver change including:
  - Patient, user and carer engagement and involvement

- Joint Governance through IMB with shared performance and evaluation framework
- Aligned Incentives through an innovative financial model
- Information sharing to timely access and analyse data
- Organisational development and culture

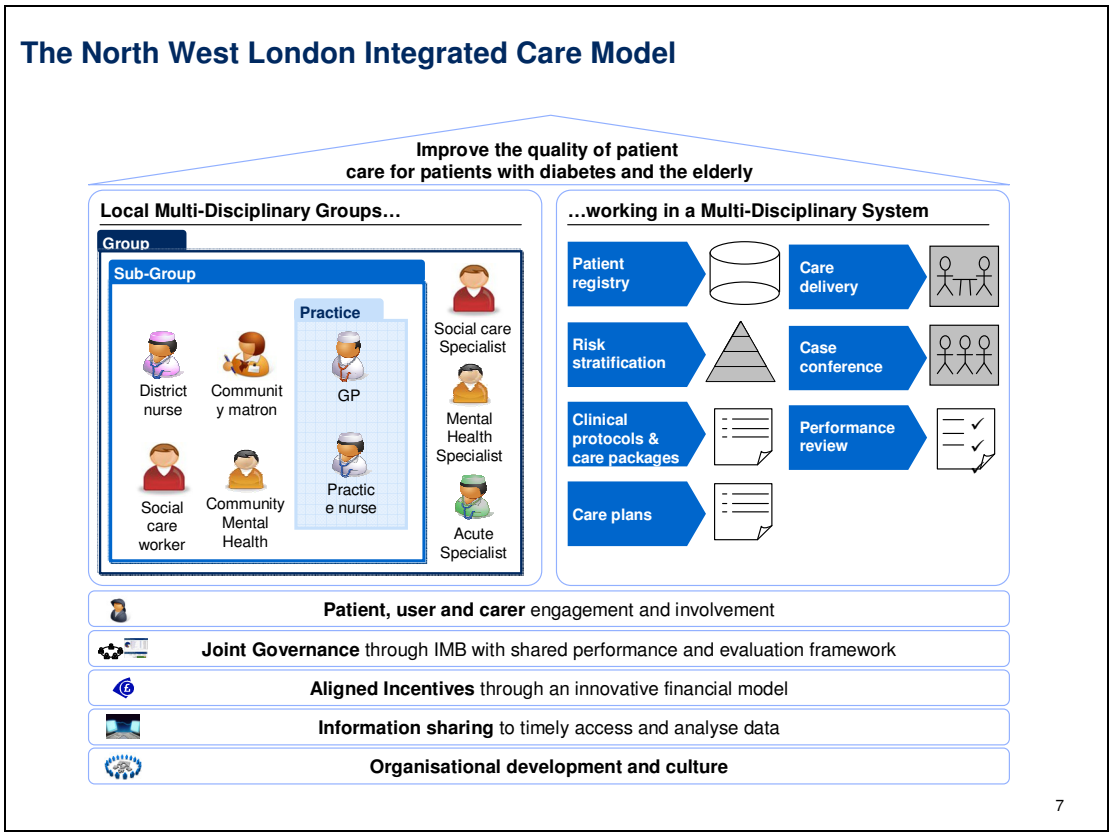

Exhibit B: The North West London Integrated Care Model

6. Providers involved in the integrated care pilot

Participation in the IC pilot is completely voluntary. The anticipation is that the following providers will join:

- Acute providers: Imperial College Healthcare trust (ICH) as an initial provider with the intention of Chelsea & Westminster NHS Foundation Trust to join in July as part of a second wave of providers
- Primary care: GPs across NWL with the expectation that practices will join in waves as the pilot progress
- Community care: Central London Community Healthcare, Ealing, Brent & Harrow Community Services and Hounslow & Richmond Healthcare
- Social care: 5 London Boroughs covered
- Mental Health: Central and North-West London Mental Health, and West London Mental Health

In addition, third sector organisations Age UK and Diabetes UK have been involved in the design of the pilot and will join the Integrated Management Board as members, where they will hold 10% of the votes.

7. Patient engagement

Listening to patients and understanding what quality care looks like from their perspective is a key to making the IC pilot successful. In the developmental phase, patients have been represented both on the Transitional Integrated Management Board by Diabetes UK and Age Concern (who are full voting members) as well as through the working groups that have developed the full proposition for NWL.

Within the clinical working groups, clinicians were also able to identify patients to help determine what better quality care would look like for them. In addition, the IMB assigned a 'patient champion'. The Deanery has also been engaged to help develop the patient engagement agenda for the IC pilot

The Transitional IMB has developed two recommendations for carrying patient engagement forward and developing further:

- Launch a patient briefing before the official launch of the IC pilot (has been planned for middle of May)
- Create opportunities to learn from patients through patient experience questionnaire and focus groups (this will be critical within the performance management system and evaluation framework – see Section E)
- Develop an innovative patient engagement strategy to ensure that the topic is at the heart of the IC pilot
- Launch a central telephone line that patients can contact for any issues or concerns with the IC pilot

It is important to note that the IC pilot does not imply any infringement on patient choice. Patients will be able to choose whether they participate in the pilot or not – and once in the pilot, they will continue to be able to exercise choice of provider (the pathways defined in the pilot do not imply that they must be delivered by a specific provider).

8. Time plan for the integrated care pilot

The IC pilot will launch on the 31st May and the pilot will last for a year.

Providers planning to join in the first wave must have already signalled their intent; the second wave will start in July and then every successive 3 months following IMB approval.

At the stage of launch; we foresee three waves of practices joining:

- *Wave One:* Central London Healthcare (~135,000 list size covered), North Kensington (~35,000 list size covered) and Ealing (~56,000 list size covered)
- *Wave Two:* Chiswick (~41,000 list size covered), Kensington & Chelsea (~74,000 list size covered) and Hammersmith & Fulham (~188,000 list size covered – or selection in wave two and rest in wave three)
- *Wave Three:* Full catchment for Imperial and Chelsea & Westminster

Section C: Changes to clinical practice under the pilot

Section C detailed the clinical pathways and the principles behind the care that will be delivered in a new way under the IC pilot. Section D turns to looking at how this care will be delivered and describes the new multi-disciplinary system which will be set-up and run by multi-disciplinary groups organised across the pilot

9. Introduction of a multi-disciplinary system

The multi-disciplinary system is at the heart of the IC pilot. The MDS clearly articulates the seven elements or activities that clinicians operating in multi-disciplinary groups will need to work together to deliver.

The seven elements are detailed below, and are not designed as sequential steps:

- *Patient registry:* Create a comprehensive and shared list of the covered population and associated data from all settings of care enabled by the information tool which will hold the patient registry
- *Risk stratification:* Segment individual patients by risk for both patients with diabetes and elderly patients based on the combined predictive model
- *Clinical protocols and care packages:* Develop clinical protocols and care packages (including specific activities, designated care professionals for each activity and resource requirements) for each risk group
- *Care plans:* Create individual care plans in one-to-one meetings between clinicians, care professionals and patients
- *Care delivery:* Deliver care plans with patients as described by multiple professional groups
- *Case conference:* Discuss the management of most complex cases in regular meetings attended by care professionals from different settings and with different backgrounds
- *Performance review:* Hold review within the MDG to discuss different performance metrics including patient experience, clinical outcomes, financial performance and team effectiveness

10. Working in multi-disciplinary groups

The IC pilot is designed to enable clinicians to operate in a more collaborative and cohesive manner across provider boundaries.

Multi-disciplinary groups will need to set out their preferred means of interaction for care professionals, including the best way of communicating effectively and the nature and frequency of interactions. These interactions can vary from regular practice meetings, virtual ward-rounds to full MDG meetings.

Exhibit C illustrates how MDG interaction may happen at different levels from the practice level to the entire group level.

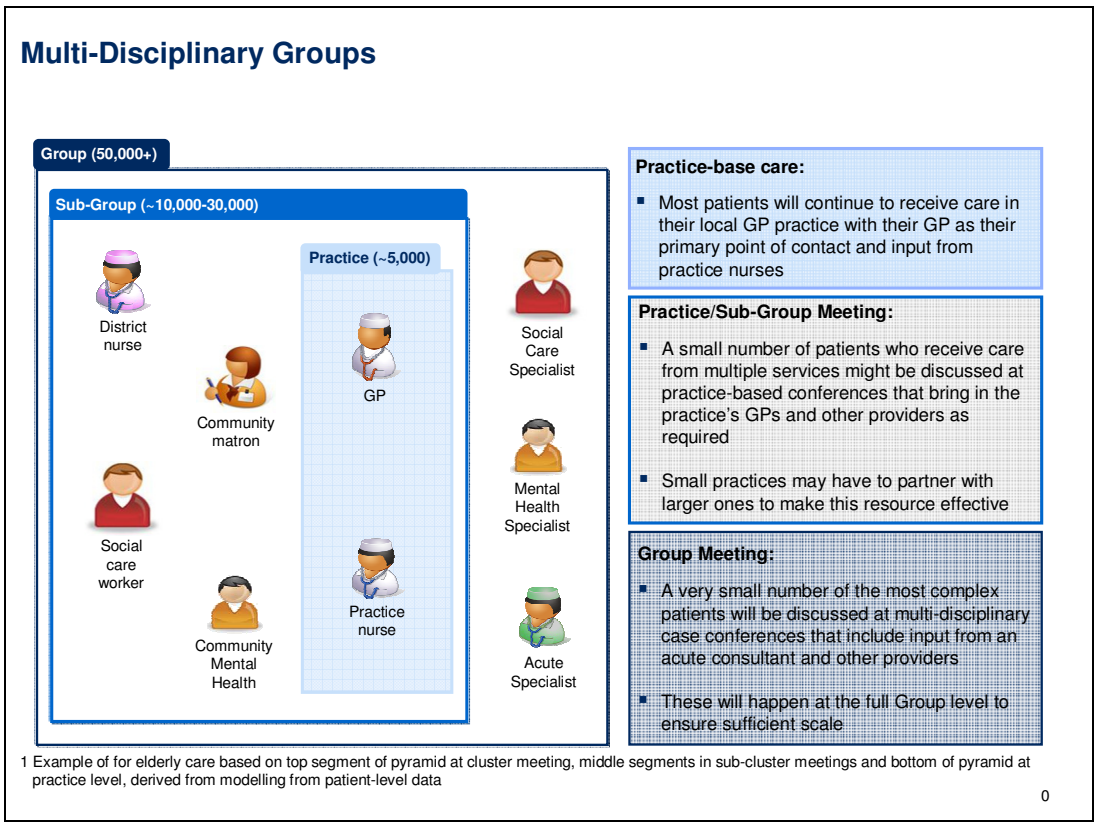

Exhibit C: Multi-Disciplinary Groups

11. Key activities under the new model of care

Each MDG will need to decide where and how the seven elements of the multi-disciplinary system happen. For example, MDGs might decide to set up a central infrastructure or leverage excess capacity in existing member organisations.

Some of the MDG's activity (for example the case conferences and performance reviews) will happen in multi-disciplinary meetings – but these formal meetings are only a small part of what an MDG does, as described in exhibit D.

Within the rest of the section; there is an overall plan for how different parts of the multi-disciplinary system will work to aid as a blue-print as well as some of the activities hat are required for MDGs to be prepared for launching and working under the new model. Finally, there are a set of rules that MDGs will need to follow.

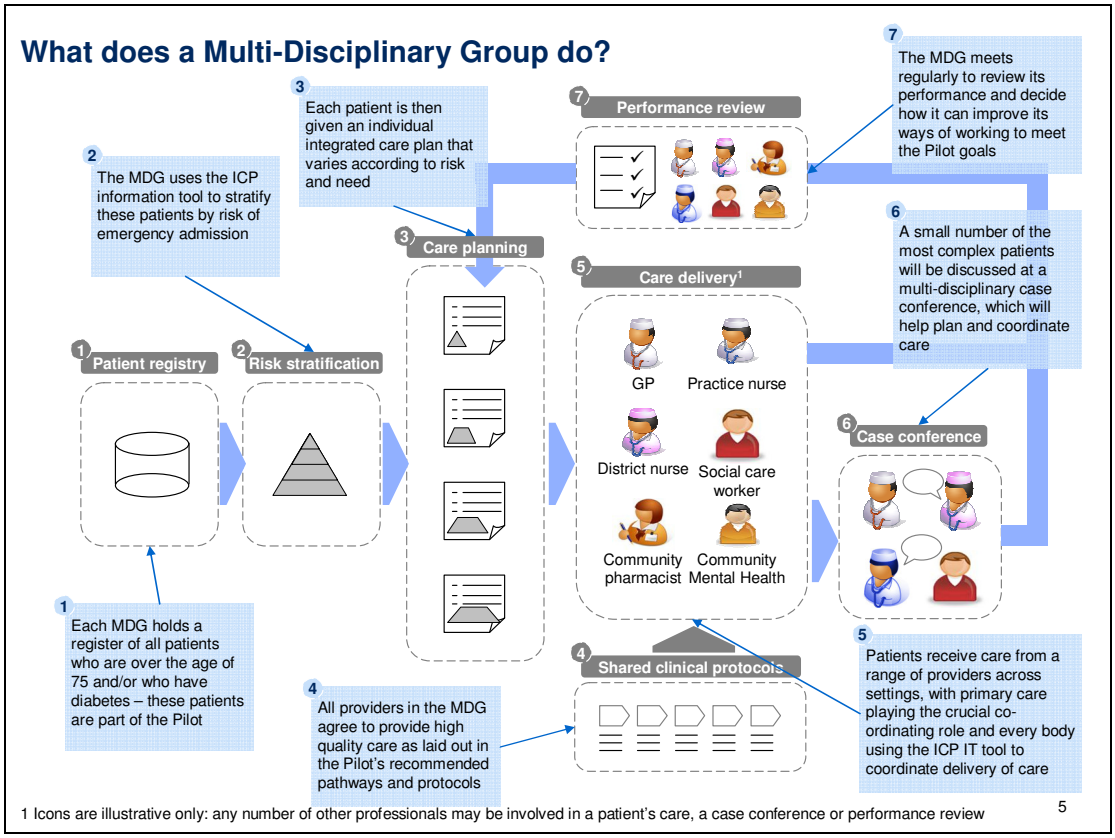

Exhibit D: Role of a Multi-Disciplinary Group

11.1 Detailed activities of MDGs

The MDG will be responsible for the seven steps of the MDS. Specific details of what needs to be done and how it will work are below.

What is the activity?	What has to be done?
Patient registry	▪ Hold a registry that lists all elderly patients and patients with diabetes, along with corresponding data from multiple settings of care
Risk stratification	▪ Stratify elderly patients by risk of emergency admission each month ▪ Segment diabetes patients according to ICP diabetes patient segmentation model each month
Care planning	▪ Provide each diabetes and at-risk elderly patient with an integrated care plan using the information tool that describes the care a patient will receive over the next year across all settings of care, given their risk and need ▪ Create care plans in 45 minute nurse appointments with the patient
Clinical protocols	▪ Sign-up to the clinical protocols and care pathways, including recommended referrals, that have been developed by the ICP Clinical Working Groups for Diabetes and Care of the Elderly
Care delivery	▪ Deliver high quality care across settings and organisations ▪ Assign a named individual responsibility for ensuring that planned care happens on time and at high quality
Case conference	▪ Create or extend a forum for discussing the most complex

	patients each month across multiple providers ▪ Use this forum to improve quality and reduce admissions through improved co-ordination and clinical reasoning
Performance review	▪ Meet quarterly with representatives from the full group of providers in the MDG to review performance against the pilot goals ▪ Take action as necessary to improve patient outcomes and reduce admissions

11.2 Activities required for the launch of an MDG

The following table describes the tasks that MDGs need to complete prior to launching with indicative time-scales for going through all the preparation.

Timing	Task
T-6 weeks	▪ Name MDG leadership ▪ Name practices and providers in MDG ▪ Determine outreach strategy for Practices (for GMS) or individual GPs (for PMS) to ensure sign-up
T-5 weeks	▪ All providers in the MDG meet at the first full MDG ▪ Training timetable distributed
T-4 weeks	▪ No further changes to practices in MDG ▪ Resource plan submitted ▪ Assign a GP from the MDG to the IMB and supporting committees
T-4 weeks	▪ Signed Establishment Agreement, Memorandum of Understanding, Hosting Agreement and IT Managed Services Agreement either as a first wave participant or through a deed of adherence
T-3 weeks	▪ Resource plan approved
T-2.5 weeks	▪ Detailed delivery model agreed
T-1 week	▪ First case conferences & performance review scheduled ▪ Care planning clinics & practice meetings scheduled ▪ All clinicians familiar with pathways ▪ All IT training complete
T	▪ Day 1: Go live ▪ Risk stratification and care planning appointments begin (including receiving patient consent)

11.3 MDG Rules

Pre-Launch Approval Process

1. Prospective MDGs should follow the processes and complete required activities, as set out in the MDG Operational Guide.

Operational Rules

Resource Planning

2. Resource Plans must be prepared in accordance with clause 6 of the MOU with reference to the MDG Operational Guide.

3. All Resource Plans, Supplementary Resource Plans and proposed adjustments to Payment Schedules must be approved by the IMB.

4. Any Out Of Hospital Funds received by an MDG's ICP Partners must be spent in connection with the delivery of care pathways for Elderly patients and patients with Diabetes in accordance with the MDG's approved Resource Plan and any Supplementary Resource Plans and for no other purpose.

5. MDGs may only incur expenditure in connection with the ICP in accordance with approved Resource Plans. Any expenditure by an ICP Partner that falls outside of its agreed Resource Plan, as may be subsequently adjusted and agreed, is for its own account.

Care Planning

6. Each MDG must create integrated care plans for the following patients using the Information Tool during the ICP in accordance with its Resource Plan:

    - All patients with Diabetes who are registered as patients of one of the GP Providers that is a participant of that MDG and have given their informed consent; and
    - At least 50% of all Elderly patients who are registered as patients of one of the GP Providers that is a participant of that MDG and have given their informed consent.

Case Conferences

7. Each MDG must hold case conferences in accordance with its approved Resource Plan and/or Supplementary Resource Plan.

8. Each case conference must include input from all Providers in the MDG, in accordance with the Resource Plan.

9. All Providers must have read the materials circulated in advance of the case conference and otherwise be adequately prepared to contribute to discussions. Providers may attend in person or provide input through other means, provided that such means are stipulated in approved Resource Plans.

Performance Reviews

10. Each MDG must hold performance reviews at least quarterly in accordance with its approved Resource Plan, with paid attendance for representatives from all Providers in the MDG. Performance reviews shall be carried out by reference to the Performance Scorecard on the Information Tool. Additionally, each Provider on the MDG should contribute qualitatively in relation to the MDG's operation.

