

International Collaboration Enhances Development and Dissemination of Innovative Digital Guidelines

Linking of Guidelines with Educational Tools and Other Resources

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3-6
**MELBOURNE
AUSTRALIA**

**JOINING
FORCES –
ACCELERATING
PROGRESS**



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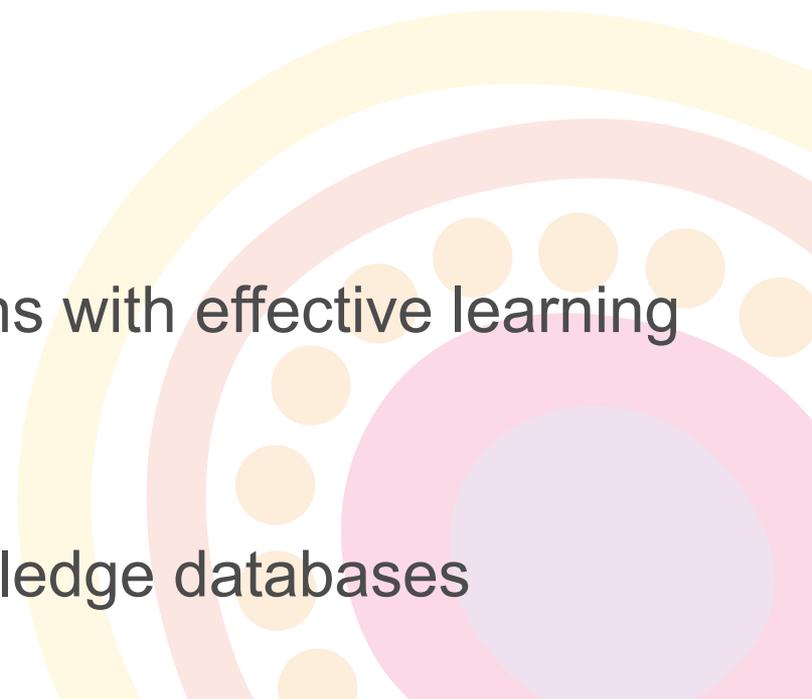
Purpose of Wiki Guidelines Project

Maximise the uptake of guidelines

Maximise their impact on practice

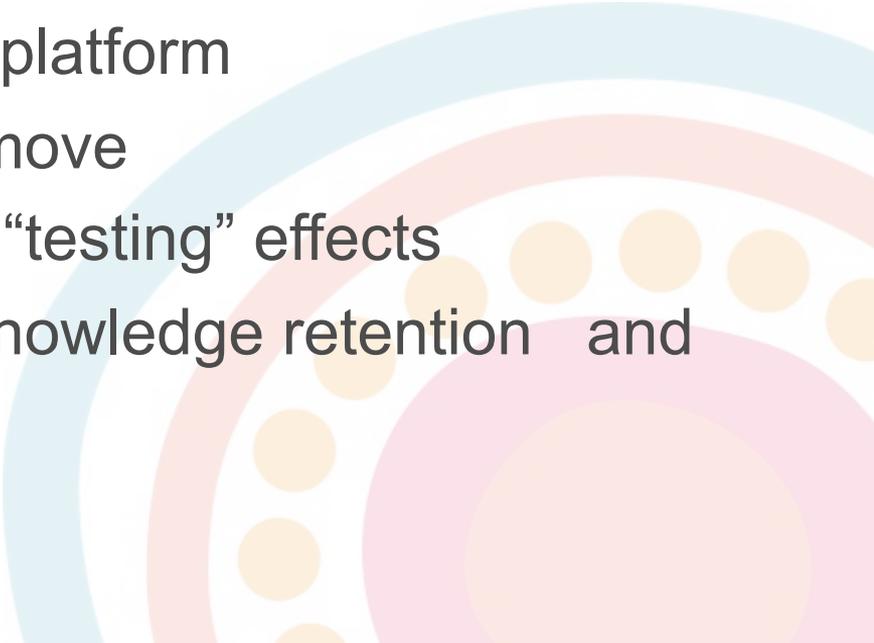
Link the guidelines recommendations with effective learning tools such as Qstream

