Using Adaptive Choice Based Conjoint (ACBC) analysis to predict individual patient preferences for pharmaceutical treatment of osteoarthritis.
Eliciting *individual* patient preferences is important alongside eliciting *group* preferences.

- Group results are used to understand general population preferences and develop guidelines.
- Individual patient preferences assist patient–clinician shared decision-making.
OA treatment

- NICE OA guidelines (2008) recommend that treatment and care of OA should take into account patients’ needs and preferences.
- The NICE OA guidelines (2008) did not recommend a particular method for eliciting patients preference.
- In order to facilitate shared agreements between clinician and patient, it is important that the clinician has a clear understanding of an *individual* patient’s preference for OA treatment.
Study aim

To examine whether predicted preferences derived from individual patients through ACBC match their expressed preferences for pharmaceutical treatment of osteoarthritis.
Method

- 11 participants who were over 50 years of age and suffering from OA in at least one of their joints were recruited from the Research User Group (RUG) at the Arthritis Research UK Primary Care Centre, Keele University.
- Participants completed a computerised interactive ACBC questionnaire involving 8 attributes selected by the RUG using evidence-based information from published articles about the varying impact and risks of OA medication.
- Data were analysed for each individual patients.
- Patients were presented with the ACBC predicted preferences and were asked if it matches their expressed preferences.
Attributes

- Medication availability
- Frequency
- Route of administration
- Expected benefit
- Risk of addiction
- Risk of stomach side effects
- Risk of kidney and liver side effects
- Risk of heart attacks and strokes
## ACBC questionnaire

### Your Views on Osteoarthritis Treatment

Please think about the medication you would most like to take for your Osteoarthritis. For each feature, select your preferred level.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Select one answer for each feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>Prescription drug</td>
</tr>
<tr>
<td></td>
<td>Over-the-counter drug</td>
</tr>
<tr>
<td></td>
<td>Internet purchase drug</td>
</tr>
<tr>
<td>How much you would expect to benefit</td>
<td>Expect 25% benefit</td>
</tr>
<tr>
<td></td>
<td>Expect 50% benefit</td>
</tr>
<tr>
<td></td>
<td>Expect 75% benefit</td>
</tr>
<tr>
<td>Risk of stomach side effects</td>
<td>No risk of stomach ulcer</td>
</tr>
<tr>
<td></td>
<td>Low risk of stomach ulcer</td>
</tr>
<tr>
<td></td>
<td>Moderate risk of stomach ulcer</td>
</tr>
<tr>
<td></td>
<td>High risk of stomach ulcer</td>
</tr>
<tr>
<td>Risk of Kidney and liver side effects</td>
<td>No risk of kidney or liver impairment</td>
</tr>
<tr>
<td></td>
<td>Low risk of kidney or liver impairment</td>
</tr>
<tr>
<td></td>
<td>Moderate risk of kidney or liver impairment</td>
</tr>
<tr>
<td></td>
<td>High risk of kidney or liver impairment</td>
</tr>
</tbody>
</table>

[Back][Next]
Your Views on Osteoarthritis Treatment

Here, each vertical column represents a drug. For EACH ONE, please indicate if you would consider taking this drug or not by ticking the relevant box at the bottom of the column.

(1 of 6)

<table>
<thead>
<tr>
<th>Prescription drug</th>
<th>Prescription drug</th>
<th>Over-the-counter drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expect 50% benefit</td>
<td>Expect 50% benefit</td>
<td>Expect 75% benefit</td>
</tr>
<tr>
<td>High risk of stomach ulcer</td>
<td>No risk of stomach ulcer</td>
<td>No risk of stomach ulcer</td>
</tr>
<tr>
<td>No risk of kidney or liver impairment</td>
<td>High risk of kidney or liver impairment</td>
<td>No risk of kidney or liver impairment</td>
</tr>
</tbody>
</table>

- [ ] A possibility
- [ ] Won't work for me
ACBC questionnaire

Your Views on Osteoarthritis Treatment

We have noticed that you have avoided drugs with certain features shown below. Please tick the ONE feature that is most unacceptable.

- High risk of kidney or liver impairment
- Moderate risk of kidney or liver impairment
- High risk of stomach ulcer
- None of these is totally unacceptable.

Your Views on Osteoarthritis Treatment

We have noticed that you have selected drugs with certain features shown below. Please tick the ONE most important feature.

- Expect 75% benefit
- No risk of stomach ulcer
- Prescription drug
- None of these is an absolute requirement.
**Your Views on Osteoarthritis Treatment**

Here again, each vertical column represents a drug. Among these three, please decide which **ONE** is the best option for you? (Features that are the same for each drug are in grey, so you can focus on the features that are different.)

(1 of 4)

<table>
<thead>
<tr>
<th>Over-the-counter drug</th>
<th>Over-the-counter drug</th>
<th>Over-the-counter drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expect 75% benefit</td>
<td>Expect 75% benefit</td>
<td>Expect 75% benefit</td>
</tr>
<tr>
<td>No risk of stomach ulcer</td>
<td>No risk of stomach ulcer</td>
<td>Low risk of stomach ulcer</td>
</tr>
<tr>
<td>Low risk of kidney or liver impairment</td>
<td>No risk of kidney or liver impairment</td>
<td>No risk of kidney or liver impairment</td>
</tr>
</tbody>
</table>

0% | 100%
Individual results

Participant 1001

- Way of taking the medication
- Risk of Kidney and liver side effects
- How much you would expect to benefit
- Risk of heart attacks and strokes
- Risk of addiction
- Risk of stomach side effects
- Availability

Participant 1003

- Availability
- Risk of Kidney and liver side effects
- Risk of addiction
- Risk of heart attacks and strokes
- Risk of stomach side effects
- Frequency
- How much you would expect to benefit
- Way of taking the medication
Findings

- The results *individually* differed between participants,
- 10 participants completely agreed and one partially agreed that the predicted results matched their preferences.
Conclusion

ACBC is a practical tool that can be used in primary care to analyse individual patient preference prior to consultation, without unduly consuming clinicians' time.
Acknowledgments
This research work would not have been possible without the participation of the Research Users’ Group at the Arthritis Research UK Primary Care Centre, Keele University, UK.

We are extremely grateful to Carol Rhodes and Adele Higginbottom (Patient and Public Involvement Co-ordinator and assistant at the Arthritis Research UK Primary Care Centre) for their effort to facilitate the Research Users’ Group involvement.