11. The outcome of the performance review must be reported to the IMB.

12. At each quarterly performance review, the MDG will take any decisions that might be required in respect of its operation. This may include decisions as to the creation of a Supplementary Resource Plan for the purposes of clause 6 of the MOU, which may include but not be limited to:

12.1 details of any underspend in connection with payments already made pursuant to a Payment Schedule. This should include details of those circumstances in respect of which payments were made but the corresponding planned action has not been performed;

12.2 adjustments to be made in light of operational learning and any need identified in respect of resource reallocation; and

12.3 deployment of Out Of Hospital Funds that remain available to the MDG but have not yet been allocated within the initial Resource Plan and/or Supplementary Resource Plans.

13. Any proposed Supplementary Resource Plans must be duly submitted to the IMB for approval.

General Rules

Each MDG and its participants must act in accordance with the general rules for the duration of the ICP.

14. The MDGs and each of the ICP Partners who participate in them must at all times operate in accordance with the requirements of the Establishment Agreement, the MOU, the Hosting Agreement and the Managed IT Services Agreement.

15. The MDGs and each of the ICP Partners who participate in them must adhere to all requirements stipulated by the IMB or any one of its committees.

16. Any Reinvestment Funds received by any ICP Partner must be spent on providing services to NHS patients affecting or connected with health.

17. Any material decision made by an MDG relating to its operations or ways of working must be agreed by all members of that MDG.

18. ICP Partners participating in any MDG must only perform the functions they are required to undertake in accordance with the law including but limited to statute, regulations and/or directions (as the case may be) and any existing contractual relationships with Primary Care Trusts within NHS North West London and must not assume any functions which are additional to those obligations nor otherwise seek to act outside of their delegated authority.

19. Providers must co-operate and collaborate with each other within each MDG and afford each participant due respect.

20. Only those ICP Partners that are approved members of an MDG and, if permitted at the sole discretion of the particular MDG, the patient or his/her carer may be present at case conferences. No other individuals may attend.

21. Any complaint that an individual ICP Partner may have in respect of or connected with the operation of an MDG should be reported to the ICP Director.

22. The IMB may consider any alleged breach of the MDG Rules by ICP Partners, whether acting individually or collectively within an MDG in respect of which it may do one or more of the following:

22.1 require a report from an MDG in respect of a particular activity or ICP Partner;

22.2 if satisfied that a breach has occurred, provide detail to the ICP Partner of the and request remedial action;

22.3 adjust a Resource Plan and/or future payments under a Payment Schedule; and/or

22.4 resolve to remove a particular ICP Partner or Partners.

23. The following documents must be completed and agreed on behalf of each MDG within 14 days of the applicable meeting and duly provided to the designated MDG co-ordinator:

23.1 a case conference template for each case conference that is convened; and

23.2 minutes of each performance review meeting,

although these records must not be deemed to be a substitute for appropriate individual record keeping on the part of each of the respective ICP Partners, who will remain responsible for ensuring that their own records are adequately kept in accordance with its own processes.

Section D: Clinical pathway design

Within the first phase of work – background material was collected in order to select clinical pathways. The clinical pathways selected and approved by the Steering Committee on this phase of work were patients with diabetes and elderly patients. This section lays out the evidence base from the first phase (11.1 and 12.1) and the recommendations from the clinical working groups from this phase of design.

12. Integrated care pathway: Patients with Diabetes

12.1 Patients with Diabetes: Background

The introduction of integrated care pathways for patients with diabetes is a common approach around the world as well as in areas of NWL. The community diabetes clinic in Westminster has improved the way that patients with diabetes are cared for in NWL. The rate of hospital admissions for patients with foot ulcerations dropped form 84% to 47% and the median length of stay of those patients reduced from 16 to 11 days. In 83% of cases with foot ulcers associated with underlying bone infection, amputation could be completely avoided, which compares very favourably to other outcome reports in the literature[2].

More broadly, the impact of integrated care in diabetes will improve mortality measures and reduce the numbers of acute needs from poorly managed diabetes (e.g. foot amputations) in the longer term. In the first year of the pilot clinicians expect to see an upward trajectory in a number of related biometrics.

Many articles cite cost savings through disease management in diabetes. These savings come from reducing activity, with stated reductions in admissions of around 25% and reductions in bed-days of 40%.

- In NHS Tower Hamlets, one of the most deprived boroughs in the UK, eight networks of providers have each improved the clinical indicators for their patients with diabetes. Improvements in one year[3] include the following increases in percentage of patients meeting goals:
  - BP < 140/80 +11%
  - Cholesterol < 4.5 +10.4%
  - HbA1c < 7.5 +7.7%
- In two years after Kaiser Permanente's Richmond region in Southern California launched a similar approach to integrated care and information, the proportion of patients with diabetes meeting targeted blood pressure increased from 40% to 55%[4].
- In 3 years after the launch in Germany of a disease management programme for a group of people with diabetes, their emergency admissions fell by 20%[5].
- In a diabetes disease management programme in Cologne, in Germany, major amputations above the ankle for participants in the programme were 82% lower than

[2] Valabhji et al, Diabet Med 2009; 26: 1127-1133.

[3] Three networks launched initially, with the other 5 networks starting work later in the year. Results are from July 2009 through June 2010

[4] Kaiser Permanente Federation of Southern California; Richmond region

[5] AOK Plus in Germany

for those not in the programme.[6]

International examples corroborate the potential scale of savings:

- In the German example mentioned above the disease management programme reduced total system cost by 13%[7]
- The Cologne disease management programme that reduced amputations was estimated to have saved €2.3 million a year[8]
- In the US, meeting people with diabetes in groups rather than individually increased outpatient costs by 35% (to pay for the group visits) but led to a 49% reduction in emergency activity and saved 30% overall[9]

Patients with long term conditions report improved satisfaction from disease management, particularly from care planning and patient education.

- At OwnHealth in Birmingham, patient satisfaction was measured at 96% as a result of introducing nurse case managers for long term conditions[10].
- In NHS Tower Hamlets, where a similar diabetes programme began in 2009, patient satisfaction improved dramatically and almost immediately as the percentage of patients with diabetes who have care plans increased from below 10% to over 60% in the space of a few months[11].
- In Kaiser Permanente, where they have introduced more telephone and electronic support through their KP HealthConnect IT system and the My Health Manager system, the satisfaction rate for patients is 95% and for clinicians is 88%.[12]

In out-of-hospital care patients will receive safer service because the standards of care will be stated clearly and monitored as part of the agreed clinical protocols.

12.2 Patients with Diabetes: Clinical Pathway in NWL

The diabetes pathway designed for use in the Integrated Care Pilot does not introduce new services, but rather aims to achieve better patient outcomes through standardising and better co-ordinating existing good practice.

The major innovation is regular multi-disciplinary case conference, with input from acute consultants and other diabetes specialist clinicians and professional. It is expected that each Multi-Disciplinary Group will hold these sessions at least once a month for discussion of its most complex patient cases as shown in exhibit E.

The primary clinical guidance for diabetes diagnosis and management are the NICE guidelines. Drawing on the work done on diabetes for Healthcare for London, patients are segmented into groups that are defined by care needs (see exhibit F for the segmentation for patients Type 2 diabetes as example).

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6 Network Cologne, Quality Report, “Netzwerk Diabetischer Fuß Köln und Umgebung”, 2006

7 ELSID Diabetes Study, 2008

8 Network Cologne diabetic foot (Netzwerk Diabetischer Fuß) Quality report 2006

9 American Journal of Managed Care. 2008; 14:39–44 McKinsey, Diabetes Care. Mar. 2004; 27(3):670–5

10 OwnHealth presentation materials; National Commissioning Conference, September 2006

11 NHS Tower Hamlets, London, July 2010

12 Brian Sandhoff et al.; Holsclaw et al.: Assessment of Patient Satisfaction with telephone and mail Interventions provided by a Clinical Pharmacy Cardiac Risk Reduction Service, JMCP Vol. 11, No. 5 June 2005; Interview with Hal Wolf; Company website, McKinsey

Multi-Disciplinary Case Conference – Diabetes example

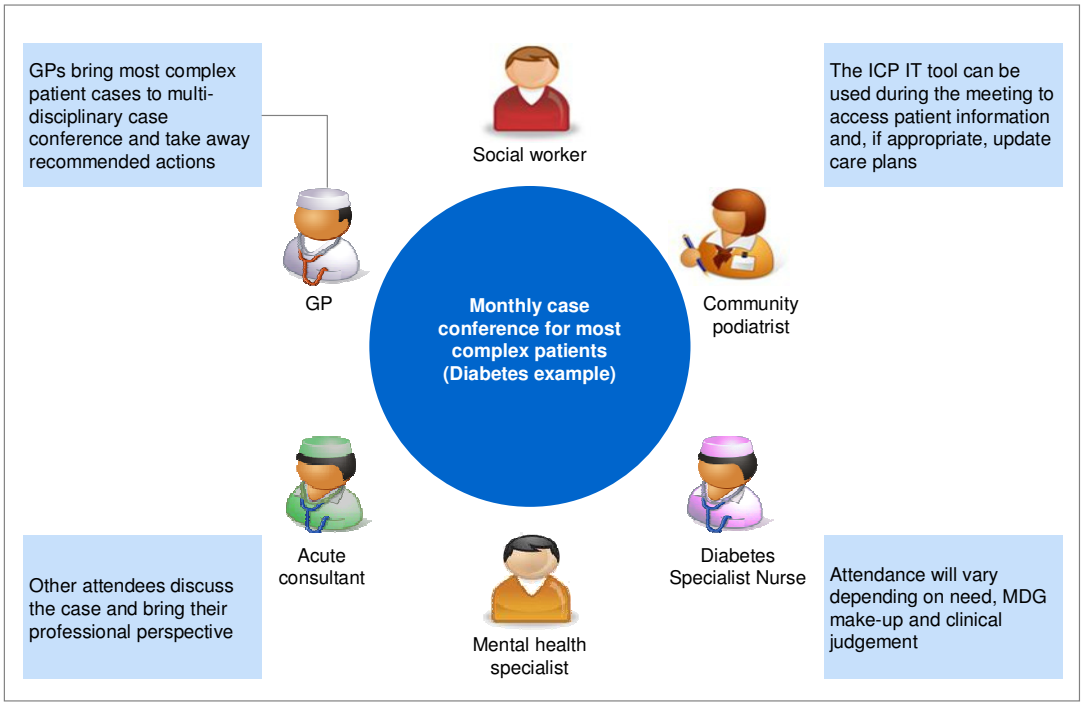

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Exhibit E: Multi-Disciplinary Case Conference – Diabetes example

Segmentation of Type 2 diabetes patients into three groups

Patient segment	Criteria for inclusion	Approximate % of diabetic population
Type 2: Newly diagnosed	▪ Newly diagnosed in the first 6 months or newly diagnosed in second 6 months not controlled	▪ ~10%
Type 2: Controlled[1]	▪ >6 months diagnosed and all three conditions met – BP<=140/80 – HBA1C<=7.5 – Cholesterol <=4.5 mmol	▪ ~25%
Type 2: Off-target	▪ Clinical parameters that exceed any or all of: – BP>140/80 – HBA1C >7.5 – Cholesterol >4.5	▪ ~65%

Any of these segments could be accompanied by complications – e.g. eye, foot, kidney complications – which would be treated in specialist care in addition to the standard care packages outlined on the following pages. Please see the section of this document, "Triggers that indicate complications" for more information

SOURCE: Clinical Working Group

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Exhibit F: Example of patient segmentation

For each patient segment, care packages are defined that outline the planned elements of care that a patient can expect, together with some suggested delivery options (see exhibit G and H as an example care package for newly diagnosed patients with Type 2 diabetes).

ICP Diabetes Care package: Newly Diagnosed Type 2 (1/2)

Activity	What is it?	Professional	Duration	Frequency
First consultation	▪ Diagnosis is explained to the patient and patient is added to the practice register if necessary ▪ Written information on diabetes and joining local and national organisations is provided	▪ GP	▪ 10-15 mins	▪ Once
Diabetic tests	▪ Standard set of diabetes tests (including BMI, BP, blood tests, foot check and urine check). This must be completed within 3 months of diagnosis.	▪ PN/HCA	▪ 15-20 mins	▪ Once
Diabetes induction and care planning	▪ Patient receives initial introduction to diabetes, including explanation, patient-centred education and scheduling of appointments ▪ Plan patient's care over next 12 months including explicit check that patient has no "red flags" that indicate referral to specialist care During meeting, patient should be asked for consent to being part of ICP. Patient should leave with written care plan. This must be completed within 3 months of diagnosis.	▪ PN (plus GP support as required)	▪ 45 mins	▪ Once
Retinal screening	▪ Retinal screening by an accredited provider	▪ Accredited provider	▪ …	▪ Annual or when visual symptoms
Structured education	▪ Refer, with explanation of purpose, to Xpert programme or DESMOND	▪ Specialist nurses and /or dieticians	▪ Xpert: 6 x 2.5 hour sessions followed up by 6 month and 1 year reviews. Successful completion if pt attends 4/6 sessions.	▪ Once

Exhibit G: Example of care package for newly diagnosed Type 2 diabetes

ICP Diabetes Care package: Newly Diagnosed Type 2 (2/2)

Activity	What is it?	Professional	Duration	Frequency
Six month review	▪ Review of care for all patients during first year after diagnosis. At minimum, BP and HBA1C should be measured. Other tests are at clinical discretion.	▪ PN	▪ 15 mins	▪ Once
Care co-ordination	▪ Follow-up to automated care plan adherence/compliance flags - e.g. reminder calls about appointments	▪ Admin	▪ …	▪ As required
Medicines management	▪ Medicines management reviews to improve adherence to prescribed medication	▪ GP, Nurse prescriber or community pharmacist	▪ As required	▪ Annual or as required

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Exhibit H: Example of care package for newly diagnosed Type 2 diabetes

Any of these segments could be accompanied by complications (eye, foot, kidney complications, pregnancy), which would trigger referral to the appropriate tier of care. It is assumed that all clinicians who implement the ICP will be familiar with NICE guidelines and will use these as the primary reference for all matters relating to the care of patients with diabetes

Modelling suggests that effective implementation of the diabetes care pathways will be able to yield a reduction of ~135 emergency admissions (or ~£800,000) for patients with diabetes for the MDGs expected to join in the first wave and ~220 emergency admissions (or ~£1.3m) for the second wave.

The appendix document includes full care packages for each type and segment that includes each detailed activity, the healthcare professional required, the duration (if applicable) and the frequency that the activity needs to be done at.

13. Integrated care pathway: Elderly Patients

13.1 Elderly Patients: Background

Elderly patients represent 6% of the population in NWL yet account for 19% of the total spend (excluding social care). Interventions for elderly patients will pay off more quickly than those in diabetes, due to the immediate impact of the interventions. During the first phase of design, several successful programmes were identified that have a positive impact on outcomes and cost of the care of elderly people. For example:

- Kaiser Permanente's Healthy Bones Program has orthopedic surgeons serve as champions in a large multidisciplinary team made up of healthcare providers from endocrinology, family practice, internal medicine, rheumatology, gynecology, physical therapy, disease/care management, radiology, and nursing education. Since the start of the programme the number of fractures has fallen by 37%. A similar programme in England that focused on home health screening for women reduced fractured neck of femur by 27% in some populations.[13]
- Other falls programmes cite similar successes through various levers, e.g. a 75% reduction in fractures and a 34% reduction in falls for patients given prompter cataract surgery.[14]
- Medication reviews in a nursing home reduced falls by 47%.[15]
- A Cochrane review of Hospital at Home Programmes finds statistically significant improvements in mortality at 6 months when hospital at home programmes offer Acute care in the homes of the elderly.[16]
- At Kaiser Permanente, a transition care programme has been developed to improve the discharge process. The programme reduced 30 day admission rates from 13% to 9%. The percentage of patients with a follow up clinic visit in 5 days increased

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13 NICE tag 160 Osteoperosis Primary Prevention and 161 Osteoperosis Secondary Prevention

14 http://www.rcophth.ac.uk/docs/publications/CataractSurgeryGuidelinesMarch2005Updated.pdf

15 NICE CG 21 http://www.nice.org.uk/nicemedia/pdf/CG021fullguideline.pdf. Pit SW et all 2007: https://www.mja.com.au/public/issues/187_01_020707/pit10990_fm.pdf

16 Shepperd S, Doll H, Angus RM, Clarke MJ, Iliffe S, Kalra L, Ricauda NA, Wilson AD. Admission avoidance hospital at home. *Cochrane Database of Systematic Reviews 2008*, Issue 4. Art. No.: CD007491. DOI: 10.1002/14651858.CD007491.

from 43% to 53% and as a direct result of the efforts patient satisfaction improved by ten percentage points[17]

International examples confirm that many savings can be made through integrated care of the elderly.

- The Kaiser Permanente Healthy Bones programme is estimated to have saved $39.5 million in 2008 on the cost of hip fractures and associated complications.[18]
- The Kaiser Permanente Transition Care programme, which focuses on improved discharge, reduced 30 day readmission rates from 13.9% to 9.3%, and it is estimated that each 1% decrease represents $1.2 million cost savings[19]
- Medication reviews can bring a number of savings on pharmaceuticals. Future savings of $7.74 per patient per day (approx £5) in drug costs due to decreased use, especially of cardiovascular agents (10.7%), analgesics (6.3%), psychoactive drugs (18.2%), and sedatives and hypnotics (13.9%).[20]
- At Torbay Care Trust, integrated health and social care reduced the average number of daily occupied beds from 750 (1999) to 528 (2009). The use of emergency beds today for the 65 and over population is 2,025 per 1,000 population in Torbay compared with an average of 2,778 per 1,000 population in the South West as a whole. Torbay has seen productivity savings from these initiatives as well. The discharge coordination it does has saved £957,000 in productivity gains in less than one year.[21]

Patient satisfaction for the elderly increases quickly, largely due to care planning and early identification programmes. Even unsophisticated care planning can still bring great benefit.

- Hospital at Home Programmes like those described above reported higher satisfaction than traditional hospital care.

Frail and elderly people often deteriorate quickly when admitted to hospital. Significant improvements to safety and independence can be made by keeping elderly healthy and reducing admissions and length of stay in hospital.

13.2 Elderly Patients: Clinical Pathway in NWL

A clinical working group for elderly care has designed an overall clinical pathway for elderly people, as well as a number of condition-specific pathways that illustrate good practice for managing some of the most important issues faced in the care of elderly people.