Link the guidelines with other knowledge databases

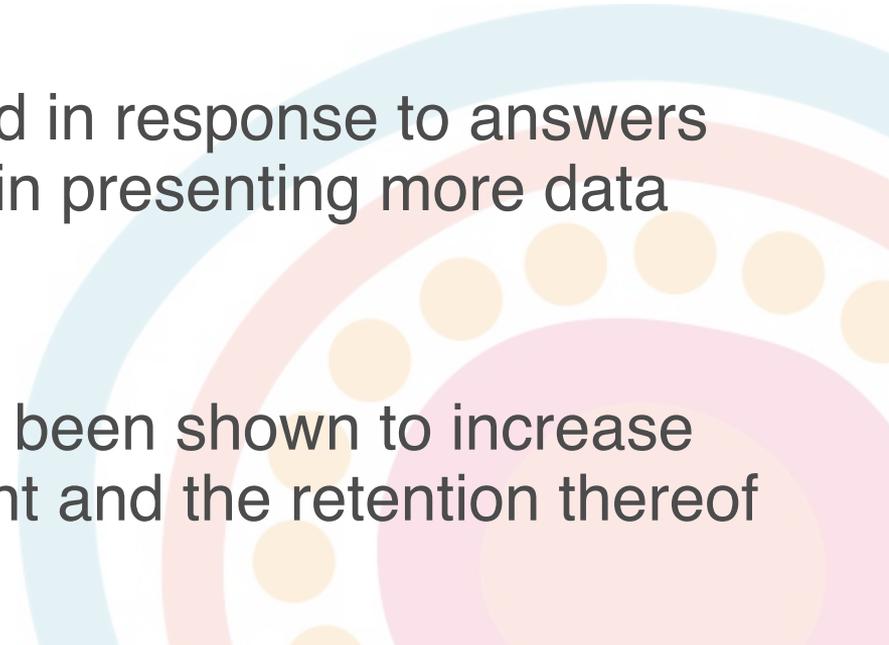


What is qstream?

Online tool originally developed at Harvard Medical school by Price Kerfoot

- Uses a simple, mobile delivery platform
 - Designed for clinicians on the move
 - Incorporates the “spacing” and “testing” effects
 - Proven to increase long-term knowledge retention and behaviour in RCTs
- 

Qstream

- Clinical scenarios are presented in a short answer test question format
 - Further information is provided in response to answers and wrong answers resulting in presenting more data iteratively over several weeks
 - In a randomised trial, this has been shown to increase knowledge of guideline content and the retention thereof
- 

Weight loss



A 64 year old man presents to you with a diagnosis of adenocarcinoma of the lung. His disease has spread to the liver and bones. He has some discomfort in his ribs and is tender when palpating a slightly enlarged liver edge, which extends 3 cm below the right costal margin. He has been unwell for about 6 months. His weight has dropped from 84 to 79 kgs in that time, and he complains of increasing fatigue and currently spends most of the day resting on the couch. Although a heavy smoker, his only previous illness is hypertension controlled with ACE inhibitors.

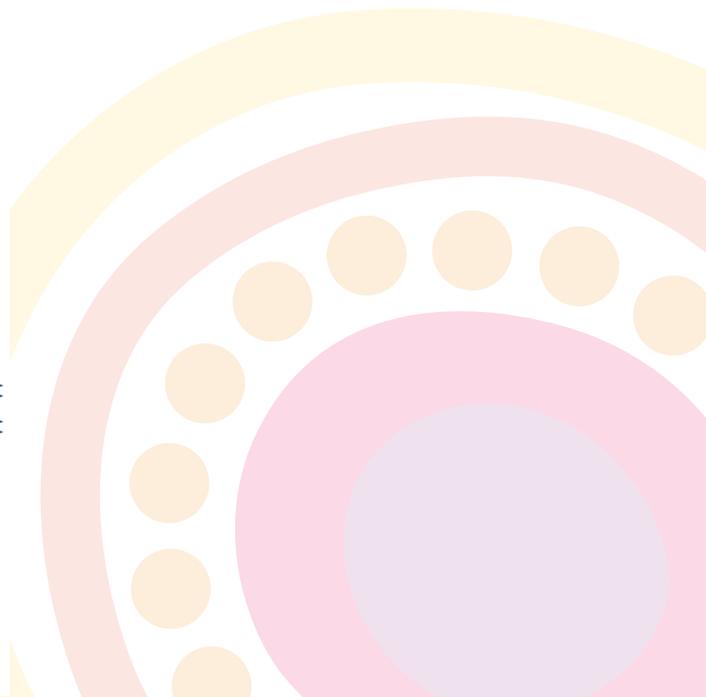
The main factor on which you based your decision **NOT** to offer chemotherapy was:

- A. The extent of his cancer
- B. He has a concomitant illness which may compromise his treatment
- C. His performance status
- D. His symptoms from the cancer

Answer: C

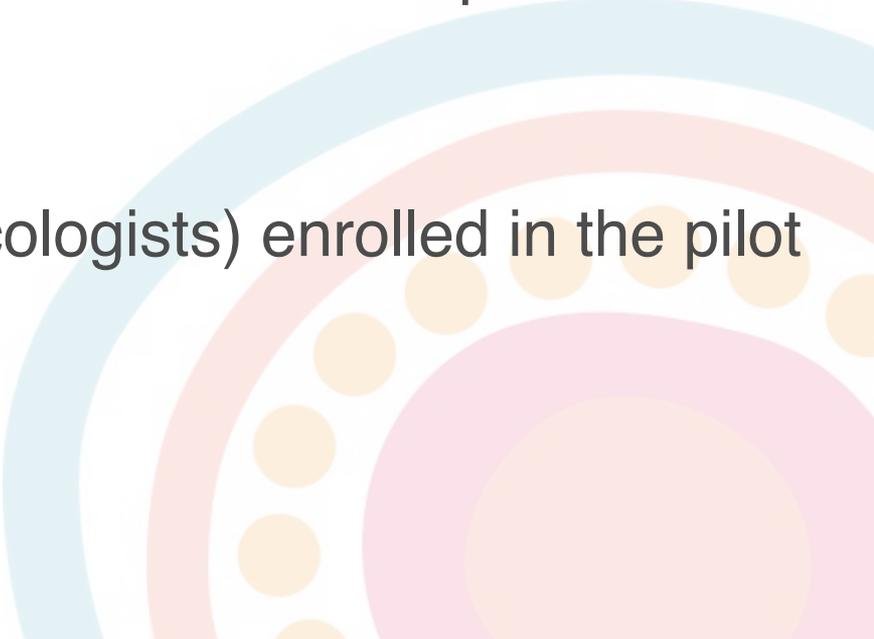
The patient has an ECOG 3 performance status (spends greater than 50% waking hours in bed). Most of the trials in metastatic lung cancer have focussed on ECOG 0 or 1 (no symptoms or symptoms that do not interfere with activities of daily living). Metastatic disease to the bones and liver do not preclude chemotherapy (unless the liver function is very poor). If bone pain were the worst symptom, local radiotherapy may provide the most useful palliation. His weight loss being less than 10% is not considered a poor prognostic factor and his hypertension is not a concomitant illness that would preclude chemotherapy.

Link: [What is the optimal first-line chemotherapy regimen in patients with stage IV inoperable NSCLC?](#)

