Care.data
Turning data into insights

Health and Social Care Information Centre

Discussion document
January 2014

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What are the key challenges for care.data?

**Service Lines**
- What are we going to do with the data?
- What is the informing evidence to be extracted?
- What are the questions to tackle?
- How to pull out the nuggets of insights for the different stakeholders?

**Skills & Capabilities**
- How to recruit and retain the right skills & capabilities?
- How to manage and build the large infrastructure, which is needed?
Our understanding of your starting point today

- What is your **starting point** today across the big data levers and respective capabilities?
- What is your **vision** going forward and **by when** do you want to achieve that?
- How do you want to **sequence** your portfolio of initiatives along your "insight journey"?

### Data
- Clear view of what data is available
- Data sources
  - commissioning data sets
  - community
  - maternity and children
  - National workforce
  - GP attendances
  - Prescriptions

### System
- Need to procure new systems
- Need to understand future use specification to procure in a cost effective fashion

### Staff
- Inherited “old HSCIC” workforce
- Need to define 5-year vision on analytics capability to define future workforce and required skills

### Ambition
- Commercially self-sufficient
- Product lines of data insight available to “customers”
- Increase benefits, e.g. new data portals to regulators on performance
Key principles

1. Decide on insights backwards
Build the capability by **starting with the business decisions** you want to drive and working backwards

2. Step-by-step
Focus on specific topics and **set each element in place** – a chain is only as strong as its weakest link

3. Implement and iterate
**Move from data to decision, and from decision back to the data** with which to measure the outcome
Framework use to make decision on value of insights

A  What for whom?
   Is there a product and a matching customer, what are they interested in knowing?

B  How?
   What are the raw data we need, how clean does it need to be and what links do we need to create?

C  Resources?
   What hardware and software do we need to enable this service line?

D  Delivery? (to customer)
   What activities need to take place to deliver the service line, what is the delivery mechanism to the customer?

What workforce and skills are required to run this service line?

What is the level of analysis we need to do, how deep are the insights we are pushing to the customer?

SOURCE: McKinsey Perspective
### Questions the framework would help answer

<table>
<thead>
<tr>
<th>A</th>
<th>Who are the customers for the insights?</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>What do we want to do with the data?</td>
</tr>
<tr>
<td>C</td>
<td>How are we going to generate the insights?</td>
</tr>
<tr>
<td>D</td>
<td>What resources do we need to deliver?</td>
</tr>
<tr>
<td></td>
<td>How can the services be delivered and maintained?</td>
</tr>
</tbody>
</table>

**Operational questions**

- Who would benefit from these insights?
- How can the service lines be productised?
- What is the most meaningful way for the data to be accessed?

- What are key areas (service lines) that could benefit from insights?
- What are the key processes, issues, questions of the business units in those service lines?

- How are we going to link the data to facilitate insights?
- What is the level of analysis we are aiming at for the customers?

- What specification of equipment do we require?
- What are the skills required in our workforce to deliver the level of analysis/insight?
- Can we build an economic model of cost are return?

- What will be the delivery method of services?
- What types of delivery are requested and feasible?
- How is the organizational setup to maintain services?
- What after-sales services are offered?
1 Use a structured process to decide on Service Lines...

Understand current state
- Interview stakeholders and users
- Conduct market trend analysis
- Competitor analysis

Market analysis
- Map what data is available and quality
- Stock take technology
- Review skills and capabilities

Quantify market need

Assess how to meet need
- Estimate level of analysis needed
- Outline data solution/linking
- Define format of output

Define service lines
- Workshops on market segmentation
- Identify drivers of each market segment
- Define key questions to address

SOURCE: McKinsey
2. ... then assess against framework to understand functional readiness ...

**Assessment**
Develop a frameworks on key elements of functions

Evaluate the functions across each service line

Apply a score

**Output**

<table>
<thead>
<tr>
<th>Service Lines</th>
<th>Productivity</th>
<th>Cost</th>
<th>Medicines Management</th>
<th>Risk Stratification</th>
<th>Workforce</th>
<th>Quality</th>
<th>Functional Readiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data</td>
<td></td>
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<tr>
<td>Analytics</td>
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</tr>
<tr>
<td>Technology</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>People</td>
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<td>1</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Process</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Decision</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>2</td>
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</tbody>
</table>

**Example**
Medicine Management is sufficient developed to consider launching the product line

Example
The technology function could be improved over all, but works well for select service lines

Assess which service lines are closer to launch?

Identify which functions need more investment for benefit of whole programme?
... which inform the starting point for creating an insight roadmap and action plans

Roadmap for go-live of service lines and functional improvement projects

SOURCE: Illustrative Example
Implement service lines, then iteratively refine all components

What for whom?

Definition of Service line

A. Does the specification for the service line or who it's for need to change?

B. Is the data quality sufficient?

Can the data meaningfully answer the questions?

Are the insights being over analysed for the customer?

Can analysis be more automated?

C. Resources?

Do we need more training?

Are we using the technology optimally?

Can the insight process be more streamlined?

Is the access portal the best for the customer?

D. Delivery? (to customer)

Do we have the best team setup to drive out the insights?

D. Delivery? (to customer)

SOURCE: McKinsey Perspective
Once implemented, service lines could be iteratively evolve into applications and further products

<table>
<thead>
<tr>
<th>Business</th>
<th>IT</th>
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<tbody>
<tr>
<td>Service line identification</td>
<td>Design of technical blueprint</td>
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**Simplified example of evolution process...**

<table>
<thead>
<tr>
<th>Design of service line</th>
<th>Application of service line</th>
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<tr>
<td>Business drives data and IT needs</td>
<td>IT drives automation and optimization</td>
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Analytical business needs

- Algorithms/business rules
- Data model/architecture
- Data extraction/data transformation
- Technology platform

Data driven Service line

- Automation of analyses
- Automation of data management

**... and don’t forget the support required post go-live of service lines**

<table>
<thead>
<tr>
<th>Establish PMO</th>
<th>Maintenance</th>
<th>Customer interface</th>
<th>Capability building</th>
<th>Innovation office</th>
<th>Channel Development</th>
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**SOURCE:** Client example, McKinsey