

An overview of digital solutions in cancer care

A/Prof Haryana Dhillon

CeMPED & POCOG, University of Sydney

@Hagsie @pocog1 @Cosa_Surviv

EDUCATION

COLLABORATION

ADVOCACY

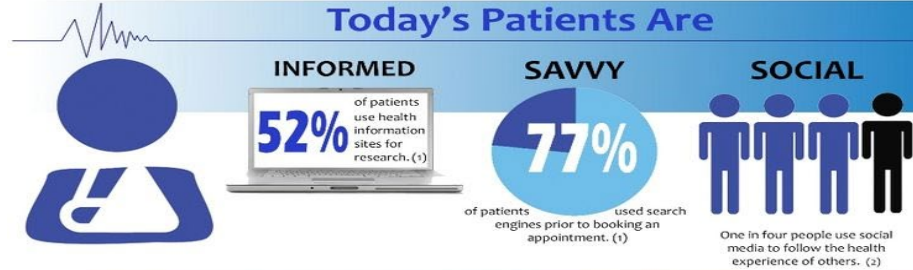
RESEARCH

Why digital solutions?

Healthcare in the Digital Era

It's old news: social media and search are changing the way people consume information and make important decisions. But what about old industries? Here are the top modern-day facts showing how one of our oldest sectors – healthcare – is adapting to digital PR.

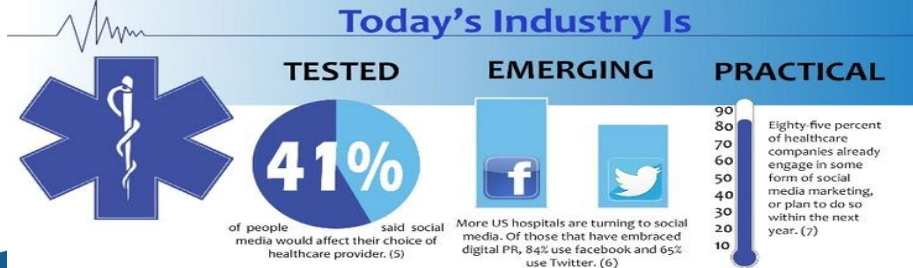
Today's Patients Are



Today's Providers Are



Today's Industry Is



1. <http://www.google.com/think/researchhttp://thesparkreport.com/branding/infographic-social-mobile-healthcare>
2. <http://www.pwinternet.org/Reports/2011/Social-Life-of-Health-Info/Summary-of-Findings.aspx>
3. <http://digitalmediaandscience.wordpress.com/2013/04/12/infographic-the-use-of-social-media-among-doctors-and-patients/>
4. <http://www.jmir.org/2012/6/e111/>

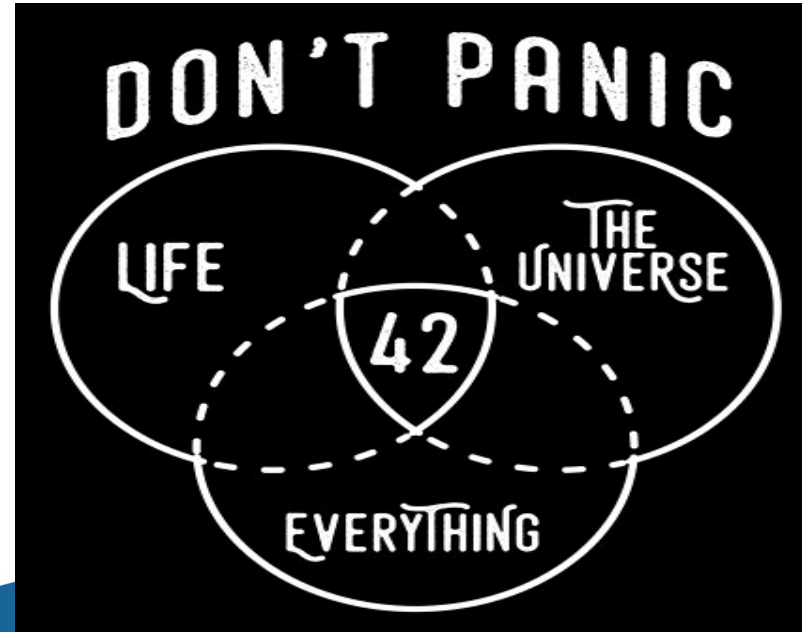
What digital solutions promise

- Innovative, accessible, tailored, person-centred care
- Benefits to individuals, providers, health systems:
 - Integration of data
 - Electronic decision support
 - Resources & interventions
 - Improved communications
 - Monitoring & support for +ve behavior change
- Real-time, real-world large scale data to inform individual & population level care