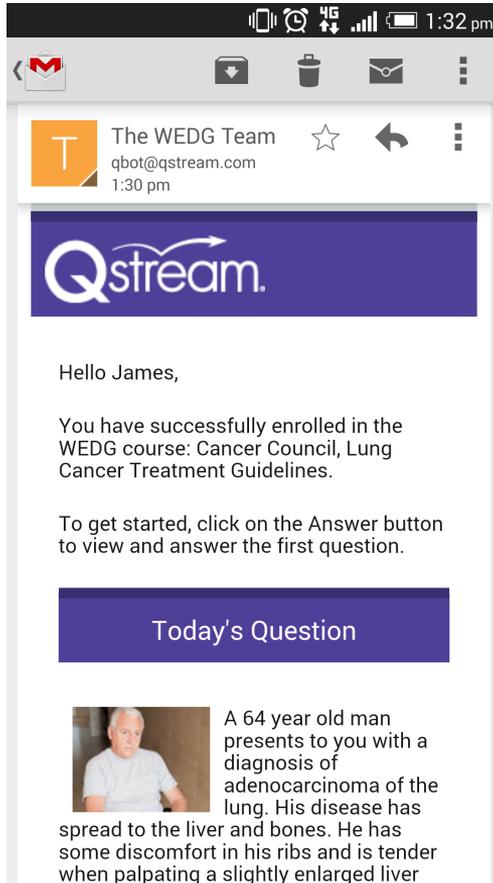


Pilot Study

Qstream questions for stage 4 lung cancer guidelines

- A total of eight multiple-choice case-based questions were created for the course
 - 16 participants (training oncologists) enrolled in the pilot
- 

Qstream course delivery



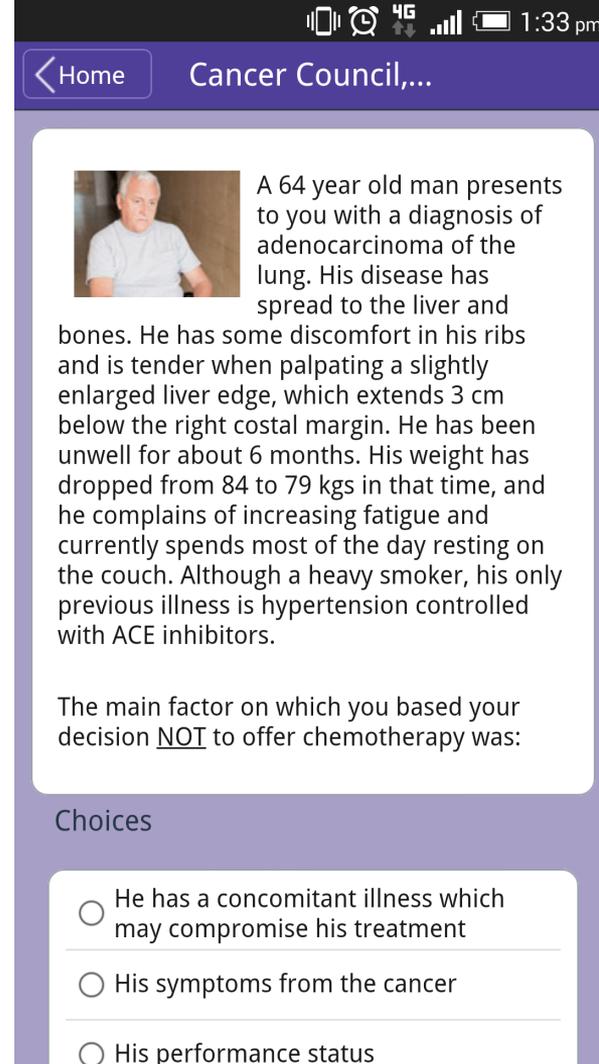
The screenshot shows an email interface on a mobile device. At the top, the status bar shows the time as 1:32 pm. The email header identifies the sender as 'The WEDG Team' with the email address 'qbot@qstream.com' and a timestamp of '1:30 pm'. Below the header is a purple banner with the 'Qstream.' logo. The main body of the email contains the following text:

Hello James,

You have successfully enrolled in the WEDG course: Cancer Council, Lung Cancer Treatment Guidelines.

To get started, click on the Answer button to view and answer the first question.

Below the text is a purple button labeled 'Today's Question'. Underneath the button is a small image of a man and a text block that reads: 'A 64 year old man presents to you with a diagnosis of adenocarcinoma of the lung. His disease has spread to the liver and bones. He has some discomfort in his ribs and is tender when palpating a slightly enlarged liver'.



