

## WHAT CAN PATIENT PREFERENCE STUDIES TELL US ABOUT PATIENT ADHERENCE? A NOVEL INSIGHT INTO AN OLD PROBLEM

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## Stated preference

- Methods have been used to understand or elicit
  - Strength of preference
  - Willingness to pay
  - Maximum acceptable risk
  - Predict market share
  - Understand demand curves
- Can the value that patients place on treatments predict adherence behaviour?

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## Patient preferences


- Patient preferences for asthma therapy
- Preferences for therapies in ulcerative colitis
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## Background

- Asthma is characterized as a chronic inflammatory disorder of the airways
- Asthma is often poorly controlled leading to exacerbations and emergency hospital attendance
  - GOAL study – total control (~50% of patients)

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## Discrete choice example

Choice 1	Treatment A	Treatment B
Asthma symptoms	Symptoms 2 days per week	Symptoms 5 days per week
Need for reliever medication	Reliever medication 5 days per week	Reliever medication 2 days per week
Asthma attacks in the next year	Occasionally. You do not need to see a doctor.	Occasionally, you would need to see a doctor or visit A&E.
Chance of side effects	Moderate chance, 1 in 5 or 20% per year.	Low chance, 1 in 10 or 10% per year.
Number of preventer inhalers	1	2
Cost to you per month	£60	£40

Which would you prefer?           


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## Assessed HRQL status

- HRQL assessed using Asthma Quality of Life Questionnaire (Juniper et al)
- How is HRQL associated with preference for treatments?
  - Patients with worse HRQL willing to pay most??

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## Combined data results

- All attributes were significant predictors of choice
- WTP results indicated patients most value avoiding
  - Days with symptoms
  - Asthma attacks that require medical support
- Data segmented by HRQL status (low, med or high)

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## Results – All country data by AQLQ subgroup

Variable	Coefficient	WTP (€) (95% CI)
<b>Symptom days</b>		
<i>Low AQLQ</i>	-0.12432	29.03 (9.96, 34.02)
<i>Medium AQLQ</i>	-0.14881	34.75 (11.96, 40.69)
<i>High AQLQ</i>	-0.18659	43.57 (15.06, 50.91)
<b>Asthma attacks (none- to Dr/ A&amp;E)</b>		
<i>Low AQLQ</i>	-0.36862	86.08 (29.09, 100.36)
<i>Medium AQLQ</i>	-0.48036	112.18 (38.31, 130.73)
<i>High AQLQ</i>	-0.58242	136.01 (46.69, 158.49)

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## Effect of HRQL on patient preferences

- Simple hypothesis that those with worst HRQL should be WTP more – not supported
- People with best HRQL were WTP *more* to avoid symptoms/ attacks etc
- Explanation?
  - Not an income effect
  - Perhaps reason why they have the best HRQL?

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## Patient preferences in colitis

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## Background

- The typical first-line treatments for ulcerative colitis (UC) are oral 5-ASAs
- Because of the chronic nature of UC treatment must continue on an indefinite basis
- A increasing body of evidence shows that a significant proportion of patients do not adhere to medication regimens



## DCE development

- DCE was designed to look at perceived benefits of UC therapies
- Opportunity to examine the potential association between adherence and preference
  - How do preferences vary by self reported adherence?
  - Does patient preference data provide insight into adherence behaviour?

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## Measuring adherence

- Classically assessed by pill counts, claims data, refill rates
- Several self-report scales emerged recently
- Modified Morisky Scale

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## Treatment benefit attributes

### Treating your symptom flare

- (i) improvement in symptoms (fewer stools and/or less bleeding)
- (ii) return to normal stool frequency and no bleeding
- (iii) return to normal stool frequency and no bleeding and some healing of the inner lining of the bowel

### Risk of symptom flares

- (i) 10% patients will experience a flare within a year
- (ii) 40% .....
- (iii) 70% .....



## Interaction terms

Parameter		Estimate	95% Confidence Limits		Sig
<b>Symptom control</b>		-0.183	-0.3131	-0.0539	0.0055
<b>Back to normal bowel</b>	Good adherence	0.281	0.0649	0.4975	0.0108
<b>Back to normal bowel &amp; mucosal heal</b>	Good adherence	0.263	0.0433	0.4846	0.0190
<b>Flares</b>		0.128	0.0827	0.1733	<.0001
<b>Flares * flare risk</b>	10%	-0.259	-0.3370	-0.1811	<.0001
<b>Flares * flare risk</b>	40%	-0.128	-0.204	-0.0536	0.0008



## Adherence

- Good adherers demonstrated stronger preferences (higher value) for treatments
  - return stool frequency to normal
  - heal the inner lining of the bowel
- Are they good adherers because they place more value on symptom control?



## *Preference, adherence and HRQL*

- Asthma patients with best HRQL place greatest value on treatments that maintain their HRQL
- Colitis patients who adhere to their therapy place more value on symptom control than poor adherers to therapy
- Is this the same underlying effect?