What digital solutions promise

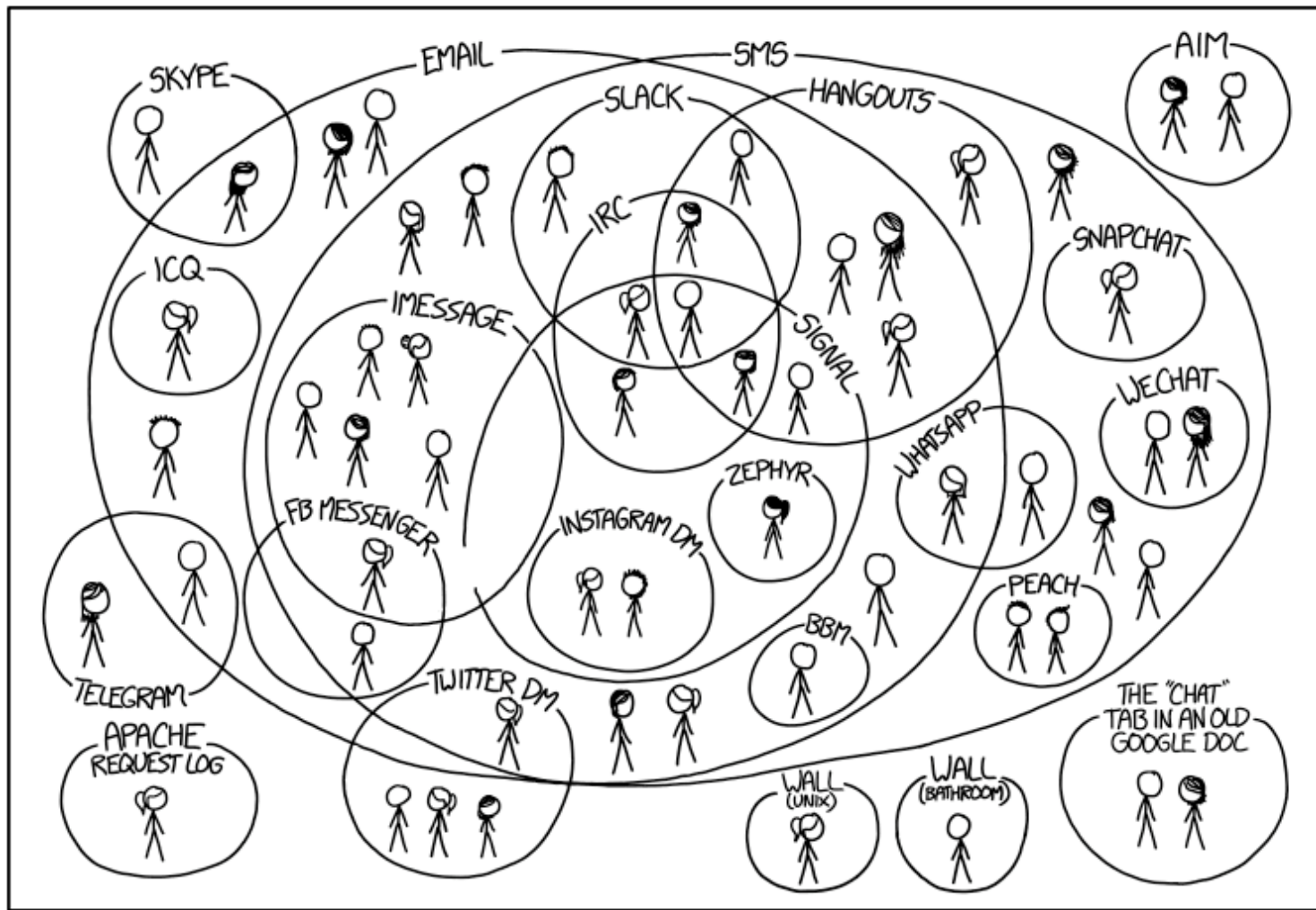
- When PROs routinely collected & integrated with clinical care:
 - Improved overall survival
Basch ASCO 2017, 2019
 - Reduced emergency department presentations
Girgis ASCO 2019