The screenshot shows a mobile app interface with a purple header bar. The header contains a back arrow and the text 'Home' and 'Cancer Council,...'. The main content area is white and contains a question card. The card features a small image of a man on the left and a text block on the right that reads: 'A 64 year old man presents to you with a diagnosis of adenocarcinoma of the lung. His disease has spread to the liver and bones. He has some discomfort in his ribs and is tender when palpating a slightly enlarged liver edge, which extends 3 cm below the right costal margin. He has been unwell for about 6 months. His weight has dropped from 84 to 79 kgs in that time, and he complains of increasing fatigue and currently spends most of the day resting on the couch. Although a heavy smoker, his only previous illness is hypertension controlled with ACE inhibitors.'

Below the text block is another text block that reads: 'The main factor on which you based your decision NOT to offer chemotherapy was:'

At the bottom of the card is a section titled 'Choices' with three radio button options:

- He has a concomitant illness which may compromise his treatment
- His symptoms from the cancer
- His performance status

Spacing Algorithm

- 2 questions every second day
 - Incorrectly answered questions were repeated in 6 days time
 - Correctly answered questions were repeated in 10 days time
 - To retire each question, participants needed to get the question correct twice in a row
- 

“Testing Effect”: Immediate Feedback

months. His weight has dropped from 84 to 79 kgs in that time, and he complains of increasing fatigue and currently spends most of the day resting on the couch. Although a heavy smoker, his only previous illness is hypertension controlled with ACE inhibitors.

The main factor on which you based your decision NOT to offer chemotherapy was:

Choices

You	Key	Choices	%
	✘	He has a concomitant illness which may compromise his treatment	5%
▶	✘	His symptoms from the cancer	11%
	✔	His performance status	77%
	✘	The extent of his cancer	5%
		Total (N = 18)	100%

Sorry, Your answer is incorrect!

This question will be resent on 09/09/14

Explanation

The patient has an ECOG 3 performance status (spends greater than 50% waking hours in bed). Most of the trials in metastatic lung cancer have focussed on ECOG 0 or 1 (no symptoms or symptoms that do not interfere with activities of daily living). Metastatic disease to the bones and liver do not preclude chemotherapy (unless the liver function is very poor). If bone pain were the worst symptom, local radiotherapy may provide the most useful palliation. His weight loss being less than 10% is not considered a poor prognostic factor and his hypertension is not a concomitant illness that would preclude chemotherapy.

View the related clinical practice guidelines, including evidence:

[What is the optimal first-line chemotherapy regimen in patients with stage IV inoperable NSCLC?](#)

Continue

Next Question

(last question for today)

Gaming Component

- Participants were given an alias so they could see how they were doing compared with other participants, but didn't know the identity of the other participants
- A competition table was set up where participants received points on correct answers and attempts.

Progress

Leaderboard

Overall

Top 10 | [Closest Competitors](#)

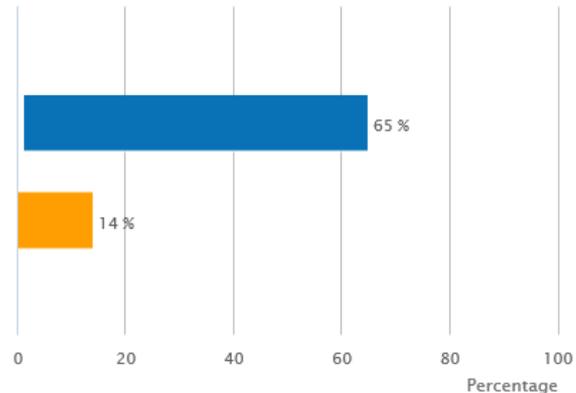
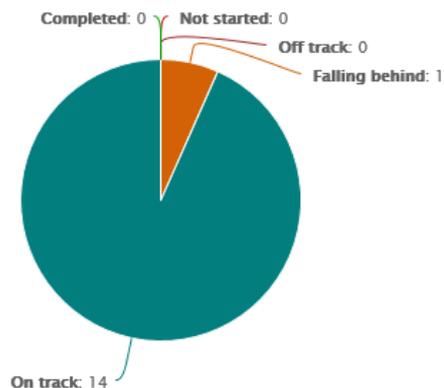
Last 30 days

Rank	Name	Points
1	Secret Agent 234542	500
2	The Cure	335
T3	Secret Agent 243177	100
T3	Powderfinger	100
T3	Rolling Stones	100
6	Talking Heads	95
Your ranking		
7	Crowded House	0

How are points awarded?

