Age is not a barrier to using healthcare technology

Mobile working case studies of cognitive assessment and stimulation

Melissa Andison  
Helen Cherry
1 in 3 people over 65 in the UK will develop dementia. The Alzheimer's Society, 2014

More than 50% of people with mild cognitive impairment later develop dementia. NICE, 2006

The number of 65+ year olds is projected to rise by nearly 50% to over 16 million over the next 20 years. ONS, 2011
Over 70% of older patients in UK & Germany wish to use digital healthcare services. Biesdorf & Niedermann

70% of over 65s report that they have never used the internet. Mobile Operators Association, 2013

3x higher usage of smart phones compared to computers Mobile Operators Association, 2013

3x higher usage of smart phones compared to computers Mobile Operators Association, 2013
Central London Community Healthcare Trust is committed to exploring new ways to help staff to work more effectively so that they can spend more time with patients in their communities.
Central London Community Healthcare Trust

Our vision is to lead out-of-hospital community healthcare and our mission is to give children a better start and adults greater independence.

- 3,000 clinical and support staff in four boroughs
- 1.5 million patient interactions every year
- 150,000 people seen every year
- 160 sites in our communities
- 70 different health services
Mobile cognitive assessment

• Montreal Cognitive Assessment (MoCA)©
• Rapid screening tool
• Cognitive domains:
  - attention and concentration
  - executive functions
  - memory
  - language
  - visuoconstructional skills
  - conceptual thinking
  - calculations
  - orientation
• Total score 30 points
• Score of 26 and above normal cognitive function

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Case study: mobile cognitive assessment

- Rapid assessment and results at the point of contact
- Prompt discussion of support and treatment
- Assessment form viewable on the mobile device
- Increased awareness of cognitive needs
- Timely onward referral to specialty memory services
Cognitive stimulation

Staying mentally active = good brain health
Vemuri et al, 2013

Brain stimulating pastimes may delay dementia
Vemuri et al, 2013

People late in life can benefit from changing their lifestyle
FINGER, 2013

Independence with assistive technology & cognitive stimulation
NICE, 2006
<table>
<thead>
<tr>
<th>App title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fit Brains</td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td></td>
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<tr>
<td>Purpose</td>
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<tr>
<td>Evidence used to verify the effectiveness</td>
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<td>Clinical disciplines who would use the app</td>
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<tr>
<td>Does it explain how the data will be used?</td>
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<tr>
<td>Benefits</td>
<td></td>
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<tr>
<td>Limitations</td>
<td></td>
</tr>
<tr>
<td>Platforms available on: Apple, Android, Windows, Nokia Blackberry, web browser</td>
<td></td>
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<tr>
<td>Price</td>
<td></td>
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<tr>
<td>Rating (one to five star)</td>
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</tbody>
</table>
Case study: cognitive stimulation

- Independent with turning on iPad and locating apps
- Increased concentration (20 minute to 50 minute sessions)
- Improvement in app scores
- Increasing the complexity of tasks
- Enhanced sense of cognitive confidence
### Case study: cognitive stimulation

<table>
<thead>
<tr>
<th>MoCA©</th>
<th>Pre intervention</th>
<th>Post intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visuospatial/executive</td>
<td>1/5</td>
<td>3/5</td>
</tr>
<tr>
<td>Naming</td>
<td>3/3</td>
<td>2/3</td>
</tr>
<tr>
<td>Memory</td>
<td>1/5</td>
<td>5/5</td>
</tr>
<tr>
<td>Attention</td>
<td>5/6</td>
<td>6/6</td>
</tr>
<tr>
<td>Language</td>
<td>2/3</td>
<td>2/3</td>
</tr>
<tr>
<td>Abstraction</td>
<td>1/2</td>
<td>2/2</td>
</tr>
<tr>
<td>Orientation</td>
<td>6/6</td>
<td>6/6</td>
</tr>
<tr>
<td><strong>Total score</strong></td>
<td><strong>19/30</strong></td>
<td><strong>26/30</strong></td>
</tr>
</tbody>
</table>

Normative data for mild cognitive impairment is 15-19 and mild Alzheimer’s disease 11-21.
“Again I say to you all, technology is no barrier, it is no threat, but a friend enabling me to remain independent and still be in contact with all that I need for my daily living in an instant, keeping me connected...”

Ted, 81 years of age
Thank you

Melissa

Thank you for the brain yoga, all your help.

Michael