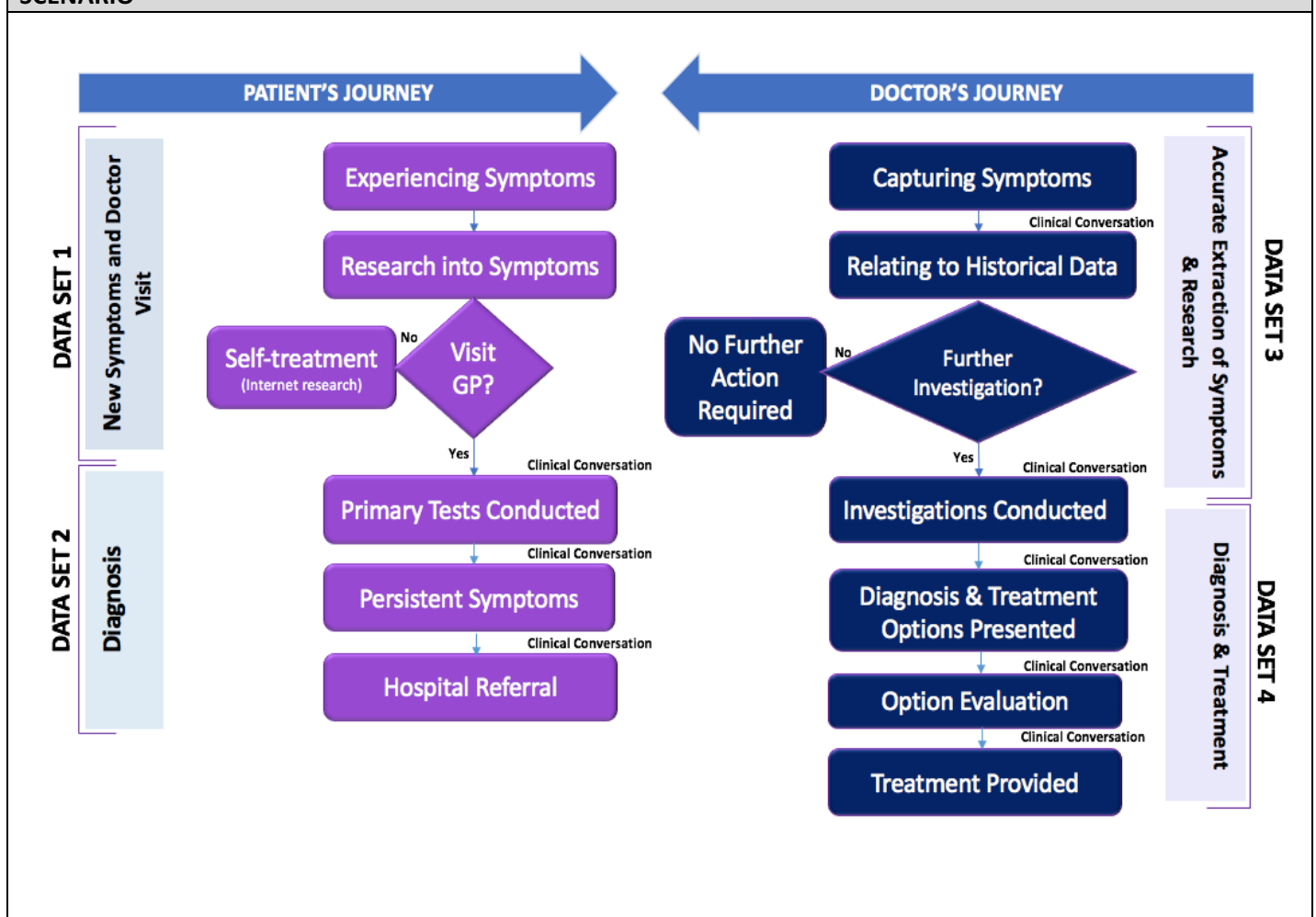


## PATIENT- CLINICIAN INTERACTIONS: MAKING THEM FIT FOR 21<sup>ST</sup> CENTURY AND BEYOND – CONTEXT and DATA

### INTRODUCTION

Outside of screening programs and public health initiatives, the majority of health care systems rely on the presentation of the citizen to the healthcare system with symptoms of one kind or another. The determination of the importance of these symptoms and the need for further medical investigation relies heavily on the patient-clinician interaction at appointments where clinical data is captured, decisions made on further investigation and information regarding this conveyed to the patient. The pressures on the healthcare systems mean that often these complex processes of data gathering, evaluation against available data, decision making and information delivery need to take place in a short appointment time of between 5 and 10 minutes. As disease comorbidity, treatment complexity and patient expectation continue to rise the current model is unsustainable.

### SCENARIO



### NHS CHALLENGES

1. Aging population, coexistent multifactorial rise in demand for health care services
2. Low budgets and resources
3. Data inconsistency, lack of interoperable systems

4. Clinicians are unable to manage the existing data flood

DATA	
<ul style="list-style-type: none"> <li>• Laboratory               <ul style="list-style-type: none"> <li>○ Atomic results (i.e. numbers)</li> <li>○ Text reports                   <ul style="list-style-type: none"> <li>▪ Structured e.g. Immunology</li> <li>▪ Unstructured e.g. histopathology</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Radiology               <ul style="list-style-type: none"> <li>○ Images</li> <li>○ Unstructured text reports</li> <li>• Semi Structured procedure reports                   <ul style="list-style-type: none"> <li>○ Endoscopy</li> <li>○ Operation notes</li> <li>○ Key information summarised in clinic letters</li> </ul> </li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Unstructured typed clinical data               <ul style="list-style-type: none"> <li>○ discharge letters</li> <li>○ clinic letters</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Unstructured scanned data e.g. clinical images, scanned hand-written notes and forms</li> <li>• Contact with HealthCare - episode data e.g. appointments, ED attendances, admissions</li> <li>• Diagnoses from IP episodes SMR01</li> </ul>

In describing your potential solution try to include the considerations / questions below

BUSINESS CHALLENGE
<ol style="list-style-type: none"> <li>1. This challenge aims to cut costs, reduce waiting lists, enable doctors to visualise patients' data efficiently and at speed, reduce waste (resources &amp; time), enhance accuracy in diagnosis and raise patients' satisfaction. with this in mind:           <ul style="list-style-type: none"> <li>- What could be done to make the current healthcare system sustainable?</li> <li>- Is there a way to innovate the system and introduce pre-patient support to reduce the length of both the patient and doctors journeys?</li> <li>- NLP and speech-to-text recognition are key in supporting accurate extraction of symptoms, how could we use them to alleviate the above challenges in real-time?</li> </ul> </li> </ol>