Questions attempted: 1 out of 8 Questions retired: 0 out of 8

12% 0%



■ Not started
 ■ Off track
 ■ Falling behind
 ■ On track
 ■ Completed

■ Average Baseline Performance
 ■ Average Mastery of Material

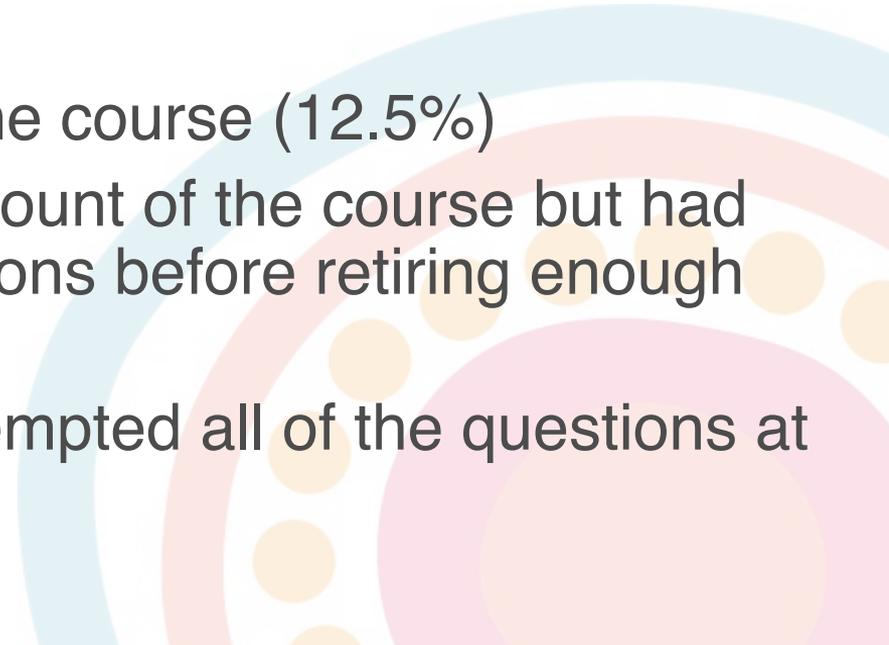
Details

[Export to CSV](#)

Learner	Status	Performance	Points	Most Recent Response	Details
Ari Hashara	On track	Baseline Performance <div style="background-color: orange; width: 100%; text-align: right; padding: 2px;">100%</div> Mastery of Material <div style="background-color: gray; width: 0%; text-align: right; padding: 2px;">0%</div>	100	Today	Enrolled: 06/19/2014 Email: hasharaari@yahoo.com Additional info: Powderfinger
Vladimir Andelkovic	On track	Baseline Performance <div style="background-color: orange; width: 75%; text-align: right; padding: 2px;">75%</div> Mastery of Material <div style="background-color: orange; width: 75%; text-align: right; padding: 2px;">75%</div>	900	Today	Enrolled: 06/15/2014 Email: andjelkovicvladimir@yahoo.co.uk Additional info: Iggypop

Course completion rates

Of all 16 participants:

- 10 had completed the course by the end of the evaluation (62.5%)
 - 2 were still working through the course (12.5%)
 - 4 had answered a varying amount of the course but had stopped answering the questions before retiring enough questions to complete (25%)
 - All of the participants had attempted all of the questions at least once
- 

Question Performance

Question	Correct on first response	Total Responses	Total Correct
Weight Loss	87%	34	32
Fit Smoker	56%	40	26
Former Smoker	50%	38	29
First-Line	68%	39	31
Stage IV	68%	36	25
Third-line	37%	40	23
Poor Performance Status	62%	34	21
Subgroups	86%	31	27

The most difficult question "Third-line" was often given the incorrect response of "Single agent docetaxel".

