

4AT Health Economics Model Questionnaire

Page 1: Introduction

We are running a study to model the implications of routine screening for delirium in patients admitted to hospital under acute medical or geriatric specialties. A screening tool may lead to false positives (FP) – patients who are incorrectly labelled as having delirium in whom unnecessary investigation or treatment may be initiated. It may also lead to false negatives (FN) – patients who are labelled as not having delirium when in fact they do, which may lead to false reassurance and delayed or missed diagnosis. Mislabelling patients with or without delirium may have consequences for mortality, healthcare costs and patient quality of life.

In the absence of comprehensive data, we are also seeking the opinion of people experienced in delirium care to help inform some estimates in delirium detection and treatment. We will be asking for your spontaneous guess about how delirium detection and care effect duration and intensity. There is no need to consult books or other literature. Even if you are uncertain or find these questions difficult to answer, please just give your best guess.

The study is being led by Katharina Diernberger (Edinburgh Clinical Trials Unit, University of Edinburgh) and Dr Peter Hall (Edinburgh Clinical Trials Unit - University of Edinburgh, Cancer Research UK Edinburgh Centre - MRC Institute of Genetics & Molecular Medicine) in collaboration with Prof Alasdair MacLulich (Edinburgh Delirium Research Group - University of Edinburgh)

All responses are anonymised. Please send any queries to: [REDACTED] or [REDACTED]

Page 2: Mortality rates (1)

Please consider the average 12-week mortality rates in all patients aged between 80 and 85 who are admitted to acute medical or geriatric hospital wards. Please consider absolute numbers not relative risks. **Please assume an estimated 12-week mortality of 14 out of 100 for patients suffering from (all cases/detected or not) delirium and 10 out of 100 for patients without.**

	Best guess	lowest guess	highest guess
Out of 100 people who are incorrectly labelled with a diagnosis of delirium (FP), how many will die within 12 weeks as a direct consequence of that incorrect label?	<input type="text"/>	<input type="text"/>	<input type="text"/>
Out of 100 delirium sufferers in whom delirium is missed (FN), how many will die within 12 weeks as a direct consequence of that missed or delayed diagnosis?	<input type="text"/>	<input type="text"/>	<input type="text"/>

Do you have any additional comments?

Page 3: Mortality rates (2)

Please be aware that in this question the values which should be assumed are different to the last question. Please consider the average 12-week mortality rates in all patients aged between 80 and 85 who are admitted to acute medical or geriatric hospital wards. Please consider absolute numbers not relative risks. **Please assume an estimated 12-week mortality of 18 out of 100 for patients suffering from (all cases/detected or not) delirium and 8 out of 100 for patients without.**

	Best guess	lowest guess	highest guess
Out of 100 people who are incorrectly labelled with a diagnosis of delirium (FP), how many will die within 12 weeks as a direct consequence of that incorrect label?	<input type="text"/>	<input type="text"/>	<input type="text"/>
Out of 100 delirium sufferers in whom delirium is missed (FN), how many will die within 12 weeks as a direct consequence of that missed or delayed diagnosis?	<input type="text"/>	<input type="text"/>	<input type="text"/>

Do you have any additional comments?

Page 4: Costs

Please consider a cohort of patients aged between 80 and 85 who are admitted to acute medical or geriatric hospital wards.

	Best guess	lowest guess	highest guess
Assume the average hospital cost of a person suffering from delirium and being treated appropriately (TP) is 100%. What would you estimate as the total cost in % if the delirium is missed?	<input type="text"/>	<input type="text"/>	<input type="text"/>
Now assume the average hospital cost of a person who is not suffering from delirium (TN) is 100%. What would you estimate as the total cost in % if the person is incorrectly investigated or treated for delirium?	<input type="text"/>	<input type="text"/>	<input type="text"/>

Do you have any additional comments?

Page 5: Routine Care

Now assume all patients are treated according to a reference standard (perfectly accurate) diagnosis, which is assumed to promptly identify 100% of all patients suffering from delirium.

