

Evidence based screening for  
distress in cancer

New developments in  
screening

Dr Kerrie Clover

HUNTER NEW ENGLAND  
NSW/HEALTH



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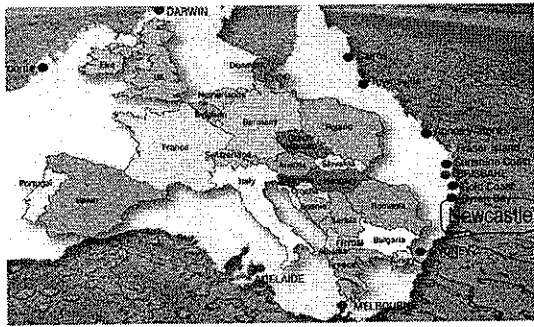
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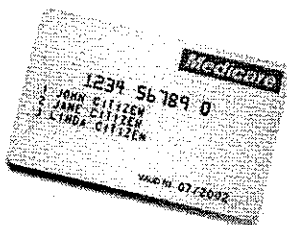
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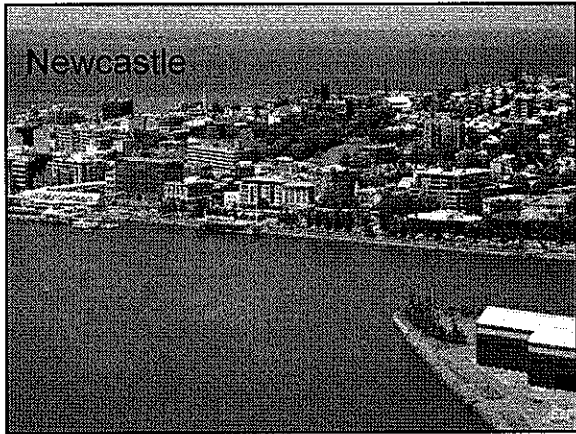
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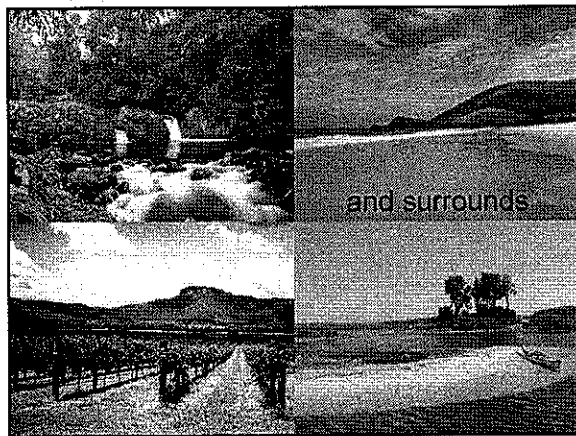
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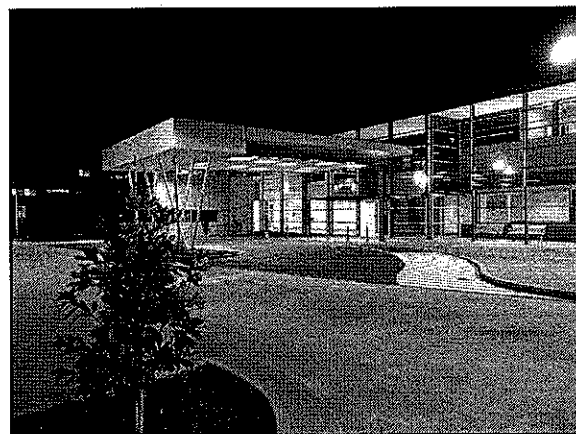
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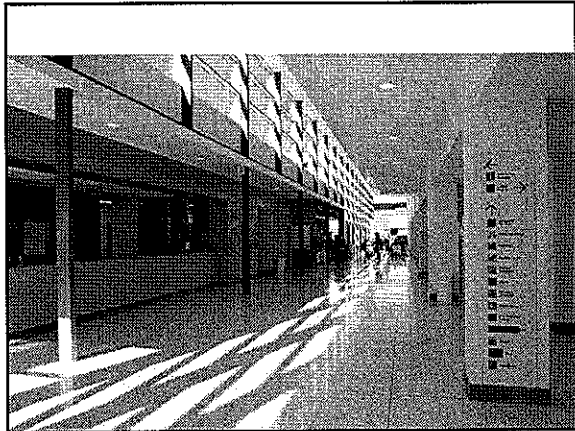
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## Presentation Structure