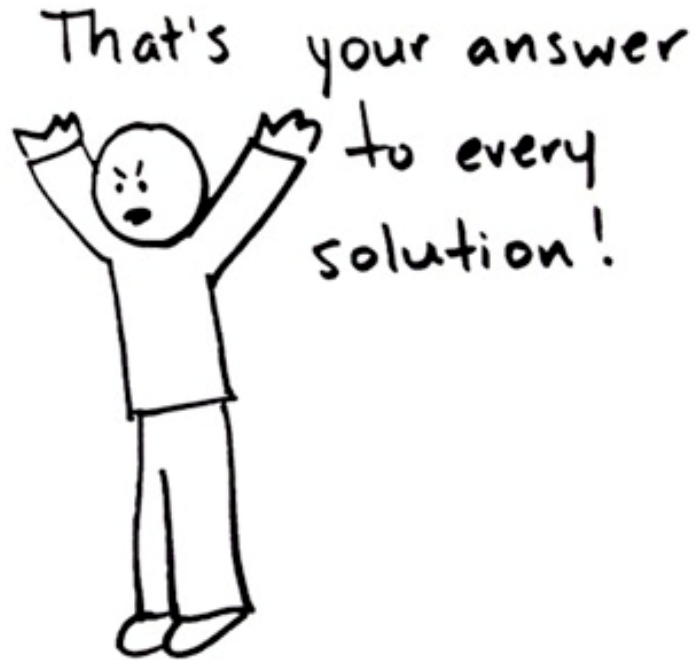
What are the platforms?

- Web-based
 - Apps
 - Portals
 - Information sites
 - Performance tracking
- Integrated or parallel to hospital systems
- Personal devices
 - Phones
 - Activity trackers





Are these solutions acceptable?

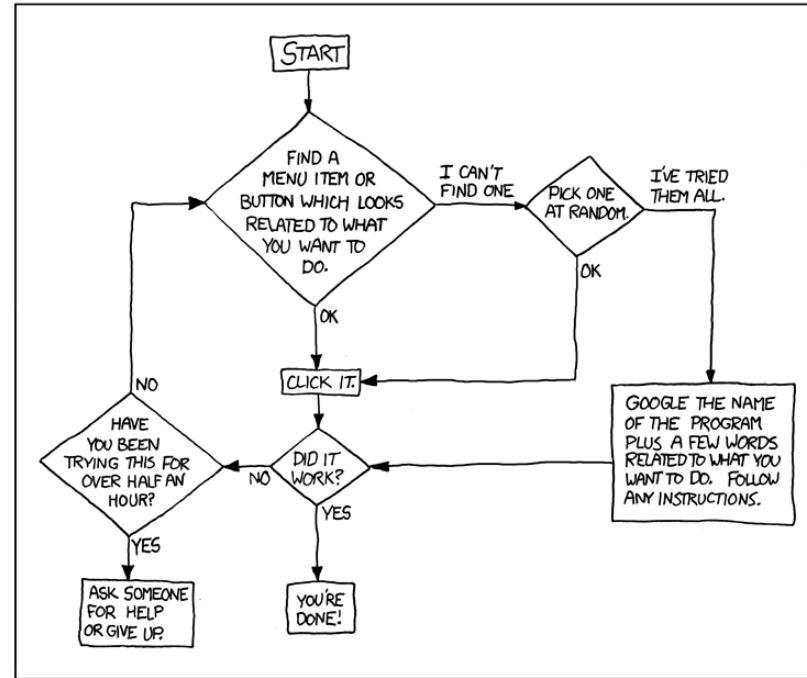


Are these solutions acceptable?

- Real concerns exist about:
 - Effectiveness
 - Security
 - Usability
 - Accessibility
 - Safety
 - Responsibility
- Structured, detailed implementation projects are essential to success/

DEAR VARIOUS PARENTS, GRANDPARENTS, CO-WORKERS,
AND OTHER "NOT COMPUTER PEOPLE."

WE DON'T MAGICALLY KNOW HOW TO DO EVERYTHING IN EVERY
PROGRAM. WHEN WE HELP YOU, WE'RE USUALLY JUST DOING THIS:



PLEASE PRINT THIS FLOWCHART OUT AND TAPE IT NEAR YOUR SCREEN.