As with the diabetes pathway, the major contribution of the Pilot is not to introduce new services, but rather to ensure better co-ordination of existing services and a common understanding of existing national guidance and best practice across the Pilot. Again as with diabetes, a major innovation is the introduction of dedicated resource for MDGs to hold regular multi-disciplinary case conferences, which will include input from acute consultants and other elderly care specialists.

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17 Kaiser Permanente Care Management Institute

18 Richard M. Dell et al, “Osteoporosis Disease Management: What Every Orthopedic Surgeon Should Know”, The Journal of Bone & Joint Surgery, 2009;91 Suppl 6:79-86

19 Kaiser Permanente Care Management Institute

20 Clinical and Economic Outcomes of a Fall-Focused Pharmaceutical Intervention Program - Mark J. . . . . Haumschild, Terry L. Karfonta, et al.; American Journal of Health-System Pharmacy. 2003;60(10)

21 Torbay Integrated Care Programme 2008; Chris Ham, “Working Together for Health: Achievements and Challenges in the Kaiser NHS Beacon Programme,” University of Birmingham Health Services Management Centre, January 2010

The overall clinical pathway for elderly people below sets out the core features of the integrated care approach as well as what decisions will be delegated to local MDGs; an overall pathway is shown in exhibit I.

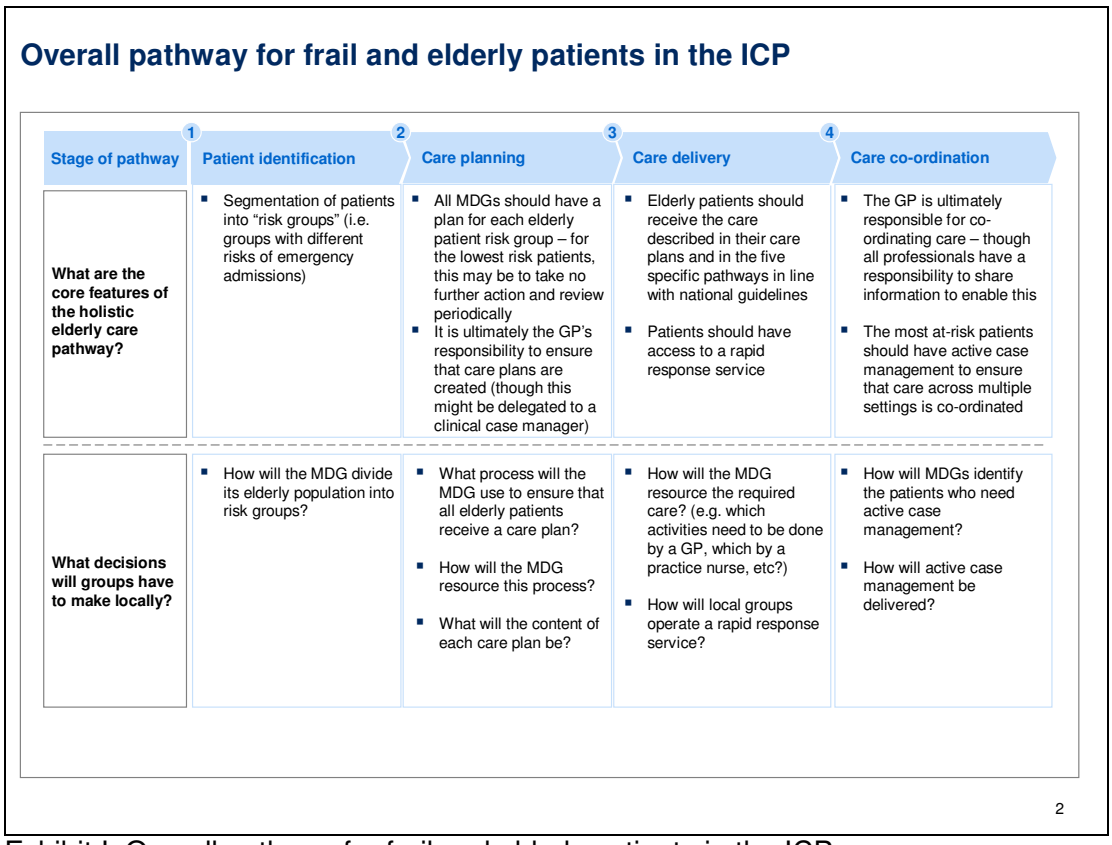

Exhibit I: Overall pathway for frail and elderly patients in the ICP

The approach for assigning patients to different risk categories will be left to individual MDGs whilst ensuring consistency across a set of broad principles:

- The aim of the Pilot is to improve the quality of care and reduce the number of emergency admissions. One of the principal mechanisms for achieving this is pro-active care planning for patients most at risk of emergency admissions
- MDGs will therefore probably want to prioritise care planning for the most at-risk patients. Built-in functionality in the ICP Information tool will facilitates this
- It is expected that MDGs will use the funding for additional out of hospital care (see chapter 13) to ensure that at least half their patients over the age of 75 are given an integrated care plan and appropriate care co-ordination

Patients will be stratified by risk (using the King's Fund Combined Predictive Model), which will determine prioritisation of care planning and, where relevant, screening for the most important conditions affecting elderly people. See exhibit J for the risk stratification for elderly patients including the approach taken for assigning care planning to these patients in the pilot.

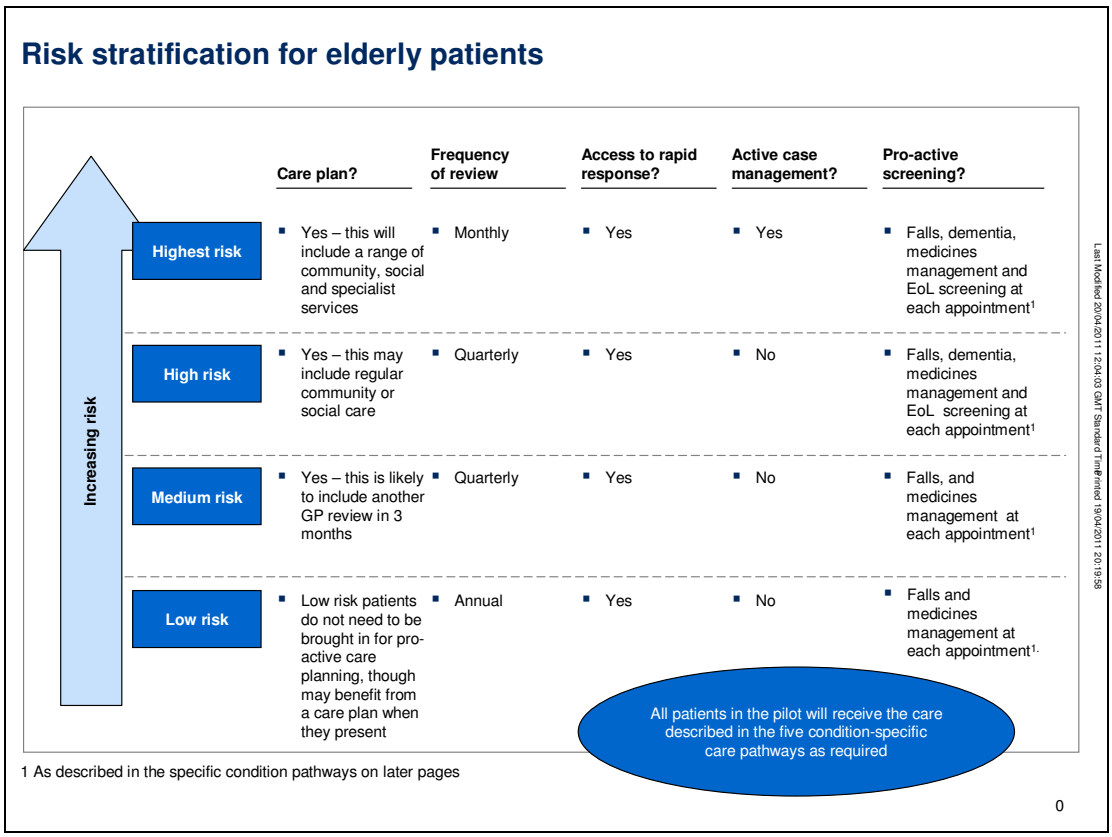

Exhibit J: Risk stratification for elderly patients

Specific care pathways were developed for specific clinical needs – full information on each specific pathway is within the background documents on clinical pathways for elderly patients (see appendix document).

The pathways covered are:

- Falls management (including falls interventions services to prevent falls and mitigate consequences)
  - The information tool will be used for both screening falls (through all settings of care) and risk stratify patients
  - Patients in the higher risk segments will have a set of interventions including being referred to the falls intervention services and either receive specific case management (highest risk) or quarterly GP review (high risk)
  - Highest or repeat-fallers will be discussed at case conferences
- Dementia
  - Patients are screened and identified for early dementia as per NICE guidelines and get referred if necessary; patients with known dementia and deterioration with current arrangements will also be referred
  - Referral will be to the Integrated Cognitive Impairment and Dementia Service (run by community mental health services) who will confirm, if correct, diagnosis and coordinate necessary care
- Medicines management
  - Screening will occur for patients over 75 with polypharmacy or on high risk drugs (at GP's judgement) or considered high risk
  - Identification of patients will be triggered by problematic drug list, problematic combinations, multiple A&E attendances or other difficulties with medication (either through adherence or resulting in A&E attendances)

- For high risk patients – interventions will be through GP monitoring, community Pharmacy service reviews as well as referrals following A&E attendances; for further issues following interventions, patients will be discussed in case conferences

- End of life care
  - Primary care will be used for screening by focusing on patients with cancer or on the LTC register
  - Not all patients therefore at end of life will get referred to specialist service – the Gold Standard Framework triggers will be used such as surprise question, patient request and clinical indicators
  - Case manager will be responsible for coordinating the care amongst available agencies and ensuring that right bodies are informed
  - Very small number of patients who are still not coping well despite support might be reviewed at case conference
- Early supported discharge (to reduce re-admissions)
  - Focus on patients scheduled for elective procedures considered at risk of emergency admissions. Patients will get post-up support prior to procedure and then further support through the multi-disciplinary community ESD service
- Rapid response service (to reduce unnecessary admissions)
  - Care plans for elderly patients at risk will include a rapid response 'gatekeeper' who care professionals can contact for referrals
  - Professionals will work together to provide optimal cost-effective patient-centred care

Modelling suggests that effective implementation of the diabetes care pathways will be able to yield a reduction of ~660 emergency admissions (or ~£3.1m) for patients with diabetes for the MDGs expected to join in the first wave and ~1050 emergency admissions (or ~£4.9m) for the second wave.

Section E: Introduction of joint enablers through pilot

14. Information tool

The delivery of integrated care at the patient-level requires:

1. A patient-level business intelligence solution to provide information that informs decisions about care delivery and patient pathways
2. The sharing of essential patient-level clinical and scheduling information
3. The coordination of standardised care plan delivery, across multiple clinicians and organisations along the patient pathway

The ICP information tool is a secure web based portal which enables all of the above and allows healthcare professionals to plan and deliver care as part of a multi-disciplinary group.

14.1 Outline of functionality

1. Enables the creation, modification and sharing of electronic care plans, consisting of actions assigned to different health care providers across different settings. These electronic actions could remove the need for many paper based referrals
2. Allows GPs to see at a glance the care being provided to their patients, and easily isolate any reasons for gaps in care
3. Allows all providers to see how their care integrates with other care a patient is receiving
4. Shows suggested care plans for patients, dependent on their medical history, based on outputs from the clinical working groups
5. Allows healthcare providers easy access to patient clinical information from a range of different settings including primary, community, secondary and others (see 14.2). This will mean this information no longer needs to be shared manually, and will help better inform clinical decision making.
6. Uses risk factors, including QoF metrics, to analyse GP patient populations to easily identify the highest risk patients and provide appropriate care planning for these patient
7. Compares the performance of GPs practices against benchmarks and compares the performance of different MDGs, across a range of metrics by use of the performance scorecard

While all MDG members are expected to use the tool to coordinate and track delivery of the various assigned actions, GPs, practice managers / case managers and MDG coordinators are expected to be more active users of the other functionality around risk stratification for more pro-active care planning and MDG management / administration.

An illustrative screen-shot showing what one of the risk stratification screens is likely to look like exhibit K and care planning history in exhibit L. Further screen-shots are at the end of this business case in the appendix.

The risk stratification dashboard will show the distribution of the selected patient population by different clinical measures

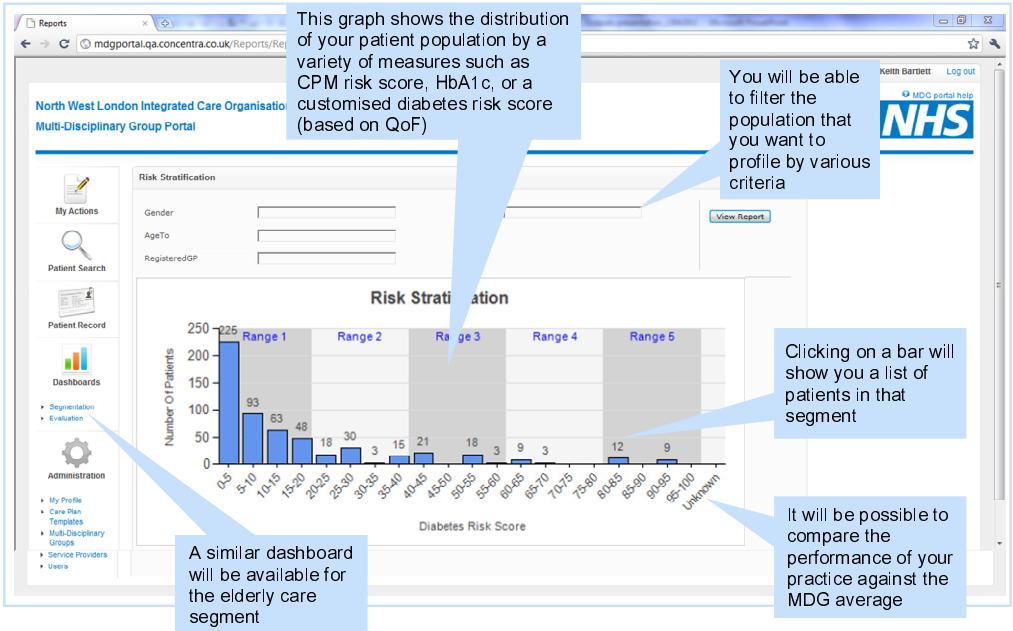

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Exhibit K: Risk stratification dashboard

The care history section displays a chronological view of care incidents across different care settings

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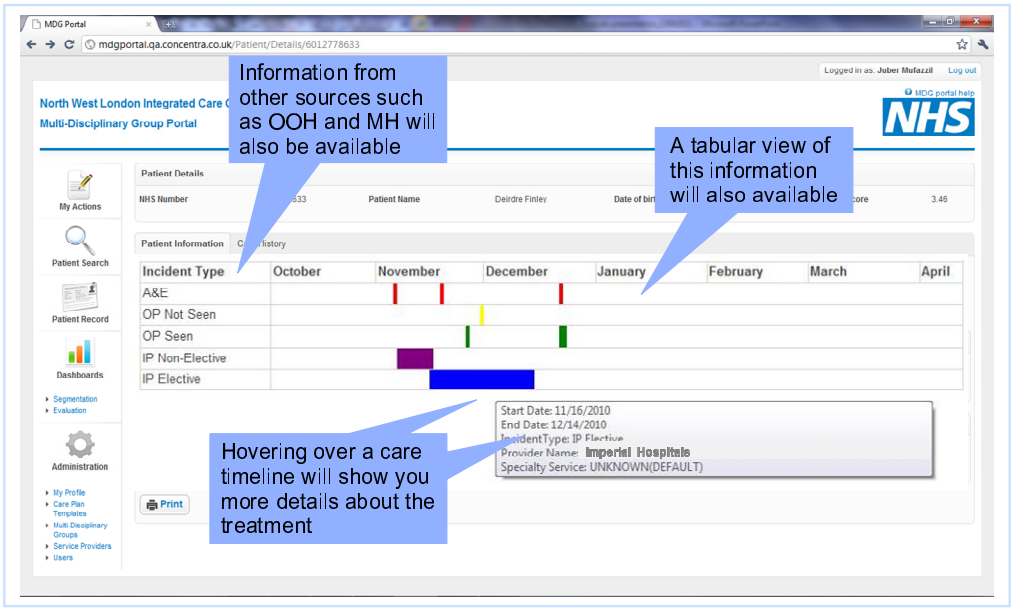

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Exhibit L: Care history section

However it is important to note that the ICP information tool is not designed to replace any of the existing clinical systems that healthcare professionals use to deliver care and only act as a support tool.

14.2 Data sources

The information tool is enabled by a scalable data warehouse that contains patient-level information from the following systems

- Acute providers for activity data (pre-SuS)
- GP Primary care clinical data from SystmOne, EMIS and Vision
- Community data set from Pro-wellness and Rio
- Walk in centers
- Out of hours service providers
- Daily A&E alerts from acute providers
- Mental health providers
- Electronic discharge summaries for inpatients discharges from hospital

The launch version will have mechanisms to extract data from all listed data sources which will happen at least fortnightly (subject to technical compatibility and information governance agreements)

Data from other providers including social care and pathology/ radiology from non-GP provider settings could be integrated into the backend at a later stage, subject appropriate technical development and data sharing agreements.

14.3 Information Governance

All providers (including individual GPs) will continue to be data controllers of their data and K&C PCT [subject to final legal approval] will act as a sole data processor on their behalf. There is a valid legal basis of consent for all the three core information flows that the ICP information tool enables.

For enabling risk stratification, which requires sharing of data from GP and SuS systems, the basis of consent is existing consent that GPS have to view their patient information and the section 251 coverage of the SuS data.

For care plan management and viewing of integrated patient care history, GPs will be required to take explicit consent at the time of creating a care plan. This consent would enable sharing of information across all relevant providers and would be recorded in the ICP information tool. The recorded consent along with the role based permissions and audit facilities to monitor self claimed legitimate relationship guidelines would together ensure that all access controls are in conformance with the IG requirements. Details of these as well as what data is shared by what provider and the relevant security assurances around all the data transfer can be found in the relevant schedules of the Establishment and IT managed Service agreements.

The IG function at K&C PCT and their Caldicott guardian and SIRO would provide the official IG support for the pilot. The information governance aspects of the pilot have been validated with all the relevant key stakeholders and IG departments.

14.4 Sign up and future development

In order to use the tool all participating practices and providers will need to sign the Establishment Agreement and the IT Managed Service Agreement.

A two-week period of testing and cleansing of the data will be needed after these agreements are signed before the portal will be ready to use.

An IT director and information committee (see Chapter 14.1) will be responsible for the day to day maintenance of the portal as well as determining future development.