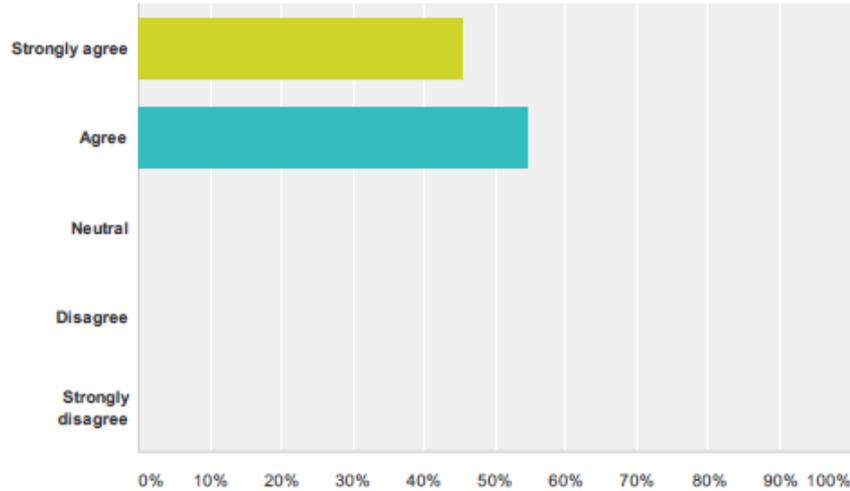
"Former smoker" responses were split 50:50 between 6 cycles and 4 cycles of chemotherapy.

Evaluation

11 of 16 responded

Q8 The Qstream course was effective as a method to learn or reinforce key aspects of lung cancer treatment

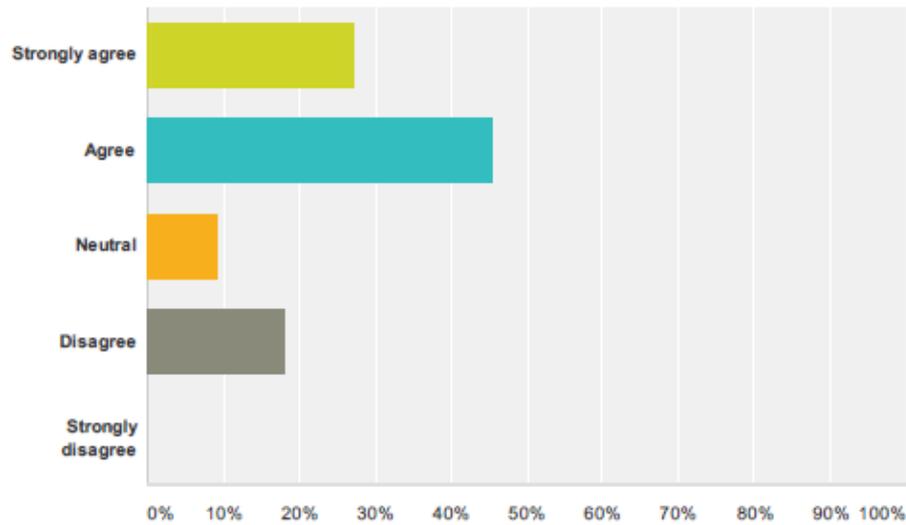
Answered: 11 Skipped: 0



Answer Choices	Responses	Count
Strongly agree	45.45%	5
Agree	54.55%	6
Neutral	0.00%	0
Disagree	0.00%	0
Strongly disagree	0.00%	0
Total		11