Literature review of digital health strategies in cancer

- 26 out of 93 (27.9%) papers directly relevant to implementation
 - Little specific direction on implementation
- Multiple barriers and enablers identified
 - Evidence
 - Empowerment and skilling up
 - Personalisation
 - Research rigor (ie measures, long term followup)
 - Specific populations
 - Cost
- Quality of review of evidence low



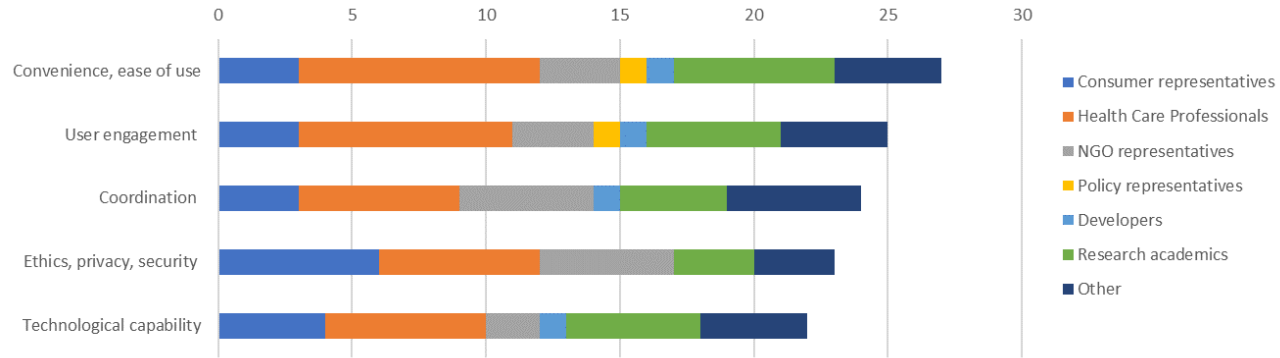
Stakeholder consultation

- 51 stakeholders
 - Consumers (14)
 - HCPs (9)
 - Researchers (7)
 - Developers (5)
 - NGO representatives (6)
 - Policy/government roles (10)
- Discrepancies: compared with review literature, stakeholders
 - more frequently discussed EHRs
 - more emphasis on coordination/integration, convenience and ease of use, consumer focus, and data ownership, privacy, and security
 - less emphasis on evidence
- Both stakeholders and literature review frequently emphasised the theme of user engagement

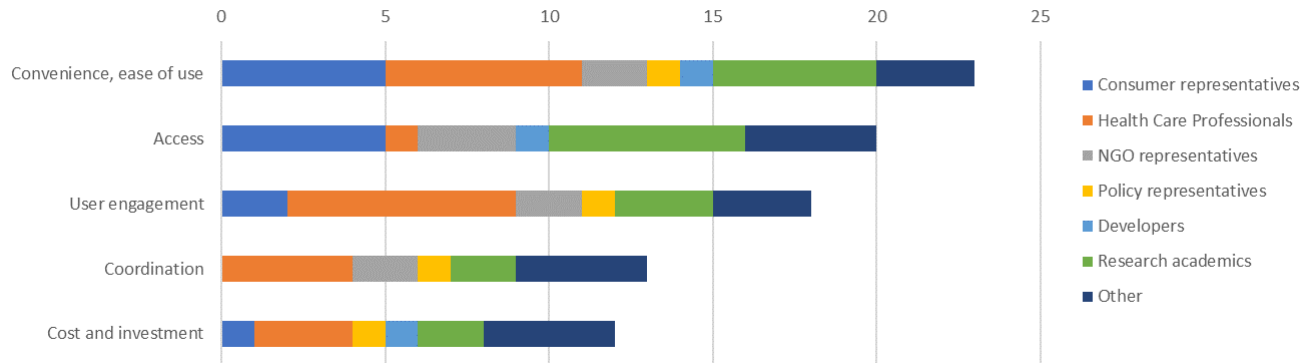


Results (stakeholders)