15. Finance model and framework

The financial model that underpins the IC pilot is based on a population of 380,000 (those GP practices with 70% of their acute spend at ICH). The assumption was made in order to build a robust financial model and it should be recognised from that this does not reflect the reality on the ground and in no way forces GP practices (with >70%) to sign up or stop GP practices (with<70%) signing up.

Now that we have completed the work with clinicians on the ground we are able to move from a theoretical model as detailed here to an actual model of what will happen in reality based on sign-up through waves outlined in chapter 8.

15.1 Overall financial implications of model

Clinical evidence shows that by providing more proactive, integrated, high quality care delivered through multi-disciplinary working can create a reduction in attendances at A&E, emergency admissions, and length of stay.

Analysis of international comparators and the pattern of care delivery in North West London suggested that this would imply a reduction in acute activity valued at £12.9m within the first year and an implied saving of £26.4 by year five of the pilot based on the population of ~530,000 that is expected to join through the first two waves. Details of how the benefit of integrated care was constructed is in chapter 15.2 of this business case.

It is important to note that *spend* has already been pulled out of the acute sector with respect to emergency care (through 2008/09 cap on emergency admissions, the 25% reduction in payments for emergency readmissions following an elective spell and the 25% of 25% of emergency readmissions following an non-elective spell). It is possible, therefore, that the pilot may successfully reduce *activity* without delivering additional financial savings above and beyond those that are already assumed by the SLAs for 2011/12 for Imperial and Chelsea and Westminster. The pilot may, therefore, act as a delivery initiative against a set of savings that are already financially planned but not operationally prepared for.

For emergency admissions to be reduced and the savings to be achieved, an upfront investment in out of hospital resources (i.e., more money for primary, community and social care) will be required to support this. Bottom-up modelling suggests that £80 is needed for each elderly patient and £40 for each patient with diabetes. This bottom-up analysis is based on the need for additional care planning and case management, the time of clinicians to engage in multi-disciplinary working and the deployment of additional primary, social and community care to better fulfil existing service specifications.

For the integrated care pilot to operate at this size, an investment will be required in infrastructure costs, specifically to support the on boarding of Chelsea and Westminster. This means the infrastructure investment grows to £1.8m.

Overall, the total savings for the population of ~530,000 in waves one and two the IC Pilot would be in the region of £8.6m (£12.9m less £2.5m for out of hospital care and £1.8m for infrastructure costs).

These savings can be cascaded down to both the Practice and GP level as well as translated into the number of reduced emergency admissions required to achieve the savings.

Although this is large at a pilot or catchment level – this only translates to 7 emergency admissions avoided per GP across the year. Exhibit M illustrates this in terms of activity and cost.

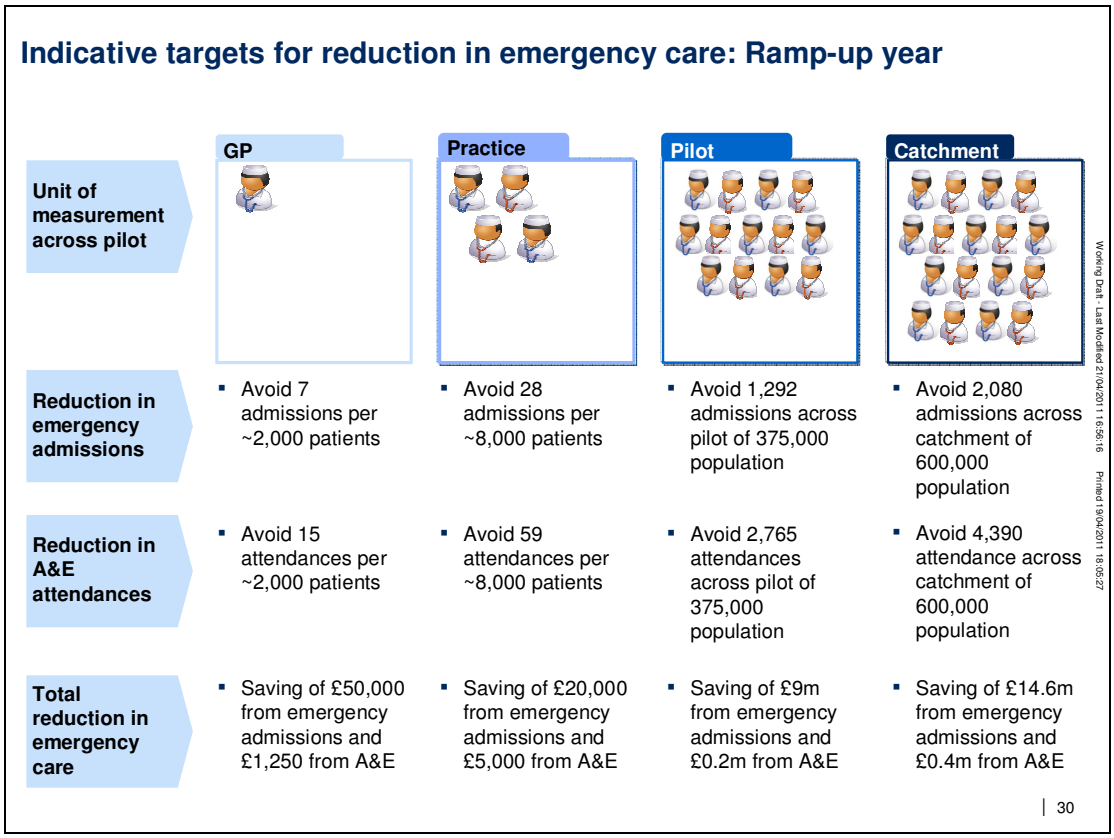

Exhibit M: Indicative targets for reduction in emergency care: Ramp-up during IC pilot year

As the IC pilot ramps up over time then the targets for reductions in emergency care will also increase over time; as further savings are expected as the steady-state model is reached out to five years. Exhibit N shows what the first steady-state year would look like in terms of emergency care targets.

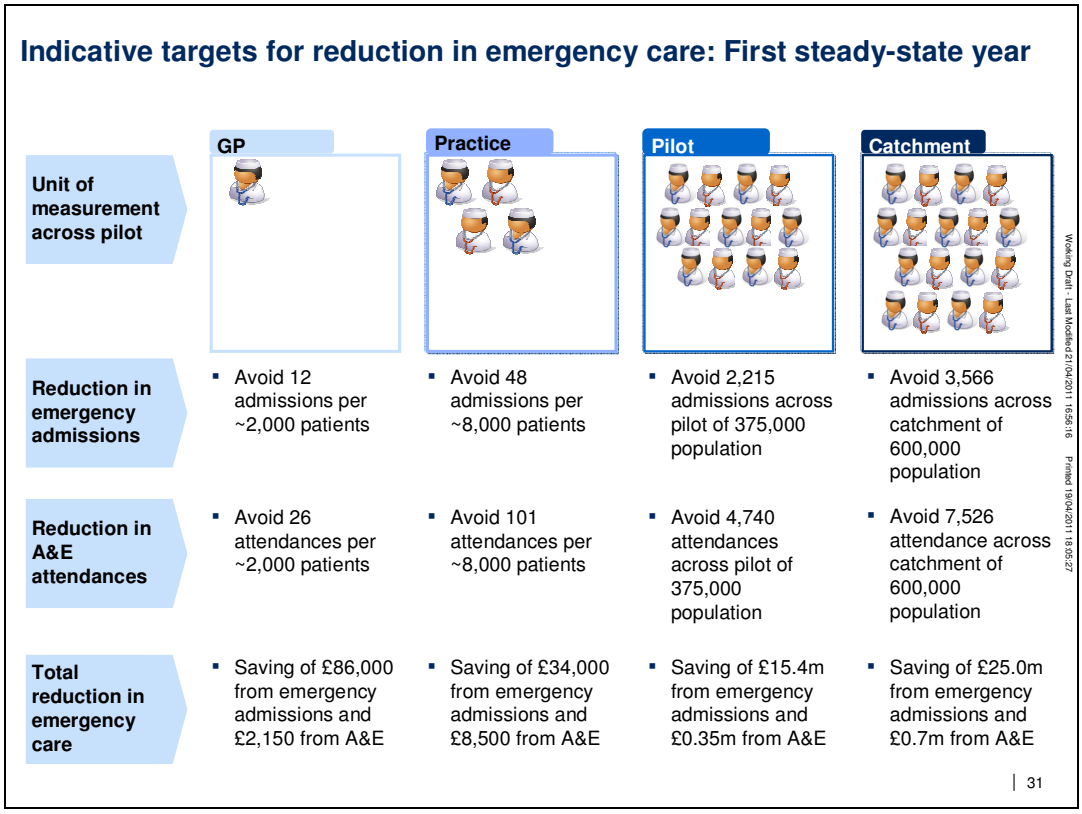

Exhibit N: Indicative targets for reduction in emergency care: First steady-state year

Two sources of funds have been identified to provide the necessary upfront investment required for the NWL integrated care pilot:

- *Emergency admissions above 08/09 baseline:* Currently, for over-performance against a 2008/09 baseline, local commissioners pay 100% of the tariff, but acute providers receive just 30%. The remaining 70% is held-back by NHS London. NHS London is keen to support integrated care, and have agreed to support the NWL integrated care pilot. For ICH this equates to £2.2m and for Chelsea and Westminster this is £0.555m
- *Emergency readmissions:* Within the current SLAs for ICH and Chelsea and Westminster, 25% of the total emergency readmissions after an elective spell and 25% of the 25% reduction of emergency readmissions after a non-elective spell, is available for projects that can reduce emergency readmissions. For ICH this equals £2.38m and for Chelsea and Westminster this is £0.531m.

This provides upfront financing of £5.7m against a cost of £4.3m and would make up ~75% of the identified funding sources. This leaves £1.4m, which could be invested into other schemes to reduce admissions or used in order to expand the IC pilot further ether taking into account for practices in NWL (i.e., to cover the Imperial and Chelsea and Westminster catchment) or adding further clinical pathways to the IC pilot.

If the pilot meets its goals in reducing emergency admissions and readmissions, then there will be financial underperformance against the 2010/11 outturn plus expected growth at Imperial and Chelsea and Westminster for emergency care. For this underperformance, 50% will be added to the reinvestment allocation for distribution to the providers and practices in the pilot as recognition and reward for their achievement

of implementing integrated care with 50% retained by commissioners. If a net reduction in admissions or readmissions across MDGs is therefore not achieved, no reinvestment funds will be paid out.

15.2 Approach for the construction of the financial model

The financial model was built by taking a sequential approach which allowed an assessment of the benefits and costs of delivering better coordinated care and a focus on more out of hospital care. The approach followed six steps:

- Estimate how many patients in the pilot through identifying the population most likely to take part in the IC pilot by analysing inpatient referral data from NWL practices to Imperial and setting benchmark of 70%
- Segment patients with diabetes and elderly patients by estimating the number of people in each risk-stratification segment of elderly patients and patients with diabetes who would be impacted by the integrated care pilot work directly
- Select clinical interventions by reviewing a list of potential programmes and selection of the priority programmes based on criteria (necessity for integration, potential benefit, implementation) with defined initiatives
- Estimate the baseline by calculating the baseline spend and activity level today by patient segment (e.g. high needs, low needs etc.) and spend category (e.g. primary, community, acute inpatient, etc.)
- Determine impact of each initiative by translating initiatives into quantitative impacts using data from case studies and experts. Assumptions were made from point of going live including:
  - Best examples in case studies are the “high” (best) case in 5 years
  - Achieve 66% of the “high” best-case benefit in the “base” case after implementation
  - Elderly can make 50% of 5 year impact after the first year and diabetes 20% of 5 year impact after the first year following implementation
- Calculate the updated spend per capita (baseline + impact of initiative) for 1 year and 5 years from baseline

15.3 Approach for the allocation of additional resources

The financial modelling identified two necessary allocations of funds that would be necessary for delivering the IC pilot including funding for additional out of hospital activity more funding infrastructure for the IC pilot (e.g., an operational team).

The out of hospital will be allocated across the pilot depending on the number of patients with diabetes and elderly patients. There will be an additional £40 available for each person with diabetes and £80 for each person over the age of 75 years.

Expectation of practices signing up to IC pilot

MDG	Total list size (and practices)	Number of Patients with Diabetics (<75)	Number of Elderly Patients (i.e., >75)	Overall Resource Allocation MDG (£)
Central London Healthcare (All)	135,409 (24)	2,902	7,229	694,437
East Acton Practices	51,053(11)	1,549	2,743	281,372
North Kensington	41,259 (9)	1,050	2,563	247,036
Total Wave 1	227,721(44)	5,501	12,535	1,222,846
Chiswick	41,167(8)	917	2,053	200,904
Kensington and Chelsea	73,834 (34)	1,617	4,586	336,389
Hammersmith and Fulham	187,981(31)	5,125	9,170	733,678
Total Wave 2	302,982(56)	7,659	15,809	1,335,404

SOURCE: HES 2007/08 and 2008/09, QOF 2009/10, ONS 2008

5

Exhibit P: Allocation of out of hospital resources across waves

As stated in the original financial model and framework, the total number for out of hospital resources will flex depending on the number of patients with diabetes and elderly but the £40/£80 will remain constant (i.e., as the population number grows then the figure will grow in a straight-line). Exhibit P shows what this will mean for multi-disciplinary groups that have expressed significant interest in joining in the first wave of practices. For practices that join after day one; out of hospital resources will be allocated on a pro-rata basis.

For the IC pilot to fully test its hypothesis, there are several activities that require support. Parameters have been suggested for multi-disciplinary groups to make initial allocations for ensuring that these activities take place:

- *Care-planning:* The IC pilot has been designed on the basis that all patients with diabetes will have a care plan and ~50% of elderly patients. For this to happen, investment needs to be made into putting patients on care plans.
- *Attending MDG and review meetings:* Collaboration and cross-provider working underpins the entire model, which requires resourcing for clinical time. The minimum is a monthly MDG meeting with GP representatives from each Practice, acute consultants, a community care representative, a social care representative and, in certain cases, a mental health representative. In addition, clinicians must attend quarterly performance review meetings.
- *Care coordination:* Delivering integrated care successfully requires that each patient with a care plan will need a single named individual to coordinate and take ownership for the care of individuals. Upfront investment is required for this.
- *Out of hospital care:* The model of integrated care proposed suggests that patients can be cared for better in the community and through practices rather than in the hospital; thus the remaining ~50% of resource will be left to the discretion of individual MDGs to allocate and be peer-reviewed at the IMB.

- *A&E:* As the IC pilot is trying to reduce emergency care – a specific need has been identified in the way that care is delivered within A&E such that other clinicians and professionals are aware of attendances by patients on the IC pilot and are able to adequately plan for their care back in the community such that an emergency readmission can be avoided.

These elements will need to be costed at the individual level by going through a detailed resourcing process which is laid out on the MDG Formation Guide (see appendix documents) which will be taken to the IMB for approval (see chapter 15.5). An example of what a resource plan would look like for MDG case conferences and performance reviews is in Exhibit Q.

Following completion of the resource plan – there are two steps that MDGs must take. One is to have the plan peer-reviewed and approved by the IMB (as outlined in chapter 11.2 and the MDG formation guide (appendix document).

The process for distributing the funds following approval is described further in chapter 15.5. Additional out of hospital care will need to be reviewed by the commissioners as well to ensure that there is no duplication of spend and that the spend is truly for additional care to deliver the clinical pathways.

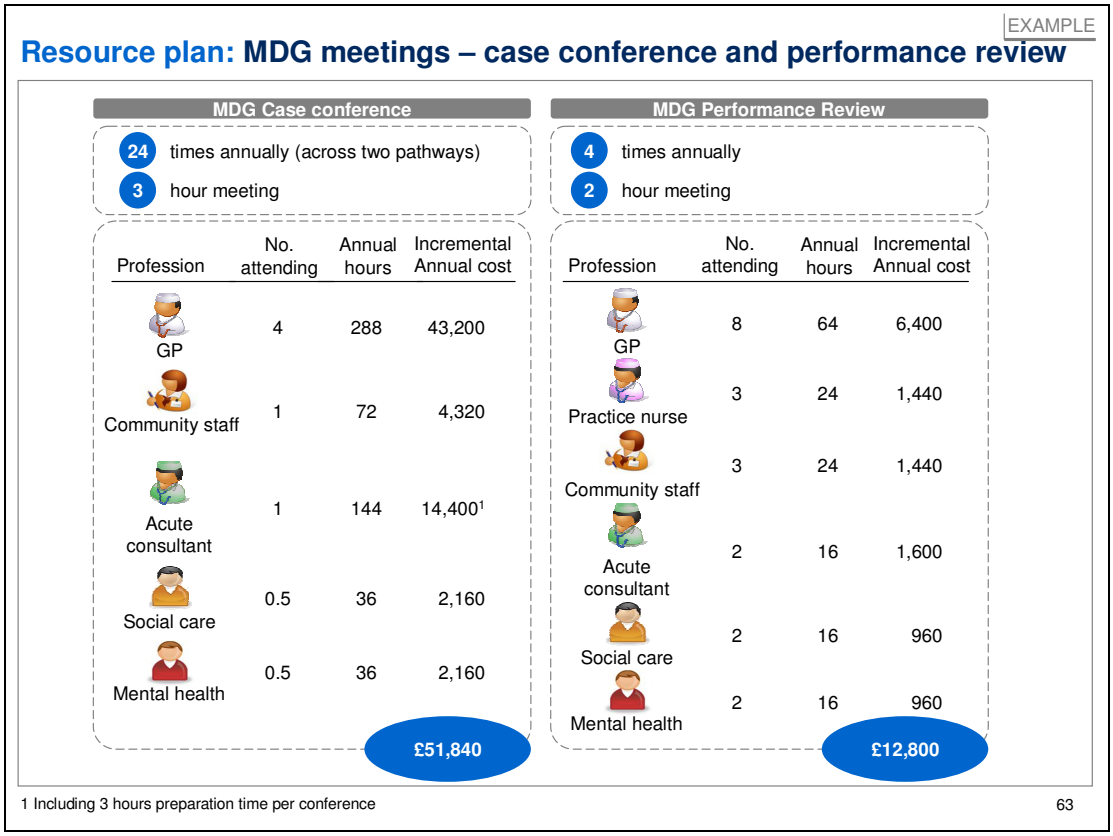

Exhibit Q: Example resource plan for MDG meetings

In addition, there has been an allowance made for central infrastructure costs. The budget for spending the additional infrastructure costs which represents a total of £1.8m will be set by the IC Pilot Director and need to be approved at the first steady-state IMB meeting.

