VitruCare: Using digital health to overcome the bounded willpower of patients with long term conditions

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AGENDA

• The problem
• What is bounded willpower?
• What did VitruCare do?
• Results
• Looking to the future
The problem

- 40% of the UK population have a long term condition
- 78% of GP appointments and 70% of inpatient hospital admissions
- 70% of the UK’s health and social care funding
- Large range of digital health technologies to put the patient in control
- Need further understanding on behaviour change and patient motivation
BOUNDED WILLPOWER

• Bounded Willpower: explains why people do not make optimum decisions based on their long-term interests

• TIME: influences how likely somebody is to alter behaviour. Unsure of the future, makes it difficult to change behaviour in the present

• Explains why people smoke, eat unhealthy food, avoid medical examinations, going to the dentist etc.
What did VitruCare do?

- 800 hypertensive patients in Bradford put onto the system

- They created goals and an action plan – helps the patient visualise their behaviour change

- VitruCare provides patients with immediate feedback – enter the data, see the progress e.g. exercise, blood pressure, weight etc

- Patient sees the progress they are making, acts as an immediate reward, encourages behaviour change to continue, eventually leading to future gains

- Develops commitment contract with GP
## Results

### Paired Samples Test

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice visits before VitruCare - Practice visits after VitruCare</td>
<td>1.597</td>
<td>1.516</td>
<td>.126</td>
<td>1.348, 1.847</td>
<td>12.643</td>
<td>143</td>
<td>.000</td>
</tr>
<tr>
<td>Out patient visits before VitruCare - Out patient visits after VitruCare</td>
<td>.354</td>
<td>.714</td>
<td>.060</td>
<td>.237, .472</td>
<td>5.951</td>
<td>143</td>
<td>.000</td>
</tr>
<tr>
<td>A&amp;E attendance before VitruCare - A&amp;E attendance after VitruCare</td>
<td>.083</td>
<td>.695</td>
<td>.058</td>
<td>-.031, .198</td>
<td>1.440</td>
<td>143</td>
<td>.152</td>
</tr>
<tr>
<td>Acute admissions before VitruCare - Acute admissions after VitruCare</td>
<td>.042</td>
<td>.486</td>
<td>.040</td>
<td>-.038, .122</td>
<td>1.029</td>
<td>143</td>
<td>.305</td>
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<tr>
<td>Weight before VitruCare - Weight after VitruCare</td>
<td>1.585</td>
<td>2.579</td>
<td>.215</td>
<td>1.161, 2.010</td>
<td>7.377</td>
<td>143</td>
<td>.000</td>
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<tr>
<td>Systolic BP before VitruCare - Systolic BP after VitruCare</td>
<td>2.111</td>
<td>3.757</td>
<td>.313</td>
<td>1.492, 2.730</td>
<td>6.743</td>
<td>143</td>
<td>.000</td>
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<tr>
<td>Diastolic BP before VitruCare - Diastolic BP after VitruCare</td>
<td>4.410</td>
<td>4.434</td>
<td>.369</td>
<td>3.679, 5.140</td>
<td>11.936</td>
<td>143</td>
<td>.000</td>
</tr>
</tbody>
</table>
Looking to the Future

• A digital health service can improve patient weight, blood pressure and contact hours

• Innovators and HCPs should have an awareness of behaviour change and behavioural economics

• Future research is using repeated measure questionnaires, focus groups and satisfaction questionnaires

• VitruCare is using this research to improve their product and implementation
Any Questions?