Top 5 themes - barriers

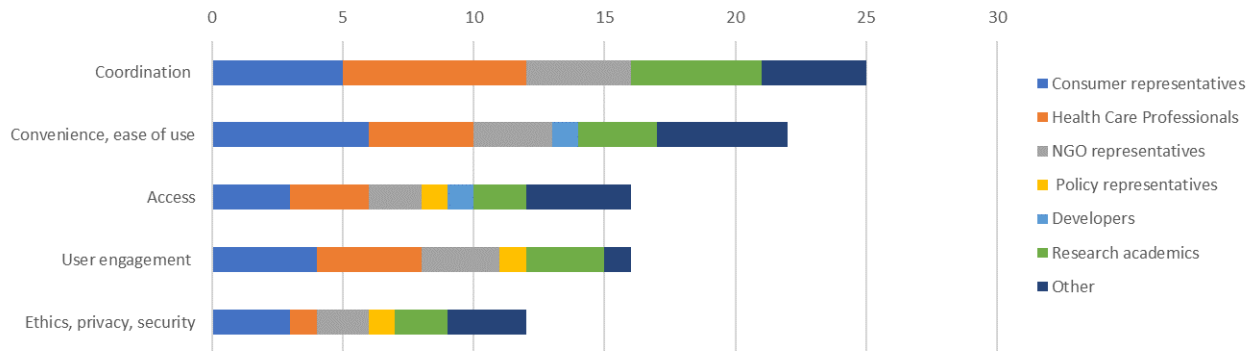


Top 5 themes - enablers

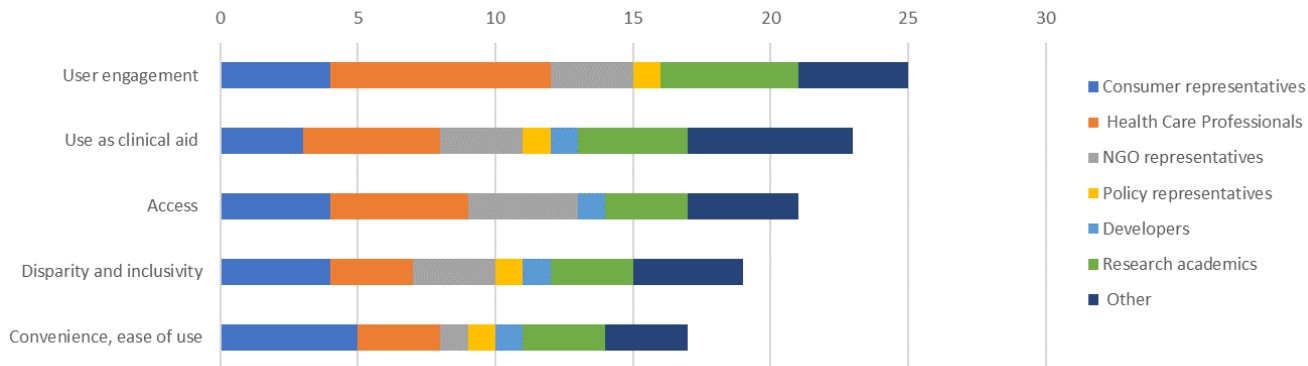


Results (stakeholders)

Top 5 themes - needs



Top 5 themes - opportunities



“Who’s got the control of the data? Who owns the data? And, for me, that should be the consumer, it absolutely should be the consumer.”
(Consumer)

“I think there’s so much potential there to do so much good with it, but I think we’ve got a long way to go yet.”
(Researcher)

“There’s so many definitions of digital health that I think in the future it’ll just be called healthcare. We won’t really mention ‘digital’, it’ll just be health, and healthcare.”
(Health Care Professional)

The Digital Health in Cancer Care Project

Flinders University

- Prof Bogda Koczwara
- Dr Lisa Beatty
- Prof Anthony Maeder
- Prof Trish Williams
- Dr Emma Kemp
- Ms Leila Mohammadi
- Ms Raechel Damarell

University of Sydney

- Dr Haryana Dhillon

Funded by a Flinders University School of Medicine Capacity Building Research Grant.