- Quicatouch screening model
  - Features
  - Clinical impact
- New Developments:
  - Utilisation, Desire for help
  - Care-givers
  - Computer-adaptive testing / PROMIS

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Dr Kerrie Clover, Dr Kerry Rogers, Prof Gregory Carter, Ms Catherine Adams, Dr Patrick McElduff

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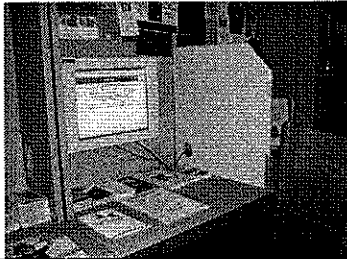
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## What is QUICATOUCH?

*Quick, Individually Customised Assessment using TOUCHscreens*

Computerised screening for pain, distress, other problems



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## History

- 2006: \$42,000
  - Software development
  - Touchscreens
- 2007-08: \$89,000
  - Paid screening assistant
  - Refined algorithm & clinical feedback
- 2008-09: \$92,000
  - Paid assistant
  - Added Caregiver Screening

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## Features – Clinical Focus

- Brief, customised screening algorithm
- Clinically relevant concerns
- Customised, event-based, printed feedback
  - 'At-a-glance', Action recommended
- Verbal notification by screening assistant
- MD team members
  - Email notification, Electronic access
- Supportive services available
- Multiple sites, multiple surveys

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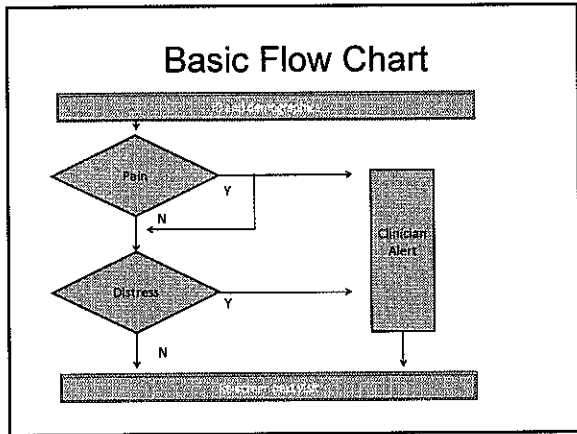
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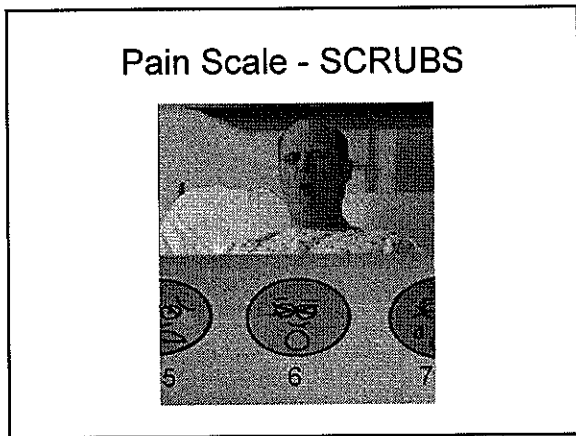
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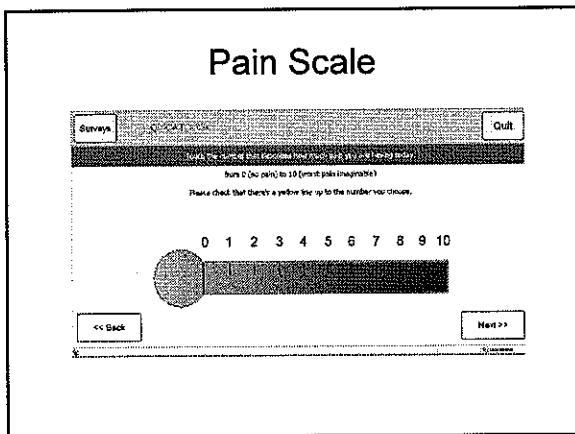
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# Pain threshold