	Best guess	lowest guess	highest guess
In routine standard care, out of 100 patients with a reference standard diagnosis of delirium, how many would be missed completely in your type of ward? Please state the number out of 100.	<input type="text"/>	<input type="text"/>	<input type="text"/>
In routine care, for patients who are getting a diagnosis but being delayed, how long on average would you estimate for the diagnosis to be delayed? Please write your answer in days and/or hours.	<input type="text"/>	<input type="text"/>	<input type="text"/>

Do you have any additional comments?

Please choose the main type of healthcare setting you are working in.

<input type="radio"/> A&E	<input type="radio"/> Cardiology	<input type="radio"/> Critical Care
<input type="radio"/> Diagnostic imaging	<input type="radio"/> ENT	<input type="radio"/> Gastroenterology
<input type="radio"/> General surgery	<input type="radio"/> Geriatrics	<input type="radio"/> Gynaecology
<input type="radio"/> Haematology	<input type="radio"/> Nephrology	<input type="radio"/> Neurology
<input type="radio"/> Oncology	<input type="radio"/> Orthopaedics	<input type="radio"/> Rheumatology
<input type="radio"/> Urology	<input type="radio"/> other	<input type="radio"/> Other

If you selected Other, please specify:

Page 6: Quality of Life (from a health economic perspective)

The last part of the survey concerns the impact of delirium on quality of life. Please answer spontaneously based on your experience where on the provided scale patients' quality of life can be placed. A Quality of Life (QoL) score can represent various defined health states usually between 0 and 1 where 0 indicates death and 1 full physical and mental health. Average quality of life is observed to decrease with age whereby the average QoL of 80 to 85 year olds is estimated to be 0.7. In order to make the placement easier **a scale is provided (link below)** showing different health states/medical conditions with the referring utility weights taken from the literature.

Please be aware that the scale is a mix of acute and chronic conditions. It is not meant to be comprehensive but rather to give some orientation.

Please open the following link in a new tab (right click - open link in a new tab) as it might be helpful for answering the remaining questions:

https://static.onlinesurveys.ac.uk/med/account/93/survey/28075/question/orientation_scalefor_qol1.pdf

In the following questions, please consider 3 time periods:

Period 1: During an episode of delirium with or without an accurate diagnosis

Period 2: Hospital stay following resolution of delirium (or removal of incorrect label)

Period 3: Following hospital discharge (assuming resolution of delirium)

In order to answer the “% of care”, please consider the overall care staff time, number-, difficulty-, duration- of intervention, care intensity.

For all people who are not suffering from delirium and are labelled/treated correctly (TN)

the % of care is assumed to be 100% during the hospital stay. The quality of life is assumed to be 0.7 during the hospital stay and within the following 12 weeks.

People who are suffering from delirium and are labelled/treated correctly (TP) - Be

aware that "Best guess duration" and "% of care" just can be filled in for Period_1 and Period_2. -

The quality of life estimates (QoL) are supposed to be filled in for Period_1 and Period_3 only.

	Best guess duration(days)	% of care	Best guess QoL (0-1)	lowest QoL estimate	highest QoL estimate
Period_1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Period_2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Period_3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

People who are suffering from delirium with a missed diagnosis (FN) - Be aware that "Best

guess duration" and "% of care" just can be filled in for Period_1 and Period_2. - The quality of life estimates

(QoL) are supposed to be filled in for Period_1 and Period_3 only.

	Best guess duration(days)	% of care	Best guess QoL (0-1)	lowest QoL estimate	highest QoL estimate
Period_1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Period_2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Period_3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

People with an incorrect diagnosis of delirium (FP) - Be aware that "Best guess duration" and "%

of care" just can be filled in for Period_1 and Period_2. - The quality of life estimates (QoL) are supposed to

be filled in for Period_2 (as patients are not actually suffering from delirium, but any other condition) and

Period_3 only.

	Best guess duration(days)	% of care	Best guess QoL (0-1)	lowest QoL estimate	highest QoL estimate
Period_1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Period_2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Period_3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Page 7: Thank you for completing our questionnaire!

Your answers have been successfully submitted.

Thank you for taking time to fill out the survey today, we really appreciate your time and effort.