The Cancer Council of SA

- Dr Joshua Trigg
- Ms Bonnie Wiggins
- Ms Alana Sparrow
- Mr Lincoln Size

Cancer Voices SA

- Ms Chris Christensen
- Ms Julie Marker

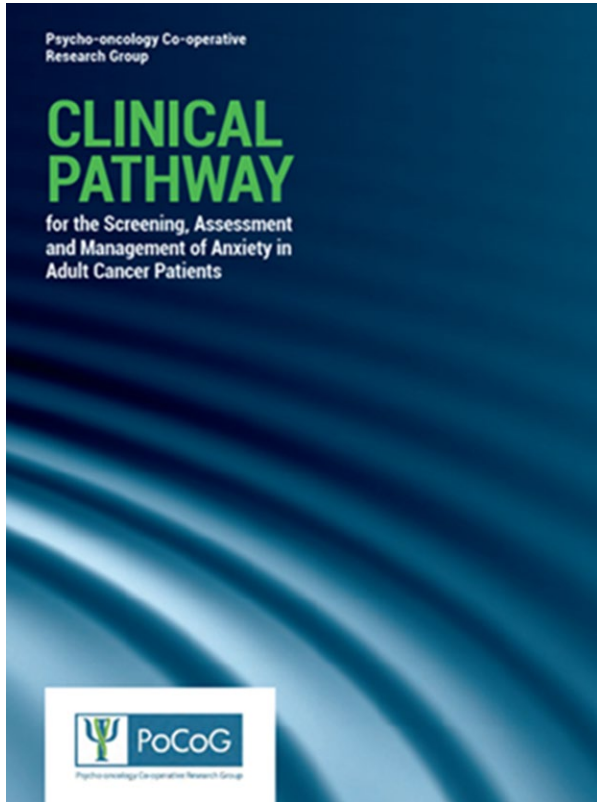
Bridging the gaps?



MIND THE GAP



Clinical
Oncology
Society of
Australia



Can we get this clinical
pathway
into routine practice?

Implementation is hard to achieve

- Time from evidence of efficacy to uptake is 17 years on average (Morris et al 2011)
- Many evidence-based interventions not successfully implemented (Grimshaw, Eccles, & Tetroe, 2004; Grol, 2001)
- 30-40% of patients don't receive care according to current scientific evidence
- 20-25% receive care that is not needed/potentially harmful (Grol, 2011)

Systematic review



1. What are the barriers and facilitators to hospital-based implementations?

➤ *Generated a hospital-specific framework*

Geerligs et al. *Implementation Science* (2018) 13:36
<https://doi.org/10.1186/s13012-018-0726-9>

Implementation Science

SYSTEMATIC REVIEW

Open Access

Hospital-based interventions: a systematic review of staff-reported barriers and facilitators to implementation processes



Liesbeth Geerligs^{1,2*}, Nicole M. Rankin^{2,3}, Heather L. Shepherd^{1,4} and Phyllis Butow^{1,2,4}



Analysis of Barriers to ADAPT:

Staff interviews - And response

Target	Barrier	Strategy
Administration / Leaders	Lack of support	<ul style="list-style-type: none">• Start at the top• Appoint clinical and administrative champions• Involve peak organizations (translational centres, Cancer Institute NSW)
General Oncology staff	Lack of team ownership	Involve key staff from all disciplines in tailoring the pathway
	Lack of education re why and how	Online HP educational resources: <ul style="list-style-type: none">• Anxiety and Depression• Screening and referral Hosted on EVI-Q

How will we address barriers?

Target	Barrier	Strategy
General Oncology staff	Lack of time	Automated online system (portal) which: <ul style="list-style-type: none">• Cues patient to complete online screenings• Sends email to staff when patient is over cut-off, for further assessment• Provides links to referral template• Emails referral to pre-specified staff• Produces regular reports <ul style="list-style-type: none">• IS FLEXIBLE to site resources and preferences:<ul style="list-style-type: none">• Timing and place of screening• Screening tool used• Staff responsibilities• Referral network• Report Content and format

How will we address barriers?

Target	Barrier	Strategy
Psychosocial staff	Lack of time	Develop online CBT with CRUFAD: iCanADAPT <ul style="list-style-type: none">• For mild to moderate A & D• Frees psychosocial staff to focus on severe cases
Patients	<ul style="list-style-type: none">• Stigma• Lack of knowledge• Reluctance to burden staff	Patient written and online resources: <ul style="list-style-type: none">• Explain anxiety and depression• Normalise• Note part of routine care• Provide a lay version of the pathway

ADAPT piloted

- Piloted at 1 major oncology service
- System “go live” for 3 months
- Post implementation - qualitative interviews with 15 key staff

- Eight themes:
 - Evidence (staff perceptions of ADAPT, and of local need)
 - Context (culture, external influences)
 - Facilitation (intervention fit, ongoing training, engagement)
- **Implementation process revised**

What does it mean?

- Digital solutions are not always simple, helpful, and harmless
- Engagement is critical
- Processes need to be flexible and address needs of end users
- The context and environment are not static
- Requires ongoing process of reflection & evaluation



Thank you

HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)