Survey Out

How 0 (no pain) to 10 (worst pain imaginable)

Please click that bar's a yellow line up to the number you choose

0 1 2 3 4 5 6 7 8 9 10

<< Back Next >>

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# Distress Thermometer

Survey Out

Please click that bar's a yellow line up to the number you choose

10  
9  
8  
7  
6  
5  
4  
3  
2  
1  
0

<< Back Next >>

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# Distress threshold

Survey Out

Please click that bar's a yellow line up to the number you choose

10  
9  
8  
7  
6  
5  
4  
3  
2  
1  
0

<< Back Next >>

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## SPHERE PSYCH-6

- 6 items
- Equivalent to HADS-T
  - Kappa = .73 p<.001
  - Negative agreement .92
  - Positive agreement .80



Clover K, Carter G L, Adams C, Hickie I, Davenport  
 Concurrent validity of the PSYCH-6, a very short  
 detecting anxiety and depression, among oncology outpatients.  
 ANZJP. (accepted March 2009).

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## Validity of two-stage algorithm

- DT (4+) followed by PSYCH-6 (3+)
- If positive on both,
  - 92% probability of caseness on HADS-T
- If negative on either,
  - 1% probability of caseness on HADS-T

Clover K, Carter G L, Mackinnon A, Adams A.  
 Is my patient suffering clinically significant emotional distress?  
 Demonstration of a probabilities approach to evaluating  
 algorithms for screening for distress.  
 Supportive Care in Cancer (online March 2009).

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QUICATOUCH		Psychosocial Screening	
Date: 10/03/2011		Patient ID: 101101	
<b>Results:</b>		<b>Above threshold for:</b>	
Pain: 7/10		Pain assessment*	
Distress: 7/10		Psycho-oncology	
<b>Previous results:</b>		<b>Problems endorsed:</b>	
Distress	7/10	Depression	1
Pain	7/10	Anxiety	1
Worry	7/10	Problems endorsed	1
Worry	7/10	Depression	1
Worry	7/10	Anxiety	1
Worry	7/10	Problems endorsed	1
<b>Action taken:</b>		<b>Reviewed by:</b>	
<input type="checkbox"/> Referred to Psycho-oncology	<input type="checkbox"/> Referred to Social Work	<input type="checkbox"/> Referred to Social Work	<input type="checkbox"/> Referred to Social Work
<input type="checkbox"/> Referred to Social Work	<input type="checkbox"/> Referred to Social Work	<input type="checkbox"/> Referred to Social Work	<input type="checkbox"/> Referred to Social Work
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**QUICATOUCH**  
**Psycho-social Screening**

Date: 14/08/2018 Assessment ID: 284

**Results:** **Above threshold for:**  
 Pain: 7/10 Pain assessment  
 Distress: 7/10 Psycho-oncology

**Previous results:**

Date	Pain	Distress
15/02/2018	4	5
15/02/2018	4	5
15/02/2018	4	5
15/02/2018	4	5

**Action taken:**

None taken  
 Referred to specialist services  
 Referred to GP/Practice Nurse  
 Referred to other services  
 Other (please specify)

