

# Microsoft Health Patient Journey Demonstrator

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I work on the Microsoft Health Common User Interface (MSCUI) Patient Journey Demonstrator. MSCUI is a partnership between Microsoft and the NHS which advocates consistent user interfaces to increase clinical safety and efficiency. Basically, I take output from the MSCUI programme and present it in clinically compelling ways.

In particular, the Demonstrator describes an end-to-end journey through a specific clinical scenario, illustrating a proposal for an integrated care record which is patient-centric and transitions seamlessly between care settings. Data can be accessed and inputted from all care sources, at any point along the patient journey. The Demonstrator is future-looking, speculative and designed to promote 'the art of the possible'.

We have based our current scenario on an older man with a heart condition (attached) and I am very interested to continue looking into HCI and technological interventions for the aging community with a specific healthcare angle. I've chosen the aging community as it makes sense on a number of levels:

- we are an aging population
- this sector has been traditionally under-served
- it is less likely to be comfortable with technology
- it is more likely to expect traditional paternalistic and face-to-face relationships with clinicians which are becoming less and less sustainable; it is also perhaps resistant to change
- it is a growing commercial market

My personal view is that technology must always serve its audience, but that that shouldn't blinker us to new opportunities or ways of doing things.

In terms of our current work, the home monitoring section would be particularly concerned with HCI for the aging population. In particular, we're proposing equipment and social systems to promote self-management of COPD (Chronic Obstructive Pulmonary Disease), which has tended not to be successful when compared to illnesses such as Asthma in the past, so it's a challenge.

## Candidate scenario – Exacerbation of COPD

Brian Johnson is a 63year old man and an ex-heavy smoker.

He quit 15 years ago but has been having some shortness-of-breath and coughing over the last few years which tends to worsen in the winter. In 2006, his GP prescribed medication for mild COPD which he has been taking ever since.

On a cold dark night in February, Brian is brought into hospital by his wife after becoming unwell in their home. He is breathless, coughing, wheezing and turning blue. Brian has a high fever and rapid respiration and is immediately admitted to A&E.

Brian is suffering from an acute exacerbation of COPD.

While his wife waits anxiously, Brian is triaged by the A&E staff, assessed with continuous cardiac and oximetry monitoring as well as blood gasses and is started on oxygen and salbutamol nebulisers to try to improve his oxygen saturation. He is handed over to the hospital medical team for full clerking and admission. The medical team call up Brian's clinical record to initiate the new care episode, record their observations and begin treatment. They also order a Chest X-Ray [opportunity for image viewing]

**CUI areas:** Clinical noting, Terminology, Alerts/Allergies, Meds – Search & Prescribe

Brian remains in hospital receiving oxygen, antibiotics, steroids and physiotherapy. His vital signs – oxygen, pulse, respiration, blood pressure and temperature are regularly monitored and after 5 days when he feels better and his oxygen saturation have returned to normal, he is discharged and returns home.

**CUI areas:** Meds – line, timeline, monitoring chart, drug chart, Handover

In order to provide early detection and prevent further onset, Brian is given a home monitoring system. This interfaces directly with an area of Brian's clinical record which is being monitored by a hub of specialist respiratory nurses. Brian receives alerts and reminders to use the monitoring equipment and communicates with his nurse about his progress. After 6 weeks of monitoring, the clinical team are satisfied that Brian's condition is stabilised. They collect the equipment and send a notification to his GP with a reminder to check on Brian's flu vaccination status.

**Good because:** includes Nursing, community care, is consumer facing, data input, preventative

# Glossary

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COPD	Chronic Obstructive Pulmonary Disease
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Exacerbation	
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Nebuliser	A nebuliser makes an aerosol by blowing air or oxygen through a solution of a drug
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Oximetry	The measurement by an Oximeter of the proportion of oxygenated Haemoglobin in the blood
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Oximeter	Device attached to patient's skin by adhesive and records the degree of Oxygen saturation in the blood and pulse rate.
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Spirometry	Test to help diagnose various lung conditions, most commonly COPD. Spirometry is also used to monitor the severity of certain lung conditions, and their response to treatment. Measures FEV, FVC, FEV1
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Ventilator	Machinery used to provide artificial ventilation. Also called a respirator or life-support machine, it is an electric pump linked to a supply of air...
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Definitions from NLH National Library of Health <http://www.library.nhs.uk> or [www.patient.co.uk](http://www.patient.co.uk)