The infrastructure costs will need to be able to cover all costs that are central to running the IC pilot including:

- Employing an operational team to support the IC pilot centrally and MDG coordinators to work with the different MDGs
- Funding an evaluation framework to measure degree of success of IC pilot
- Paying for any on-going information tool costs and support including:
  - IT Managed Service Agreement between the ICP partners and the Kensington and Chelsea Primary Care Trust to provide the data and hardware hosting
  - Sub-contracting with Concentra for application support
  - Sub-contracting with Apollo, HealthAnalytics, Prowellness etc.
  - Additional costs to align IT solution with EnCompass
- Resourcing additional managerial support
- Providing funding for the hosting of the IC pilot including various costs for staffing, information governance, legal and administrative fees

An illustrative budget for this is in exhibit S which will be proposed by the IC pilot director and discussed and approved at the first steady-state IMB meeting.

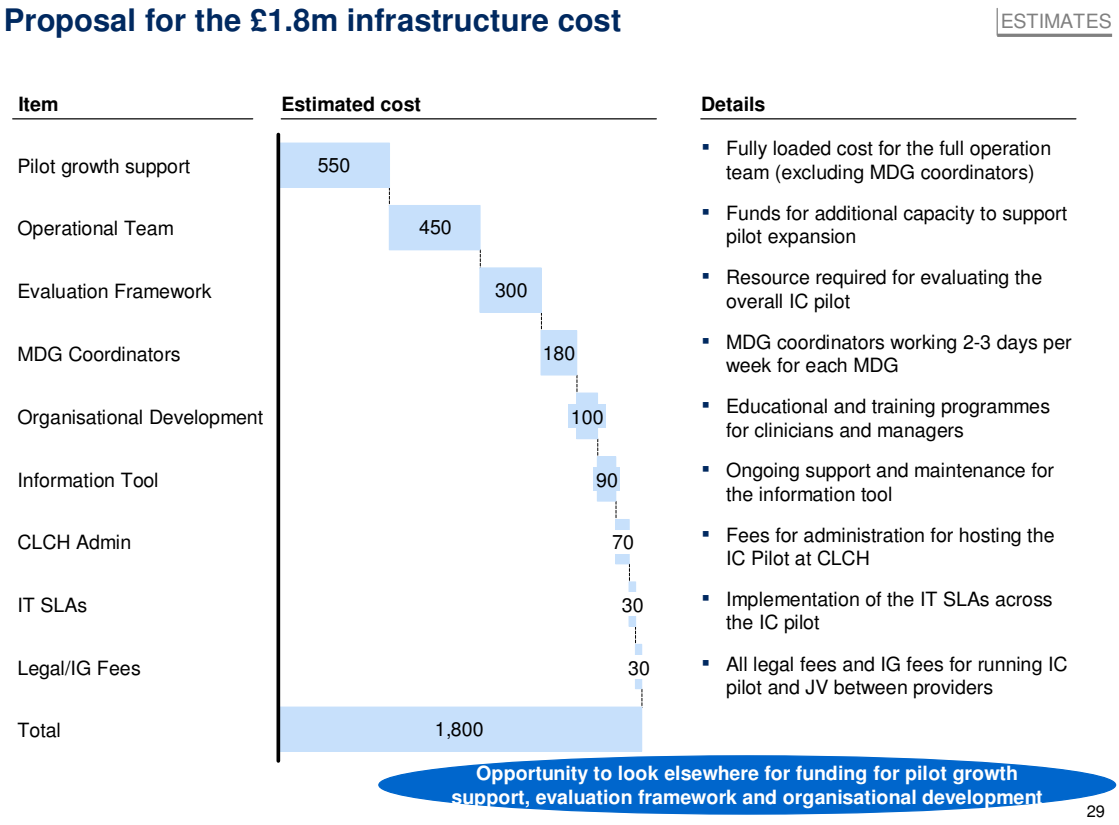

Exhibit S: Illustrative budget for spending the £1.8m infrastructure costs

15.4 Approach for the allocation of reinvestment payments

If the IC pilot is successful in meeting its full financial objectives in reducing emergency admissions then there should be a net reduction in admissions which results in under-performance against 2010/11 outturn plus expected growth for emergency care at Imperial and Chelsea and Westminster. Should financial underperformance be achieved, commissioners have agreed that 50% will be allocated to providers in the pilot for reinvestment, and 50% will be retained by commissioners.

Any reinvestment payment could only be paid out upon meeting two conditions. First, the quality of patient care (in terms of safety, effectiveness and experience) must be maintained or improved. This implies that the performance scorecard and the evaluation must show that quality of care has not declined. Second, there must be a net reduction in the cost of emergency care across the pilot: without such a reduction, no funds will be available to be released for reinvestment.

The following design principles have been put in place for the reinvestment payments:

- For reinvestment funds to be paid out, an overall reduction in hospital admissions and readmissions must be seen for the pilot as a whole. Irrespective of the performance of individual MDGs, the net position across MDGs must have improved.
- Assuming there is an overall net financial improvement, reinvestment funds will be paid out dependent on the level of performance (e.g., reduced admissions) of the individual MDG based on targets set when the MDG has formed.
- Reinvestment payments are based on meeting targets set across the pilot year thus if providers join late then their reinvestment payment is pro-rated or they must reach annual targets in a shorter amount of time to get their full share of the pot.
- Targets will cascade down to the MDG level as the unit of measurement
- Reinvestment funds are allocated to providers within MDGs based on number of patients in the pilot (i.e., using the same approach used for out of hospital resources) and will be reinvested in services
- Reinvestment funds will be allocated to providers within MDGs on the basis of 40% for GPs, 30% for acute providers, 15% for community health providers and 7.5% for local authority and mental health providers respectively.
- The IMB must have a clear and transparent process to sign-off and approve reinvestment payments
- Any provider joining the pilot following the launch must accept the principles and approach agreed to already
- The reinvestment payment is independent of the investments made in out of hospital resources (i.e., no expectation that there should be a pay-back of the resource invested in out of hospital care)

Providers must reinvest these funds into healthcare services; clear rules have been set out in the financial proposal (see appendix document) for how GPs can spend these reinvestment payments.

15.5 Funding flows

A practical approach has been developed for ensuring that the funds identified such that additional resources (out of hospital resources and infrastructure costs) and reinvestment payments can flow to the necessary providers. Exhibit T shows the approach.

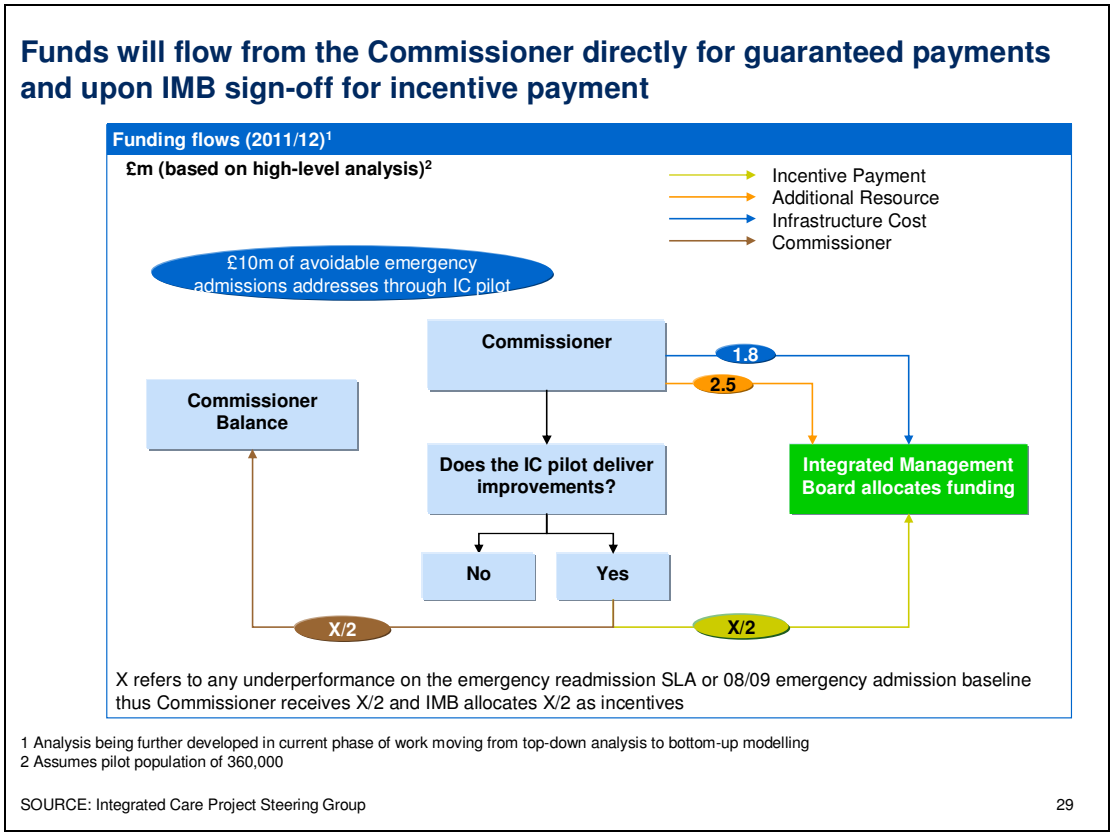

Exhibit T: Funding flows for IC pilot

CLCH, in its role as the host for the IC pilot, will act as the banker and will hold the pilot funds on trust until paid out upon the instruction of the IMB. This trustee arrangement will establish a trust deed under which funds will be provided by the cluster, on behalf of London Strategic Health Authority, to the providers as proposed and agreed by the IMB. Full details for the provision of the funds are set out in the Memorandum of Understanding (MoU).

This trustee arrangement will establish a trust deed which will provide the necessary security and assurance that funds will be paid by the cluster, on behalf of London Strategic Health Authority, to the providers as proposed and agreed by the IMB. There will be clear processes for sending the funding for additional out of hospital resources and reinvestment payments. Full details are set out in the Memorandum of Understanding (MoU).

- *Out of hospital resources:*
  - Each MDG creates an initial resource plan that lays out how much of the resource envelope for out of hospital resources will be dedicated to each of four major activities: (a) Care planning; (b) Care co-ordination; (c) MDG meeting attendance; and (d) Reserved funds for additional out-of-hospital care (see Chapter 15.3).
  - The resource plan is then submitted to the IMB (or a pre-selected sub-set of IMB) for peer review, approval and sign-off.
  - Once the initial resource plan is approved, the MDG needs to develop a detailed plan that describes which practices and providers will deliver the activity described in the resource plan. This plan is then turned into a payment schedule which is made up of all the different sections of the resource plan which will be paid in the following manner:

        - Pre-determined payments: Resources for Care planning, Care co-ordination and MDG meeting attendance will be determined in advance for the year. Funding for care planning will be paid at the start of the Pilot in advance, which reflects the expectation that most care planning will be front-loaded and delivered early in the Pilot. Funding for care co-ordination and MDG meeting attendance will be paid in quarterly instalments.
        - Flexible payments: Resources for delivering additional out-of-hospital care will be set for the first quarter and can be adjusted later in the year, as MDGs learn from early resource deployment. The IMB will be asked to approve these adjustments each quartered.

    - The initial payment schedule for the first quarter is sent to CLCH who will turn this into the necessary payments required for each provider and one per practice (assuming that practices can further delegate funds, if necessary, to individual GPs). This first payment will include all upfront investment for care-planning and MDG meeting attendance, and for the first quarter of care co-ordination and additional care
    - In successive quarters CLCH will make payments to each provider and practice as described in the payment schedule and in accordance with approved adjustments to the deployment of additional out-of-hospital funding

- *Reinvestment payments:*
    - The overall approach and framework for paying reinvestment funds has been agreed upfront for the IC pilot year. This will be dependent on there being underperformance against the 2010/11 outturn plus expected growth for emergency admissions and emergency readmissions for Imperial and Chelsea & Westminster
    - At end of year, the Performance and Finance Director and Analyst will clarify the overall size of the reinvestment payments based on underperformance against emergency admissions and readmissions as set out above
    - The split is then worked based on the MDG as the unit as to which MDGs have contributed to the underperformance and therefore will be the ones receiving a relatively higher/lower share depending on reduction in emergency admissions
    - The IMB approves the work of the Performance and Finance Director and Analyst. This will be approved at the IMB taking place following the end of the first year of the pilot following the necessary audit checks
    - Funds are released to each provider and each practice from CLCH directly following IMB approval. For providers this would be the sum of all of those MDGs aggregated that they are part of that have met their targets. The aim will be to pay out reinvestment payments within three months of the end of the IC pilot

16. Governance arrangements

A governance structure has been developed in order to support, direct and govern the IC pilot including establishment of an integrated management board (IMB), sub-committees and operational team; defining of necessary processes including clinical risk assessment and information governance; hosting arrangements and conditions for entering and exiting the IC pilot.

The IC pilot governance structure has been designed to operate in a similar way to a members' club. There will be an establishment agreement which will lay out all of the rules of the game as well as a memorandum of understanding with the NWL cluster to set out how the club will operate.

The hosting arrangement and trust deed are in place for the relationship with the host which will be CLCH and the IT Managed Services Agreement will set out the process and conditions under which individual provider participants will share their data. The overall legal structure is shown in exhibit U.

Proposed legal structure of the integrated care pilot

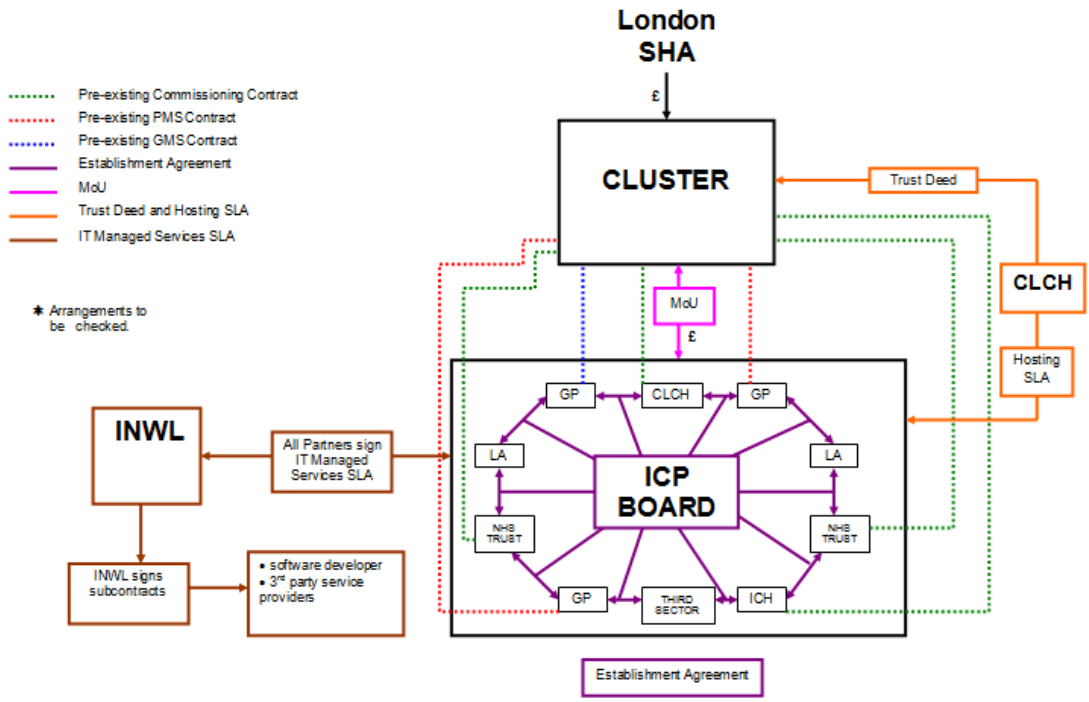

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Exhibit U: Proposed legal structure for the IC pilot

- Establishment Agreement: Will set up the ICP Board and set out the basis on which the provider participants will co-operate in respect of MDGs for the provision of care for the elderly and diabetes patients and the distribution of monies received pursuant to the MoU. It will also include data sharing requirements which all providers must agree to adhere to. It is entered into by all provider participants including individual practices and, where relevant, practitioners.

- Memorandum of Understanding: Will provide for the Funds to be made available to ICP providers in specific circumstances, paid via CLCH under a Trust Deed in accordance with the terms of the MoU to provide financial assistance to those bodies that it has various existing relationships in connection with the provision of care for the elderly and diabetes patients. It is entered into by all provider participants and practices with most, but not all, Primary Care Trusts within the NWL Cluster.
- Managed Service Agreement: Will outline the process and conditions under which individual provider participants will share their data as Data controllers with K&C as the data processor. It is to be entered into between Kensington and Chelsea Primary Care Trust and provider participants.

16.1 Overall structure and design

The IC pilot will be ultimately governed by the IMB which will act as the decision making body and take overall accountability for the IC pilot. The IMB will be supported by a set of sub-committees and subject to a separate audit committee. Day-to-day support will be provided by an operational team. Exhibit V shows the structure.