**Problems endorsed:**

None endorsed  
 Anxiety  
 Depression

**Reviewed by:**

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### Clinical Outcomes

First 24 months

- Feasibility
- Overall prevalence of distress and pain
- Prevalence over time

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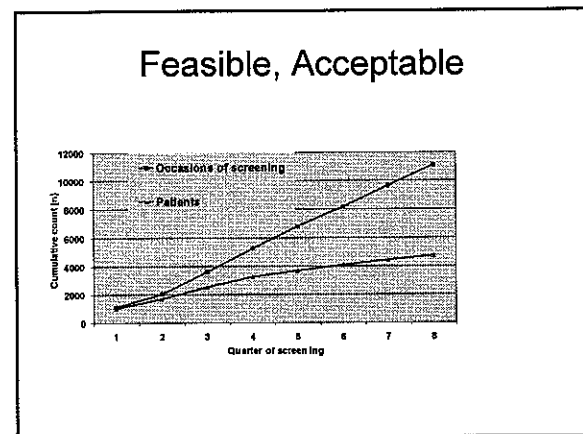
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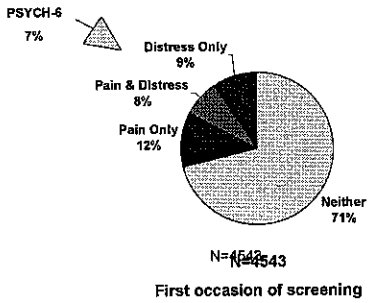
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## Prevalence of pain and distress

PSYCH-6 case, 7%




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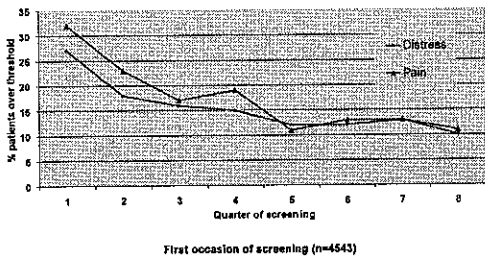
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## Prevalence over time




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## Pain - associations

		OR	95% CI	
Quarter	Oct-Dec 07	1.00		
	Oct-Dec 08	0.52	.41 - .66	↓
	Oct-Dec 09	0.24	.16 - .36	↓
Clinic	Med Onc	1.00		
	Rad Onc	0.69	.56 - .85	↓
	Haem	0.57	.48 - .69	↓
Rx Status	No Rx	1.00		
	On Rx	1.35	1.16 - 1.64	↑

Logistic Regression: Gender, Age no significant association

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## Distress - associations

		Adjusted OR	95% CI	
Quarter	Oct-Dec 07	1.00		
	Oct-Dec 08	0.48	.37 - .62	↓
	Oct-Dec 09	0.30	.20 - .44	↓
Clinic	Med Onc	1.00		
	Rad Onc	0.78	.62 - .97	↓
	Haem	0.68	.56 - .81	↓
Sex	Male	1.00		
	Female	1.15	1.23-1.70	↑

Logistic Regression. On treatment, Age no significant association

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## Summary

- Pain & Distress prevalence more than halved since introduction of QUICATOUCH
- Still evident after adjusting for Clinic Type, Gender, On Treatment, Age
- Consistent with real effect of screening on pain and distress

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## New Developments 1

### Desire for Help

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## Desire for Help

- Not all patients who may benefit from support services access these services.
- Limited information on the reasons why patients do not access services
- 'Objective' need v subjective desire for help

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## Utilisation

- Eakin et al (2001) USA
  - 8% of 368 HMO pts used counselling centre
- Steginga et al (2001) Australia
  - 6% of 439 pts currently seeing mental health professional
- Mehnert et al (2008) Germany
  - 49% of 883 survivors used: counselling, self-help groups or cancer information centres
- Sellick & Edwardson () Canada
  - Of HADS+ 84% attended appt after phone call

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## Knowledge <> use of services

- Eakin et al 2001
  - 68% aware of counselling service
  - 8% ever used it
- Steginga et al (2008)
  - Of unaware ~ 47% "would have used services" but <10% intended to access in next 6 mo
- Winzer et al (2009)
  - 78% general interest in support program
  - 43% interested 'right now'

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## Associations - inconsistent

- Level of distress
- Education, age, gender
- Stage, treatment, cancer type

### Stated reasons

- No physician referral / recommendation
- No need
- Getting help elsewhere

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## Subjective <> 'objective' need

- Graves et al (2007) USA
  - 29% of 205 DT4+ wanted help v 23% of 333 in overall sample
- Keller et al (2004) Germany
  - 41% of 22 SCID+ referred v 62% SCID-
  - 31% of 49 HADS+ referred v 55% HADS-
- Sollner et al (2004) Germany
  - 42% of 100 overall v 44% mild and 50% (of 33) mod-severe on HADS desired help

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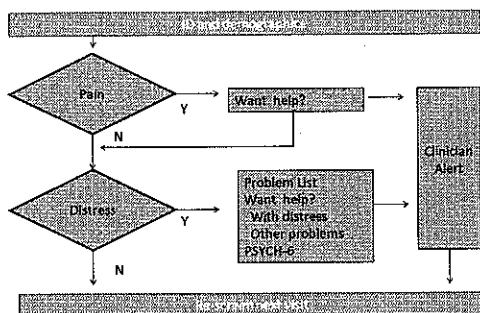
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## Current Flow Chart



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## Current Clinician Alert


**OUICATOUCH**  
 Psychosocial Screening

Date: 1/27/2016 Assessment ID: 234

<b>Results:</b>	Above threshold for:																														
<b>Pain: 7/10</b>	Pain assessment*																														
<b>Distress: 7/10</b>	Psych-oncology																														
<b>Previous results:</b>	Problems endorsed:																														
<table border="1"> <thead> <tr> <th>Date</th> <th>Pain</th> <th>Distress</th> </tr> </thead> <tbody> <tr> <td>12/15/2015</td> <td>4</td> <td>2</td> </tr> <tr> <td>11/15/2015</td> <td>4</td> <td>2</td> </tr> <tr> <td>10/15/2015</td> <td>4</td> <td>2</td> </tr> <tr> <td>9/15/2015</td> <td>4</td> <td>2</td> </tr> </tbody> </table>	Date	Pain	Distress	12/15/2015	4	2	11/15/2015	4	2	10/15/2015	4	2	9/15/2015	4	2	<table border="1"> <thead> <tr> <th>Problem</th> <th>Endorsement</th> </tr> </thead> <tbody> <tr> <td>Physical symptoms</td> <td>Yes</td> </tr> <tr> <td>Psychological symptoms</td> <td>Yes</td> </tr> <tr> <td>Financial concerns</td> <td>No</td> </tr> <tr> <td>Family concerns</td> <td>No</td> </tr> <tr> <td>Work concerns</td> <td>No</td> </tr> <tr> <td>Other concerns</td> <td>No</td> </tr> </tbody> </table>		Problem	Endorsement	Physical symptoms	Yes	Psychological symptoms	Yes	Financial concerns	No	Family concerns	No	Work concerns	No	Other concerns	No
Date	Pain	Distress																													
12/15/2015	4	2																													
11/15/2015	4	2																													
10/15/2015	4	2																													
9/15/2015	4	2																													
Problem	Endorsement																														
Physical symptoms	Yes																														
Psychological symptoms	Yes																														
Financial concerns	No																														
Family concerns	No																														
Work concerns	No																														
Other concerns	No																														

**Action taken:**
 Referred to Psych-oncology  
 Referred to Social Work  
 Pain management  
 Other (please specify)

**Reviewed by:**  Oncologist - medical oncologist  
 Oncologist - radiation oncologist  
 Clinical nurse specialist  
 NP

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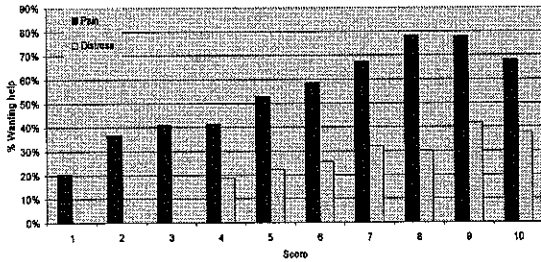
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## Help wanted




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## New Developments 2

### Care-giver Screening

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### Care giver screening

- Increasing recognition that cancer patients' care-givers experience distress
- Care givers often no better QoL v patients

Carter G, Lewin T, Rashid G, Adams C, Clover K. Computerised assessment of Quality of Life in Oncology Patients and Carers. *Psycho-Oncology*. 2008 17: 26-33.