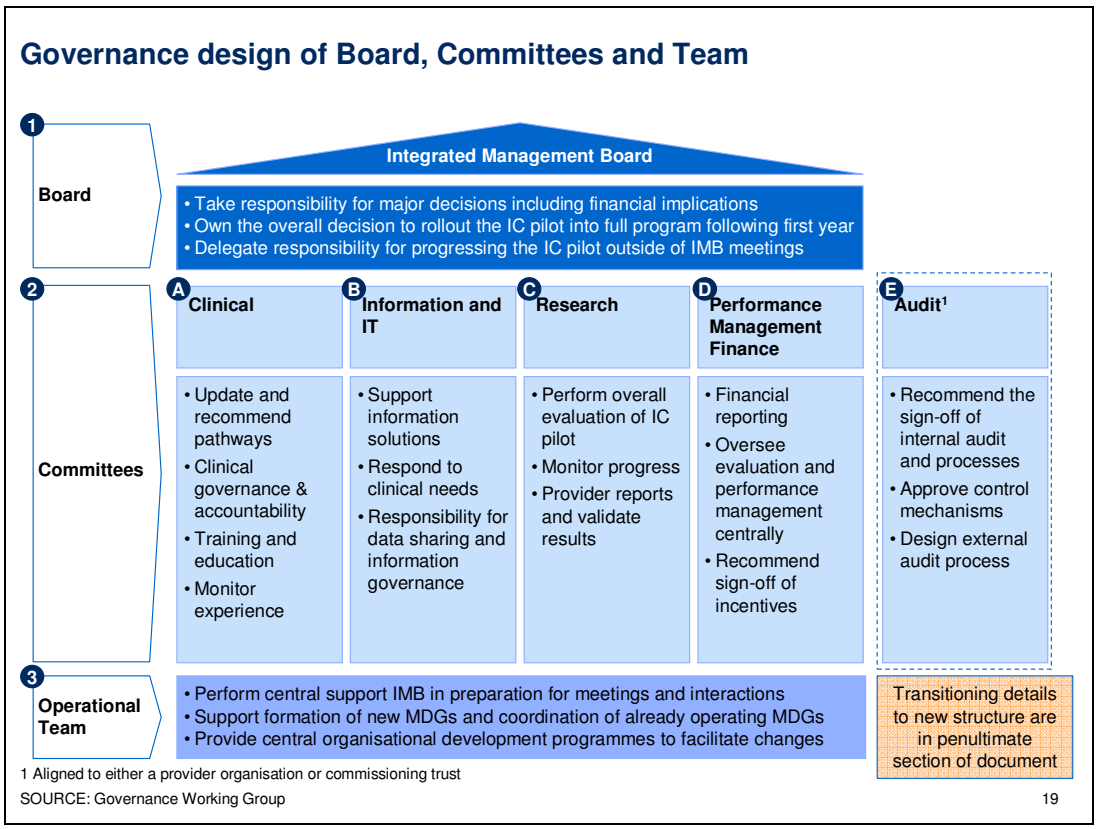

Exhibit V: Overall governance structure and design

16.1.1 Overall structure and design: IMB

The IMB will be the main decision making body for the Integrated Care pilot. The IMB has two main sets of responsibilities:

- *Driving the strategic agenda:* The IMB will be responsible for driving the main strategic agenda required for delivering the IC pilot including being accountable for major decisions, aiding in negotiation and ultimately either reserving the right to shut down the plot or deciding to continue integrated care in NWL.
- *Being the main decision making body:* The IMB will need to approve provider entry into the pilot and individual resource plans. It will be accountable for signing off any changes to the structure of the IC pilot and changes to the clinical pathways and/or enablers. Any changes to the financial implications or governance arrangements will need approval by the IMB. It will be accountable for any investigations that are required

The IMB will be represented by all the providers in the IC pilot and votes will be split in a pre-determined manner. General practice will received 50% of the votes where each MDG will be able to nominate one GP to be the representative. Acute providers will have 25% of the votes; community care, social services and mental health will all receive 5% each of the votes; and patient representatives (Age Concern and Diabetes UK) will take the remaining 10% of the votes. This is represented in exhibit W. The size of the IMB will be determined by the number of MDGs in the IC pilot and therefore number of GPs sitting on the IMB.

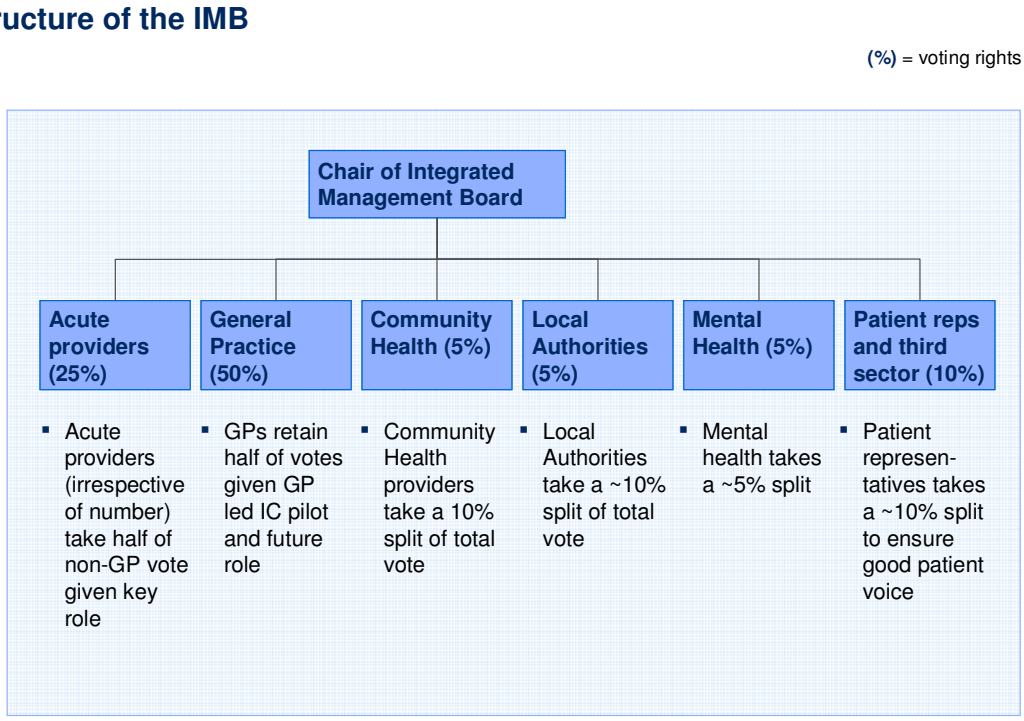

Exhibit W: Split of votes on the IMB

16.1.2 Overall structure and design: Supporting Committees

There will be four committees that will directly support the IMB as well as a separate audit committee that will provide assurance and external audit for the overall governance structure for the IC pilot.

- *Clinical Committees:* There will be two separate clinical committees for patients with diabetes and elderly patients. The role of the clinical committees will be to:
  - Receive input from clinicians across the NWL patch on the clinical interventions and pathways under the IC pilot
  - Review and evaluate clinical outcomes from the evaluation platform and performance management system
  - Discuss any issues for clinical governance – including overseeing any complaint or investigating clinical incidents
  - Undertake regular clinical risk assessments and take action to mitigate
  - To oversee development of a Working Transformation Strategy and promote clinical leadership

- *Information and IT Committee:* The main role of this committee will be to receive and address feedback from clinicians on the information tools deployed specifically by the IC pilot. The committee will also ensure the right level of training and support is in place for clinicians. In addition, it will take responsibility for any issues around information governance and data sharing with the IC pilot IT lead and continue to update and refresh information governance documentation and ensure regular audits.

- *Evaluation Committee:* Scoping, planning, resourcing and ultimate delivery of the evaluation report will be the core function of this committee; the committee will also be mandated with producing interim evaluation reports (after 6 months) in order to advise QIPP planning.

- *Performance Management and Finance Committee:* This committee will be charged with overseeing the performance management system and ensuring that MDGs and the IMB have enough access to information and support managing the performance of MDGs. The committee will also oversee the financial implications of the IC pilot and ensure that the IMB is provided with the necessary recommendations in order to undertake their responsibilities.

There will be an Audit Committee outside of the IMB structure responsible for managing and coordinating all the activities required for effective governance, risk management, and internal control including coordinating with the necessary parts of in host organisation to ensure controls and processes are followed. It will ensure there is an internal audit function within the host and review the work and findings of external audit.

16.1.3 Overall structure and design: Operational Team

An operational team will provide day-to-day support for the IC pilot including a set of MDG coordinators who will work with the different MDGs providing administrative support, performance management support and act as the overall coordinator for their activities. These coordinators may be appointed to the operational team, or by funding MDGs to appoint from within the providers in the MDG.

Exhibit X sets out the structure of the operational team.

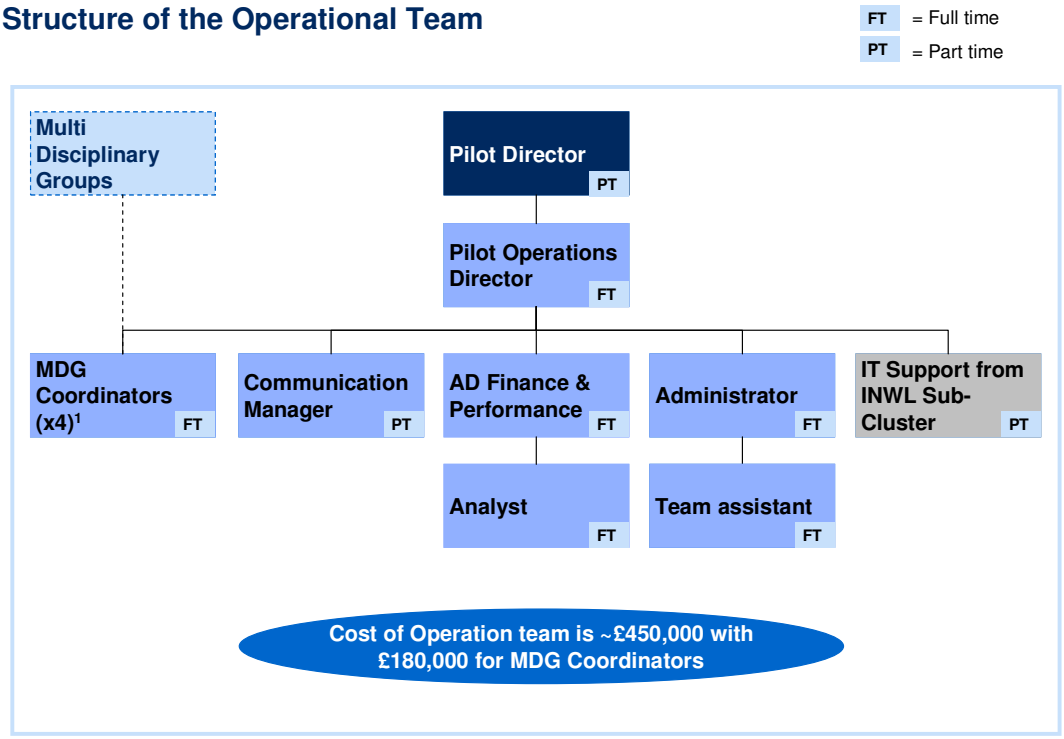

Exhibit X: Structure of the operational team

16.2 Processes and enablers

There are four key areas that require processes and enablers to be established to aid the governance of the IC pilot. These include clinical governance and risk assessment, information governance (especially data sharing and consent), overall risk mitigation and intellectual property.

- *Clinical governance and risk assessment:* Clinical governance will be the overall responsibility of the Pilot Director. The framework will follow, where applicable, standard NHS procedures and protocols for complaints, incidents, infection control, training and confidentiality. The host organisation will be leveraged for PALs. Full details of the framework can be found in the governance proposal (see appendix)
- *Information governance:* This will be the responsibility of the Pilot IT Lead. The Caldecott Guardian for the IC pilot will be the Pilot Director. An 'explicit opt-in' model of consent has been developed such that consent for data sharing will be obtained at the care-planning stage of patient interaction.
- *Overall risk mitigation:* The Pilot Operations Director will be charged with creating and maintaining the risk register as well as ensuring that all risks have specific owners and plans for mitigating.
- *Intellectual property:* An intellectual property agreement will be put in place across all the providers for sharing the intellectual property from designing the IC pilot.

16.3 Hosting arrangements

The host for the IC pilot will be CLCH. The rationale for selecting CLCH is three-fold:

- The recipient of funds from the NHS London must be a Community Trust or PCT; a Community Trust makes more sense given that PCTs are being abolished with the advent of GP commissioning by 2013
- CLCH represents a provider with central infrastructure in place to host individuals without the need for large additional infrastructure investment
- The host should be a provider organisation to reflect the fact that the IC pilot is a provider initiative.

CLCH will act as host employer and provide administrative support to the IC pilot; providers and practices will enter into a hosting arrangement with CLCH for the provision of this through the IC pilot

CLCH, as the pragmatic host, will provide several key roles. Firstly, it will act as the banker to ensure the smooth flow of funds for the IC pilot (as articulated in chapter 13.5). CLCH provides a physical home and location (with shared facilities) for the operational team; in addition CLCH will be able to provide a location for meetings for the IMB and different supporting committees. It is a formally constituted NHS provider organisation and therefore has the different governance processes and has internal processes that can be leveraged.

There will be a trust deed put in place to ensure that the funds flow in the right way and to the agreed parties as per the instructions of the IMB. The trust deed will be made between [NWL Cluster] and CLCH and will stipulate that the Funds are held by CLCH for the benefit of the signatories to the Establishment Agreement and are to be paid to them in accordance with the ICP Board's instructions.

From an IT perspective Kensington and Chelsea Primary Care Trust will act as a managed service provider for the members of the pilot. The St Charles data centre under the Kensington and Chelsea Primary Care Trust will provide the physical location and the hardware on which the IT solution and the data warehouse will be deployed. The Kensington and Chelsea Primary Care Trust IT team will provide services for maintenance of the physical hardware and also manage the contracts with other subcontractors for provision of various IT services to the members of the pilot. Information Governance in respect of the pilot will be managed by the Caldicott guardian and the SIRO for Kensington and Chelsea Primary Care Trust.

Full details of the Establishment Agreement, Memorandum of Understanding, Hosting Arrangements (including the Trust Deed) can be found in the appendix (legal documents) as well as the IT services provided by the Kensington and Chelsea Primary Care Trust IT can be found in the IT Managed Service Agreement.

16.4 Entrance and exit of the pilot

It is accepted and appreciated that not all practices will be ready and/or prepared to join the IC pilot on day one. In addition, other providers (e.g., other acute providers) have expressed interest in joining at a later date.

Providers are able to enter the pilot every three months in new waves of practices and/or providers joining. For this to happen, three months notice is required and a plan (i.e., resource plan) must be submitted to the IMB for approval.

Following the launch of the pilot – providers and/or practices may only leave at the end of the year. The only situation where providers and/or practices may leave the IC pilot before the end of the year is if, and only if, the IMB votes to terminate the pilot.

17. Organisation development

Launching the IC pilot takes much more than the establishment of new clinical pathways, the formation of groups of clinicians working together and enablers; it requires a fundamental change in the way that people work and transformation of a system that has not been used to collaborating effectively in the past.

The way that the IC pilot has been developed with clinicians has been a first step to making this happen. Through working groups and collaborative Transitional IMB meetings – clinicians have begun developing the relationships across provider boundaries that are required to work together better for patients.

More formal mechanisms have been used throughout the design process including practical support on the ground for MDGs who have expressed intent to be part of the first wave of Practices. In addition, work has been done by the clinical working groups to understand when and where additional competency requirements will be needed for delivering the new clinical pathways. Finally, links have been made with the Deanery on how education and training can be supported and enhanced through the pilot.

There are four pillars to the ongoing plans for transforming and developing clinicians and managers under this new model of care:

- Provide development support for the new steady-state IMB to form true partnership relationships
- Develop a clinically led training programme including an MDG Formation Toolkit which will cover all practical issues required to get going in MDGs and a full training guide for the information tool
- Provide ongoing development support for MDGs as they progress through pilot including a video that articulates the way that MDGs will operate and work together through the MDS
- Progress with innovative learning programs and in particular those that have been identified through making links with the Deanery

18. Joining agreements

The Memorandum of Understanding (MoU) sets out the financial arrangements are that providers are signing up to. In addition, it sets out the different agreements that providers must adhere to in order to be part of the IC pilot. Details of all of these agreements are set out in other parts of this business case. In summary:

- Sign the Establishment Agreement which includes the structure of the IMB, hosting arrangements and entry/exit agreements (Chapter 16)
- Accept the financial implications of the IC pilot and the approach for allocating out of hospital resource, reinvestment payments and the infrastructure costs (Chapter 15)
- Follow the clinical protocols and pathways and other clinical guidelines set out by the clinical working groups (Chapters 12 and 13)

- Sign the IT Managed Services Agreement (Chapter 14)
- Adopt the processes and procedures set out of the clinical governance and that all the necessary training and support is in place within your organisation to ensure this is followed (Chapter (16)
- Use and be evaluated through the monthly scorecard (and share results to improve performance) and pilot evaluation platform and hold regular review sessions on these outputs within your MDG as part of improving delivery of care across your MDG (Chapter 19 and 20)
- Have established a MDG within the parameters set out for MDGs within the IC pilot which include being within the parameters of the suggestion scale (i.e., population covered) and has support of other providers as well as an approve resource plan (Chapter 11)
- Have had the information tool installed to share data and information across providers within MDG (Chapter 14)
- Named representation on the IMB and supporting committees including GP lead from MDG (Chapter 16)
- Set responsibilities within individual MDGs and confirm the support of the operational team for administration (Chapter 11)
- Sent out the necessary communication to patients in your population area including information about the pilot and what it will mean for patient care (Chapter 11)

Section F: Measuring success of the pilot

The objective of the IC pilot is to be able to improve the quality of patient care whilst delivering financial benefits to the health economy through reducing spend on emergency care. The IC pilot must be able to determine whether this objective has been met. Several mechanism and tools have been developed in order to both track and monitor progress of the IC pilot during the initial year as well as evaluate the degree of success that the pilot has had at the end of the year.

19. Management Information

There will be two tools available for providing management information to both the IMB as well as MDGs. The first will be the management information dashboard which will be part of the information tool. The second will be a quarterly audit that will aim to understand the data further as well as give some qualitative assessment of performance.

19.1 Management Information Dashboard

The following table sets out the metrics, definitions and expected impact of data that will be part of the management information dashboard.

Metric	Definition	Expected Impact
Operations: Patients on care plans	Number of patient on an integrated care plan as proportion of total number of patients who should be on an integrated care plan (%)	▪ Tower Hamlets achieved very rapid (600%) ramp-up of care-plan take-up and saw up-takes of other services of 90% of population ▪ Target 90-95% of all patients on care plans by end of IC pilot year (accepting that not all will be willing to join)
Operations: Adherence to care plans	Number of patients with one of more overdue action as a proportion of the total number of patients with an integrated care plan (%)	▪ Target full compliance with care plans for both; but set parameters for performance management: ▪ Critical: <50% ▪ Poor: 50-60% ▪ Fair: 60-70% ▪ Good 70-80% ▪ Excellent: 80%+
Operations: Community nursing visits per patient	Total number of community nursing visits to patients in the target population relative to the size of the target population (Number/1000)	▪ Increase overtime by 15% from the starting point ▪ Net increase in the umber of visits or units of community delivered to patients in the pilot
Operations: Average length of stay	Difference between time of discharge and time of admittance for elective and non-elective episodes divided by the total number of episodes for patients in the target population (Days)	▪ Torbay Care Trust achieved 17% reduction for elderly ▪ Project Nisse (Sweden) achieved 24% reduction for elderly ▪ Renders CM et al (2001) recorded 40 reduction ▪ Target 12% reduction in IC pilot year

Quality: Level of community, social and mental health care	Number of patients in the pilot receiving additional care by these providers (Number) – definition will depend on final data in the information tool	▪ To be developed and defined based on data in the information tool
Quality: Medication reviews	Proportion of patients receiving medication review (Number/1000)	▪ Future savings of $7.74 per patient per day (approx £5) in drug costs due to decreased use especially ▪ Cardiovascular agents, 10.7% ▪ Analgesics, 6.3% ▪ Psychoactive drugs, 18.2% Sedatives and hypnotics, 13.9%
Quality: Control measure – Hb1Ac	Patients with diabetes with HbA1c less than or equal to 7 or 10 (Number/1000)	▪ Tower Hamlets achieved decrease of 20% in HbA1c level
Quality: Control measure – Blood Pressure	Percentage of patients in target population with blood pressure targets achieved as per NICE guidance (%)	▪ Tower Hamlets achieved BP < 140/80 reduction of 10%
Quality: Control measure – Cholesterol	Percentage of patients in target population with cholesterol less than or equal to 5 (%)	▪ Tower Hamlets achieved cholesterol < 4.5 within 1 year of primary care networks
Financial Impact: Number of acute readmissions	Number of patients within the target population readmitted as an emergency within 30 days of previous discharge as proportion of all admissions (%)	▪ KP report a 31% reduction in readmission rates within 6 months for CHF and 14% reduction for all readmissions
Financial Impact: Number of emergency admissions	Total number of emergency inpatient admissions for the pilot population (Number)	▪ Care Planning and Self Care: 50% reduction in admissions; Disease Management: 22% reduced admissions in Health Affairs, AOK: -20% amputations, SHI: -20% admissions; Patient education: -17% admissions; Telehealth: -32% in admissions
Financial Impact: Number of A&E Attendances	Total number of A&E attendances for the pilot population (Number)	▪ 50% reduction in number of visits from Care Planning and Self Care; Telehealth: 34% reduction in visits for high risk, uninsured patients
Financial Impact: Total number of emergency admissions days	Total number of emergency inpatient days for the pilot population (Days)	▪ Reduction in length of stay of 8% per annum seen in Torbay

19.2 Quarterly Audit

In addition to metrics that will be readily available in the information tool through the management information dashboard, a quarterly audit will be designed that can add more colour to the raw metrics.