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### Care-givers Module

- Distress
- Quality of Life item
- Satisfaction with health
- Satisfaction with care of the patient  
– 6 items from 'FAMCARE'

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### FAMCARE-6 Development

- 234 caregivers recruited from 388 outpts
- 20-item family satisfaction with advanced cancer care (FAMCARE) instrument (Kristjanson, 1993)
- High levels of satisfaction with care
- Factor analyses = single factor structure
- Reduced items to six

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## FAMCARE-6

How satisfied are you with

1. Answers from health professionals
2. Information given about side effects
3. Speed with which symptoms are treated
4. Availability of doctors to the family
5. Time required to make a diagnosis
6. Availability of the doctor to the patient

5 point scale Very Satisfied to Very Dissatisfied

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## New Developments 3

Computer-Adaptive Testing

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- National Institutes of Health (USA)
- Improved measurement of patient-reported outcomes (PROs)
- \$50 million investment
  - 15 research sites

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## PROMIS 'Teaser'

- Item banks measuring PROs
  - highly valid and reliable
- Suit range of chronic diseases
- Item response theory
- Computer adaptive testing
- Freely available

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## Item Response Theory

### PROMIS Items

- Rigorous development
- Operationalise an underlying trait
  - eg fatigue, distress
- Can be ordered from easy to hard
  - Less severe and more severe symptoms

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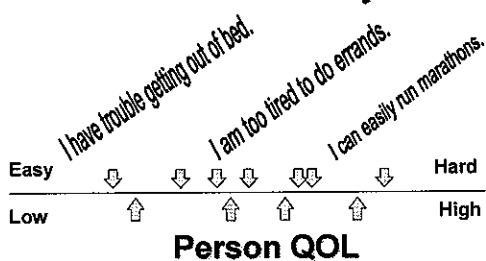
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## Item Difficulty



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## Computer Adaptive Testing

- Reduces number of items asked
- First item mid-range intensity
- Subsequent items depend on response
  - If yes, selects more intense question
  - If no, selects less intense question

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## CAT

Low intensity      Mid intensity      High intensity




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## Item Banks

Domains	Items in Bank	Items in Short Form
Emotional Distress – Anger	29	8
Emotional Distress – Anxiety	29	7
Emotional Distress – Depression	28	8
Fatigue	95	7
Pain – Behavior	39	7
Pain – Interference	41	6
Physical Function	124	10
Satisfaction with Discretionary Social Activities	12	7
Satisfaction with Social Roles	14	7
Sleep Disturbance	27	8
Sleep-Related Impairment	16	8
Global Health		10

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## Assessment Centre

- Free
- Create own surveys
- Use PROMIS item banks or CAT
- Add own items
- Data stored at PROMIS
  - but owned by researcher
- Easy export

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## Summary

- QUICATOUCH
  - Brief, customised, paid assistants, integrated management
  - >50% decrease in pain, distress prevalence
- New Directions
  - Desire for help
  - Care giver screening
  - Computer adaptive testing

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## Thinking of introducing screening?

Things to decide

- When / where will screening take place?
- Who will approach and assist patients?
- Who will review the Clinician Alert?
- What support will be offered to patients?
- Who will organise the support?
- Where will the Alert be filed?
- Who will troubleshoot / maintain?

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### What resources are required?

- Advocate(s)
- Designated person(s) to approach patients
- Psycho-social services to refer to
- IT Support
- Software maintenance & support
- Computers + printers
- Executive Support
- Clinical Support: nursing, medical, allied health
- Project and Data management

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