The overall approach will be prescribed by the performance and finance director and will receive support from the analyst as well as MDG coordinators (where suitable). For both financial and operational metrics, the baseline will be 2010/11 performance, with an indication of performance against the trajectory required for the release of reinvestment payments from the pilot (according to the anticipated pilot ramp up profile).

Area	Questions to address	Approach	Approach
Operational	▪ What is the impact of the new care planning? ▪ What impact is being seen on non-acute services? ▪ What is the impact on the operational sustainability of acute providers?	▪ Address compliance and quality of care planning ▪ Look at trends in waiting lists for non-acute and long-term care	▪ Scorecard
Clinical	▪ What improvements are being seen in clinical outcomes?	▪ Look at changes in control measures, and where possible, hard outcomes	▪ Evaluation framework
Financial	▪ What is the impact on cost of emergency care? ▪ What is the impact on the rest of the system?	▪ Look at the cost of changes in emergency activity ▪ Look at cost trends for non-acute	▪ Evaluation framework
Patient Experience	▪ What emerging trends exist for patient experience?	▪ Perform sample interviews with patients or deploy a patient questionnaire	▪ Evaluation framework
Clinician Experience	▪ How well are clinicians operating under the new model?	▪ Perform sample interviews with clinicians	▪ Operational team – MDG Coordinators

19.3 MDG Assurance Process

Within the quarterly audit – it will be necessary to incorporate an MDG assurance process to ensure that MDGs are following the rules prescribed. Metrics that have been identified already including specific targets and milestones have been identified

Rule	**Metric**	**Target**
▪ MDGs must hold a minimum of two three-hour case studies (one for patients with diabetes and one for elderly patients) a month, plus three hours of fully paid preparation time per consultant (both patients with diabetes and elderly patients) per session	▪ Attendance at MDG meetings (by provider and type of meeting)	▪ Pragmatic assumption that due to holiday, sickness and other exceptional circumstances that meetings would expect 80-90% attendance across MDGs
▪ MDGs must hold a minimum of one quarterly performance reviews (which must be a minimum of two hours) with paid attendance for representatives from all providers in the MDG	▪ Attendance at MDG meetings (by provider and type of meeting)	▪ Pragmatic assumption that due to holiday, sickness and other exceptional circumstances that meetings would expect 80-90% attendance across MDGs

▪ For the IC pilot – MDGs will to deliver the following care planning for the patients in their individual MDG over the 12 months of the pilot: ▪ All patients with diabetes ▪ At least 50% of all elderly patients	▪ Number of patients on care plans (for both elderly patients and patients with diabetes) including patient segments	▪ Tower Hamlets achieved very rapid (600%) ramp-up of care-plan take-up and saw up-takes of other services of 90% of population ▪ Target 90-95% of all patients on care plans by end of IC pilot year (accepting that not all will be willing to join)

The Performance and Finance Director will develop a detailed ramp-up plan based on the assumptions and targets above such that the progress along these three metrics can be tracked properly and action taken during the year with respect to any MDGs that are not following the stipulated rules.

20. Performance Management System

A key part of ensuring that the IC pilot is on track to delivering the outcomes that it is expected to deliver is the implementation of a performance management system. This system will be run and governed by the Pilot Finance and Performance Director with support from both an analyst as well as the MDG coordinators who will be supporting each MDG.

The basis of the performance management system is set out in exhibit W and will act as a blue-print for the Pilot Finance and Performance Director to fully implement a new system in NWL.

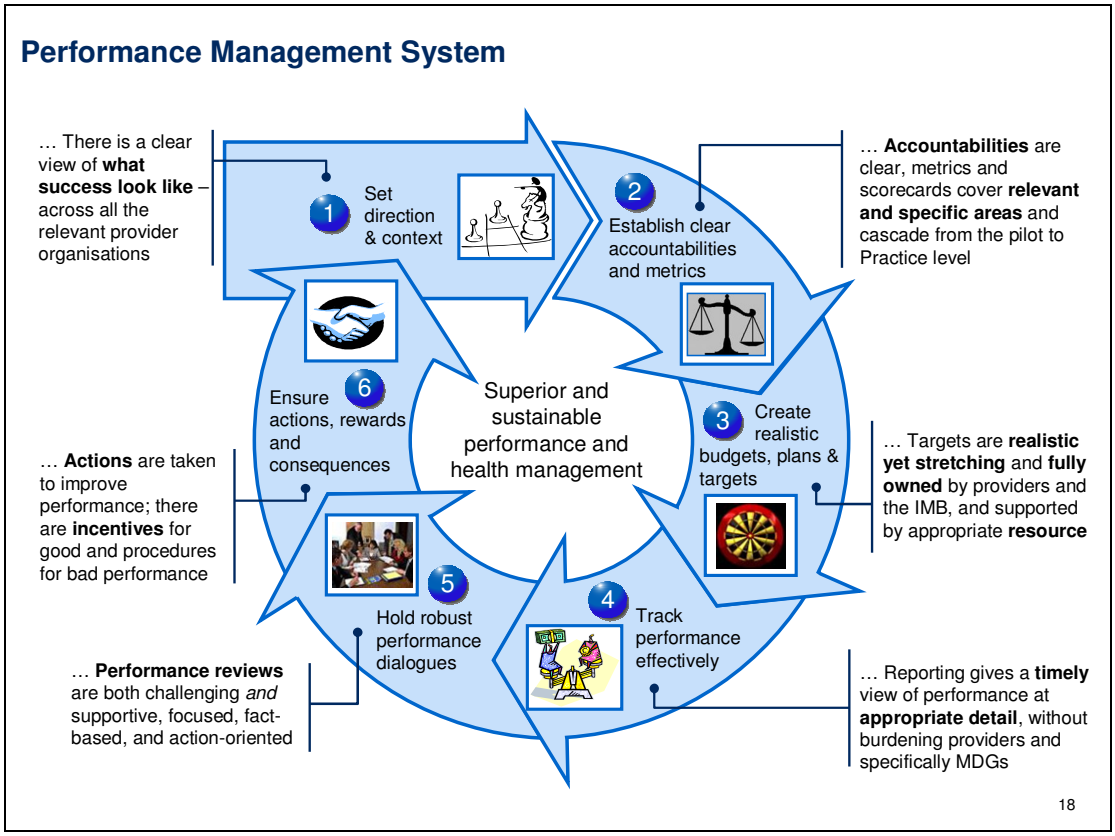

Exhibit Y: Performance Management System

Effectively the performance management system will be required in order to monitor and measure how the IC pilot is performing against the vision and objectives set out in the earlier chapters and whether the benefits of integrated care bare being delivered to the local population.

The overall financial model for delivering the IC pilot and implementing integrated care across NWL is based on a set of targets that have been observed in other parts of the UK (e.g., Tower Hamlets and Torbay) as well as other areas around the world. These targets will be used as the starting point for defining the expected impact from the IC pilot.

Targets have then been cascaded across the year to set quarterly goals. The targets have also been set across MDGs either applied straight across (e.g., for percentage changes) or divided across the population of patients with diabetes and elderly patients for absolute numbers. For practices joining in later waves – these targets will be slightly tougher to meet in order that the pilot delivers its overall potential by the end of the first year.

Two tools have been developed to ensure that MDGs and the IMB can track performance effectively:

- Management information dashboard: This will be available to all clinicians through the information tool and will allow users to see the metrics that were laid out in chapter 19.1.
- Quarterly audit: This will be done through the evaluation framework and supported by the operational team and was described in chapter 19.2.

A framework has been developed to ensure that there are sufficient opportunities during the year for clinicians and management at all levels across the pilot to reflect on progress and make changes to the model based on performance outcomes. These will take place at different levels from practice to overall pilot:

- *Practice:* Monthly scorecards will be made available for each practice with basic management information; this will allow for a monthly discussion at the practice meeting about performance within the practice as well as comparison to other practices within the specific MDG.
- *MDG:* Quarterly performance review meetings will be scheduled by the MDG coordinators to ensure a substantial debate within each MDG. Clinicians will be expected to attend all of these meetings and will be paid for their time. This will give a chance to review progress, discuss necessary changes and determine any support required to report to the IMB
- *Pilot:* The IMB will discuss performance on a quarterly basis in all its meetings. In addition, it will perform a longer semi-annual and annual review which will have input from both the management information system but also the evaluation team who will produce a semi-annual review and an end of pilot report.

Reinvestment payments have been identified for those who are able to meet their targets through well monitored progress in the performance management system, if the pilot as a whole meets its targets. Chapter 13.4 sets out the approach for receiving reinvestment payments.

Finally, it is expected that the transparent use and availability of data across the pilot will ensure that MDGs will improve performance and want to be seen to be performing well compared to peers. Performance of individual MDGs (and especially any poor performing ones) will take place at the IMB. Finally, support will be provided for MDGs at the local level within their performance review meetings to identify any areas that improvements can be made and to ensure that there is an open and constructive debate around MDG performance.

21. Pilot Evaluation

A proper evaluation is critical for the IC pilot and being able to understand to what extent the IC model (and elements of the IC model) in NWL have had a positive impact on finances, health outcomes, patient experience and staff experience. It will also examine what has been the medium-term financial and clinical sustainability and viability of acute providers as a result of the ICP. Two approaches were discussed. The first would involve going out to tender for the evaluation and the second was a faster ramp-up leveraging the expertise in-house at Imperial to put together an evaluation framework that would be both ready to launch alongside the launch of the IC pilot as well as still being sufficiently external to IC pilot in order to give an impartial and robust evaluation output.

21.1 Questions the evaluation will address

- *Implementation*: How has integrated care been implemented in the six PCTs of inner NW London? What are the institutional and clinical features of the ICP in NWL, and how does this contrast with other similar models? To what extent has integrated care actually been implemented? To what extent has integrated care been implemented in different ways and at different levels of intensity; and what explains this variation? What elements were more fully implemented than others? What were the factors that

helped or blocked implementation? In practice, what is the best description of the integrated care intervention actually received by patients?

- *Financial impact*: What has been the cost of the ICP; broken down by start-up and running costs? Has the integrated care model as implemented produced cost savings, for example in reducing avoidable use of NHS-funded or local authority-funded care for the patients receiving it? Has the integrated care model as implemented produced cost savings for the health system as a whole?
- *Health impact*: Has the integrated care model as implemented resulted in improvements in health outcomes for patients with diabetes and patients aged => 75 years? Has the integrated care model resulted in a reduction in the rate of unscheduled hospital admissions for patients with diabetes and patients aged => 75 years? What impact has the ICP had on the care and health of other patients?
- *Patient experience*: has the integrated care model as implemented resulted in a better patient /carer experience of care?
- *Staff experience*: What impact did the ICP have on staff? Has the integrated care model been acceptable to staff? Did it appreciably change the workload of clinicians working outside hospital?
- *Other:* What has been the impact of activity reductions on the acute sector? What have been the structural and operational risks to acute providers and how have they been managed? Has the implementation of the integrated care model led to any unintended consequences to the broader system?

Overall, the evaluation is aimed at describing the implementation of the ICP and its impact, with the view to informing whether and how it should be extended and/or rolled-out further. The evaluation will provide interim insights 6 months after the beginning of the pilot (December 2011) and a full report at the end of the first year of implementation (July 2012). Funding for follow-on research will also be made to external research funders, principally to the CLAHRC. Suggestions for the methods that could be used in the evaluation are made in section 6 below.

21.2 Management of the evaluation

- Stakeholders and sponsors: The main stakeholders and sponsors for the evaluation will be the relevant providers within the integrated care pilot: i.e., Imperial College Healthcare Trust, Central London Community Healthcare, general practices that refer to ICHT, and local authorities (as providers of social care). Other stakeholders will include NHS London, NWL Sector as well as other organisations within London and the UK. Given the widespread interest in UK health policy, we expect that there will also be significant interest in the outputs from the evaluation by organisations in health systems in other countries. The research team carrying out the evaluation will report to an expert advisory subgroup of the Evaluation and Research Working Group, chaired by Josip Car and Tony Willis.
- *Advisory subgroup:* An expert advisory sub group will be formed to meet every quarter (by teleconference for members outside London) to discuss the progress of the evaluation and provide academic oversight to ensure appropriate rigour and independence of the evaluation. We anticipate a group of 4-6 for this subgroup. The experts who have been proposed (but not yet approached) include:
  - Professor Kamlesh Khunti, Leicester University
  - Professor Robert Wachter, University of California San Francisco
  - Professor Jan de Maeseneer, Ghent University

- Dr Stephen Peckham, LSHTM
- Dr Benita Cox, Imperial College Business School
- Professor Martin McKee, LSHTM
- Professor Igor Svab, President, WONCA Europe
- Professor Andrew Bindman, University of California San Francisco
- Professor Nick Black, LSHTM
- Professor Nick Mays, LSHTM
- Professor Chris Ham, Chief Executive, The King's Fund, United Kingdom
- Prof Ray Fitzpatrick, University of Oxford
- Professor Ray Pawson, University of Leeds
- Dr Jennifer Dixon, Director, Nuffield trust
- Penny Morris, Associate Director Lead for the Fresh Start Programme, London Deanery

21.3 Methods for the evaluation

The evaluation should take a multi-method approach including both a quantitative component that will primarily act as a comparator against a control group and a qualitative and descriptive component to give context and aid in understanding the extent to which the integrated care model is the reason for observed changes in outcomes.

- *Patient focus:* The primary patient focus of the ICP will be the pilot population of patients with diabetes and elderly patients (=>75); however the evaluation should look at a wide age group to allow for comparative analysis with the overall population and also ensure that the ICP has not created any unintended impact on patients not in the pilot population (i.e., patients without diabetes and patients who are not elderly).
- *Systems focus:* While the primary aim of the ICP is to improve patient care, the intervention itself is a systems intervention delivered at two levels: an institutional level (ensuring that financial incentives and other enablers allow for effective and efficiency collaboration between different organisations) and a clinical level (through the formation of MDGs, care planning etc)
- *Control group:* A control group will need to be selected with a similar composition including socio-economic, ethnicity and mortality rate. Given the rate of change across the NHS as a whole, it will not be feasible to select a 'pure' control group from outside of NWL (as all areas are in an intense period of flux). However as not all NWL practices are expected to sign up, those which are not actively participants can be monitored for a control group, accepting there is some self-selection bias. Finally, as practices will join the pilot in quarterly waves, a stepped-wedge approach can be used to monitor cohorts independently.
- *Types of outcomes/metrics:* The evaluation framework will take a multi-method approach for assessing the main questions.
- *Quantitative:* The new information tool will give the evaluation team access to rich clinical, operational and financial data to understand inputs, processes and outcomes including the cost effectiveness of interventions. The evaluation should cover both primary and secondary metrics, full details can be found in the background document. Primary metrics are highlighted below:

Type	Metric	Metric type

Clinical: Patients with Diabetes	Speed of referral for recognised foot complications (number of days)	Process
Clinical: Patients with Diabetes	Total lower limb amputation incidence (proportion of number of amputations over number of patients with diabetes in pilot)[22]	Outcome
Clinical: Patients with Diabetes	Rate of unscheduled hospital admissions + readmissions	
Clinical: Patients with Diabetes	HBA1c, cholesterol and blood pressure control	
Clinical: Elderly Patients	Falls rate among the frail elderly (no of falls per patient per year)	Outcome
Clinical: Elderly Patients	Number of fractures (of any type) (%)	Outcome
Operational: Number of patients on care plans	Number of patients on care plans as proportion of number you need care plans (%)	Process
Clinical: Elderly Patients	Rate of unscheduled hospital admissions + readmissions	
Clinical: Elderly Patients	Number and pattern of all health and social care contacts	
Operational: Adherence to care plans	Number of patients with delayed or incomplete actions (% of patients in pilot)	Process
Financial	Cost effectiveness for system of care pathways	Output
Financial	Total cost of emergency care overall and for care pathways	Input

- Qualitative: To give a deeper understanding and assessment of the success of the ICP, qualitative approaches will be used to complement the quantitative data analysis from reviewing the scorecards. Qualitative methods that can be used to provide additional insight into:
  - Application of overall model: Qualitative assessment of level of success of the overall model. This can be addressed at different levels including institution (e.g., provider), enablers (e.g., information sharing), multi-disciplinary groups and operational.

[22] Total lower limb amputation incidence comprises major amputation incidence (amputations through and above/proximal to the ankle) plus minor amputation incidence (amputations below/distal to the ankle). It is important to collect total, minor and major amputation incidence as reductions in major amputations (the most severe outcome for patients) can sometimes be achieved through increases in minor amputations (which have less functional impact on the patient), and this beneficial effect may be masked if we only look at total amputations

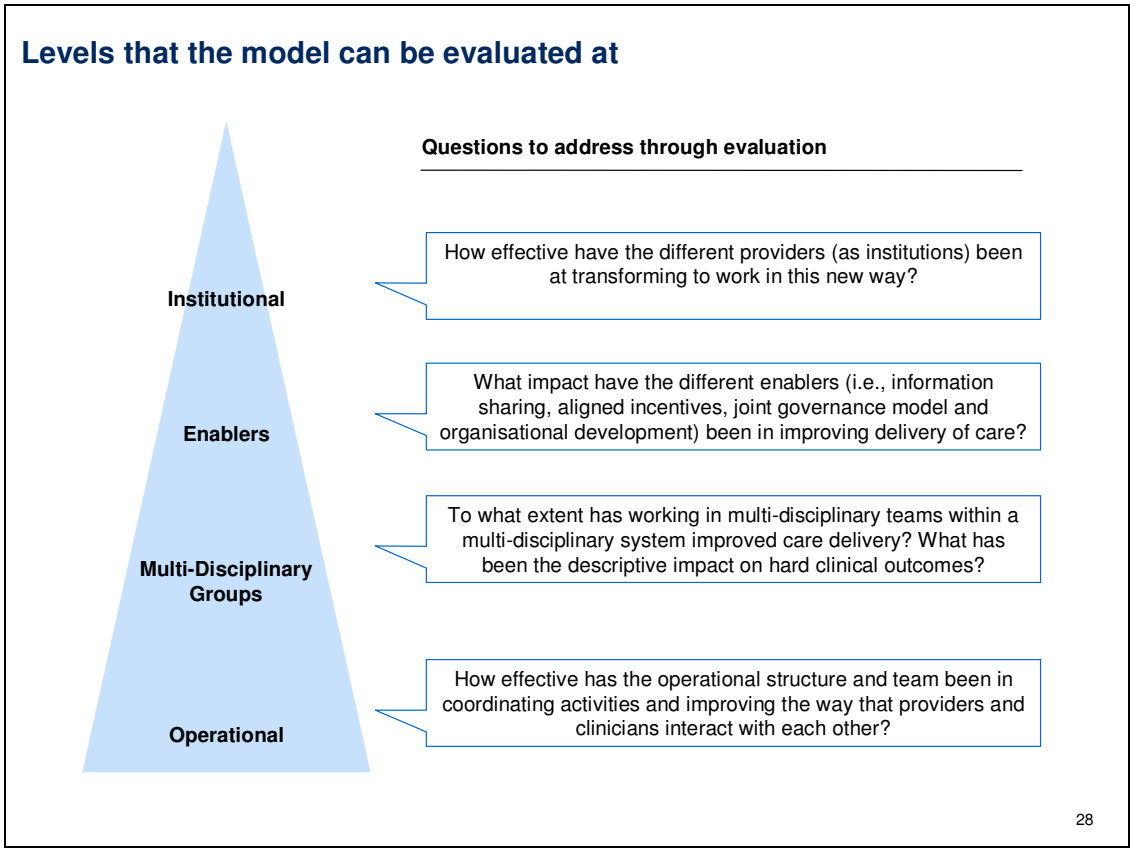

Exhibit Z: Levels at which the ICP model can be evaluated

- Application of elements of model: Observational sampling to understand relative success of elements of the ICP model including the multi-disciplinary system, multi-disciplinary group and overarching enablers. This is shown in exhibit Z and can include:
  - Descriptive studies, involving document review and key informant interviews; apply some institutional mapping
- Patient Experience (PREMs): Mixture of patient questionnaires for general perspectives of quality of care delivered and observational sampling for deeper insights. Specific metrics and approaches include:
  - Patient recommendations
  - Overall satisfaction
  - Number of complaints
  - Other measures or proxies for patient satisfaction
- Clinician Experience: Assessment of the extent to which working within this new model has led to a richer experience for clinicians within the pilot area. Mechanisms could include (depending on budget):
  - Questionnaires
  - Focus groups
  - Observational sampling

21.4 Evaluation Output

The evaluation would focus on two outputs:

- *Six month review:* Early assessment on questions of cost effectiveness, clinical outcomes and patient experience – short report that aims to give early understanding of whether ICP is meeting main objectives in order to inform commissioning round beginning of 2012. Thick descriptive element aimed at describing how the ICP is being implemented, and what impact broader contextual factors are having on both patient care and the ICP model.
- *Full evaluation:* Full evaluation on all questions – longer report to be published on impact of ICP and extent to which the model, and components of the model, is attributable for any recorded improvements in cost effectiveness, hard clinical outcomes and patient experience

21.5 Resource available

The budget for the evaluation has been set at £300,000. During the first year, applications will be made for additional funding to external research funders, such as the CLAHRC. Some support can also be provided by postgraduate MSc / MPH students from Imperial College and from PhD students.

Appendix: Information tool screenshots

The following example will demonstrate how a user would log on and identify high risk patients

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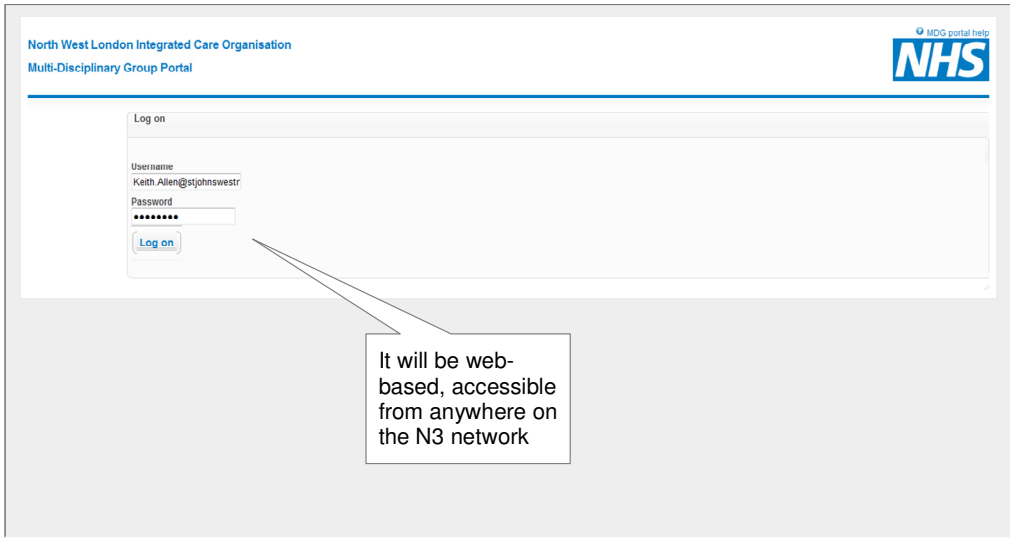

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When logged on, the user is presented with their list of actions

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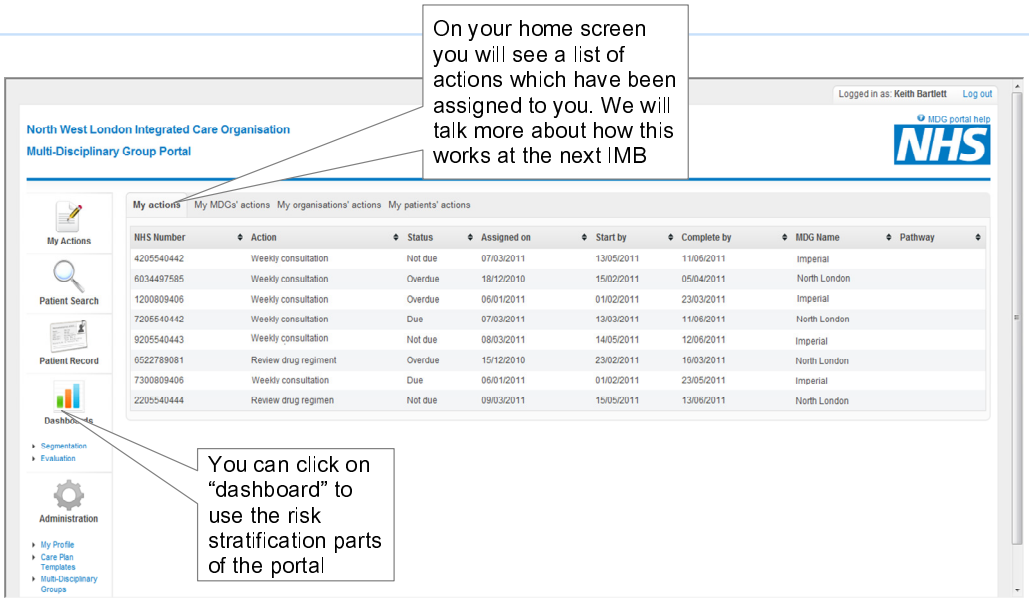

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The risk stratification dashboard shows the distribution of the selected patient population by different clinical measures

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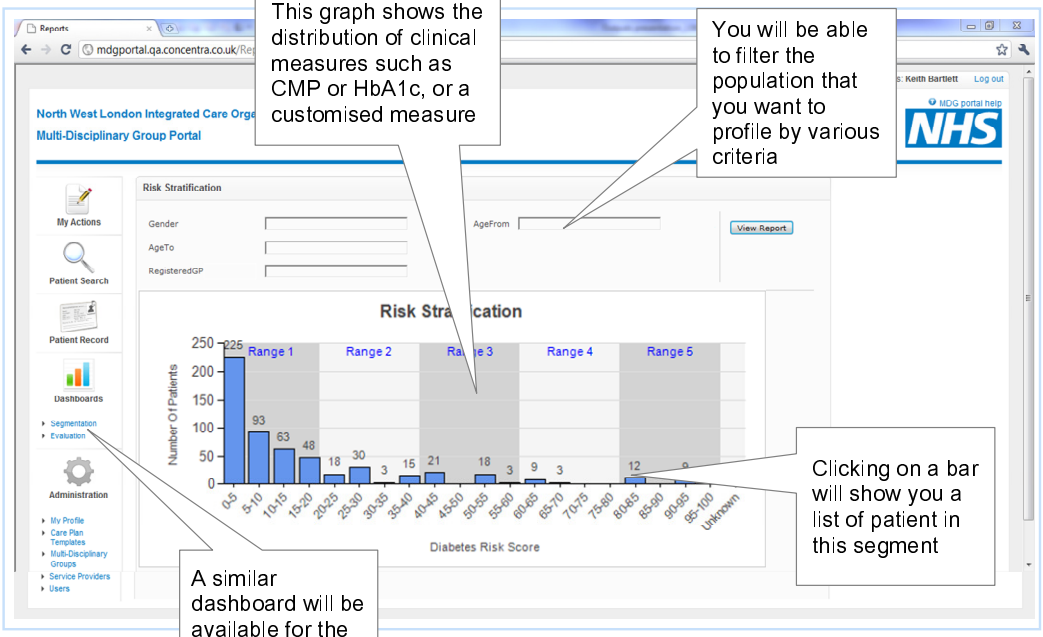

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The list of patients is determined by the range selected from the risk stratification dashboard

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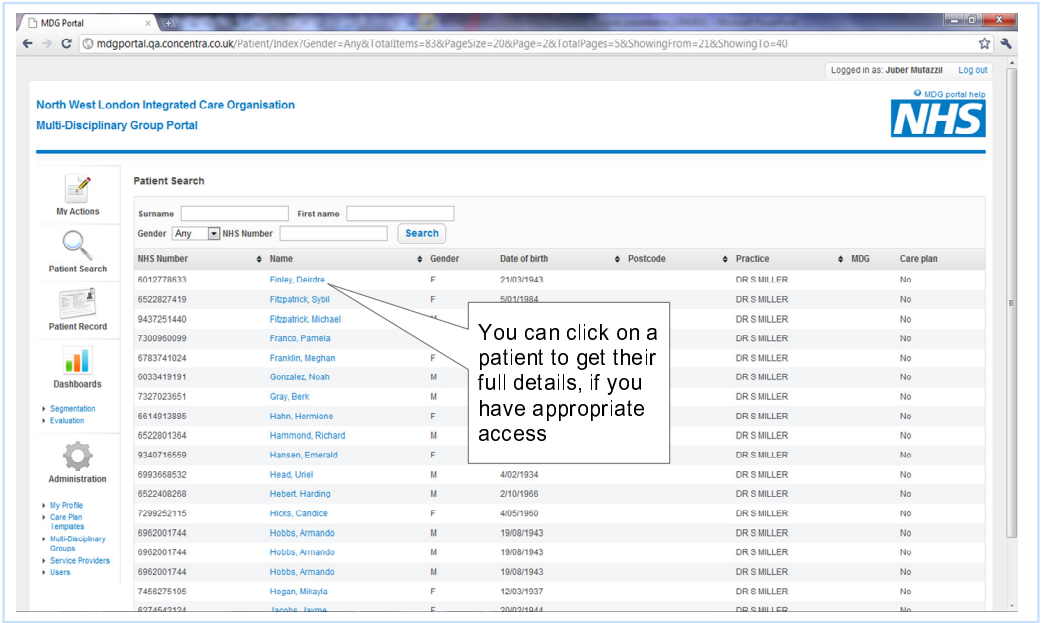

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The summary patient record displays general patient information, and allows for viewing of care history

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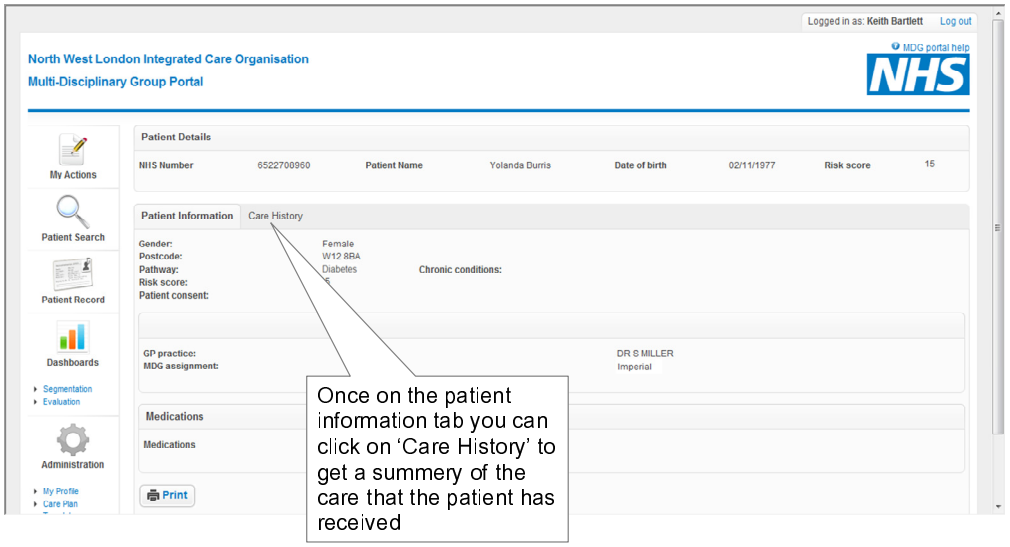

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The care history section displays a chronological view of care incidents across different care settings

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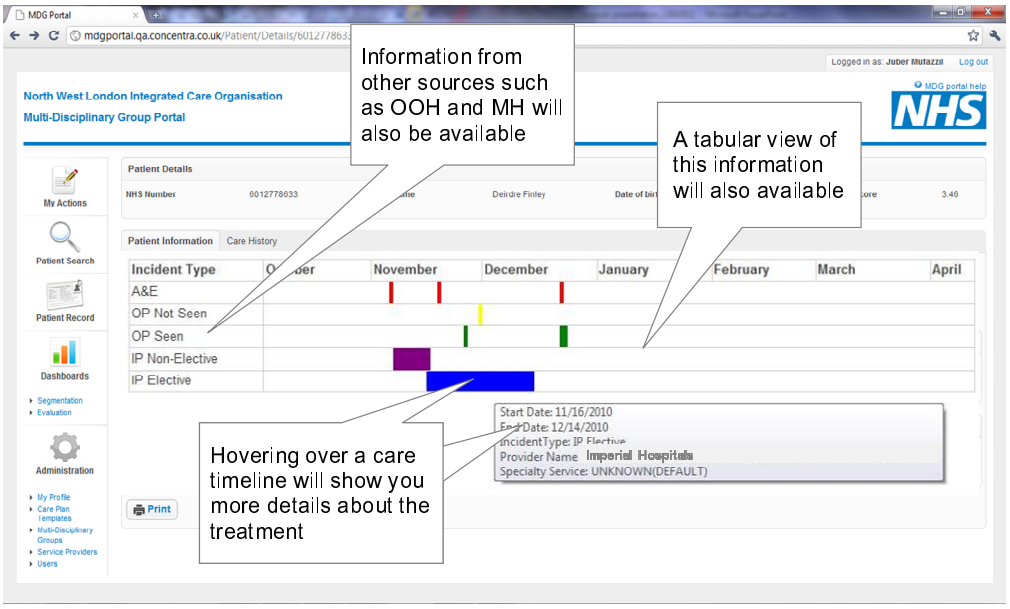

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Alternatively for the diabetes pathway, the user can use the QoF indicators to drill into the patient list

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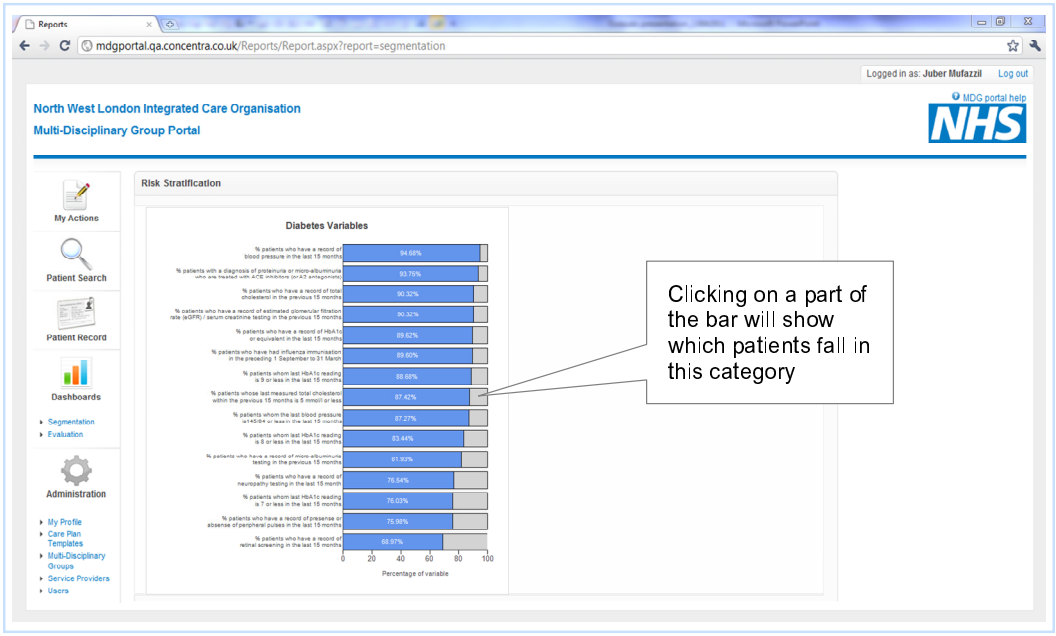

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