Q5 Having the participant leader board motivated me in the Qstream course

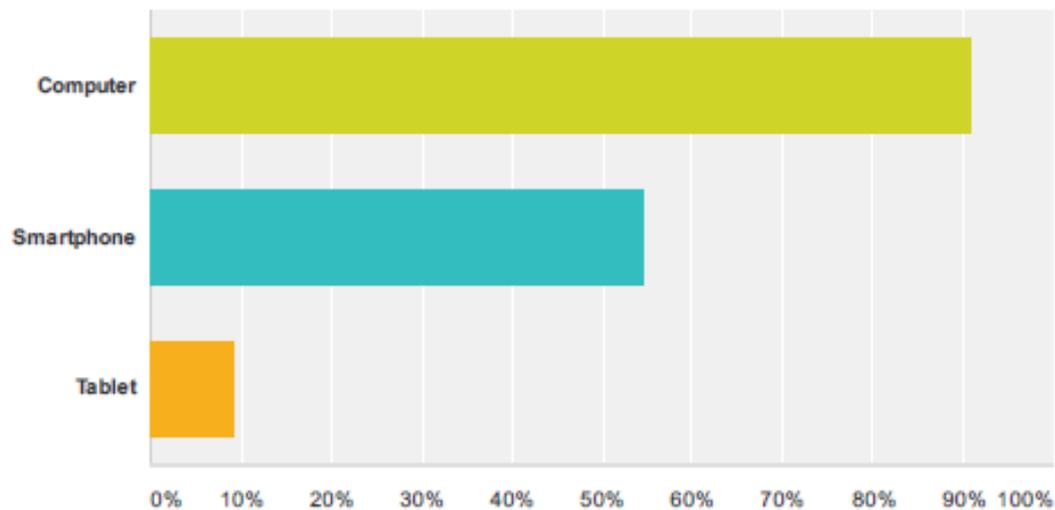
Answered: 11 Skipped: 0



Answer Choices	Responses
Strongly agree	27.27% 3
Agree	45.45% 5
Neutral	9.09% 1
Disagree	18.18% 2
Strongly disagree	0.00% 0
Total	11

Q6 Which ways did you access the Qstream course

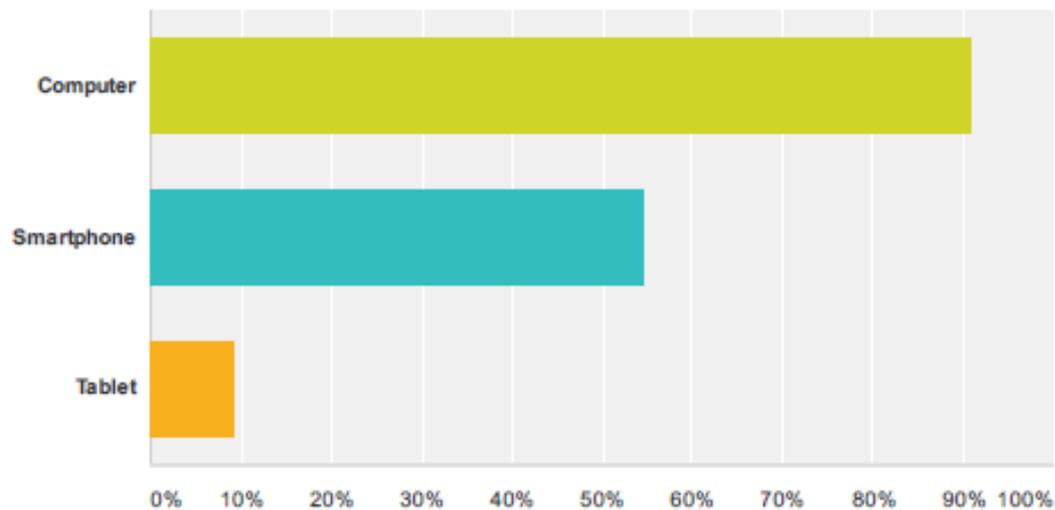
Answered: 11 Skipped: 0



Answer Choices	Responses
Computer	90.91% 10
Smartphone	54.55% 6
Tablet	9.09% 1
Total Respondents: 11	

Q6 Which ways did you access the Qstream course

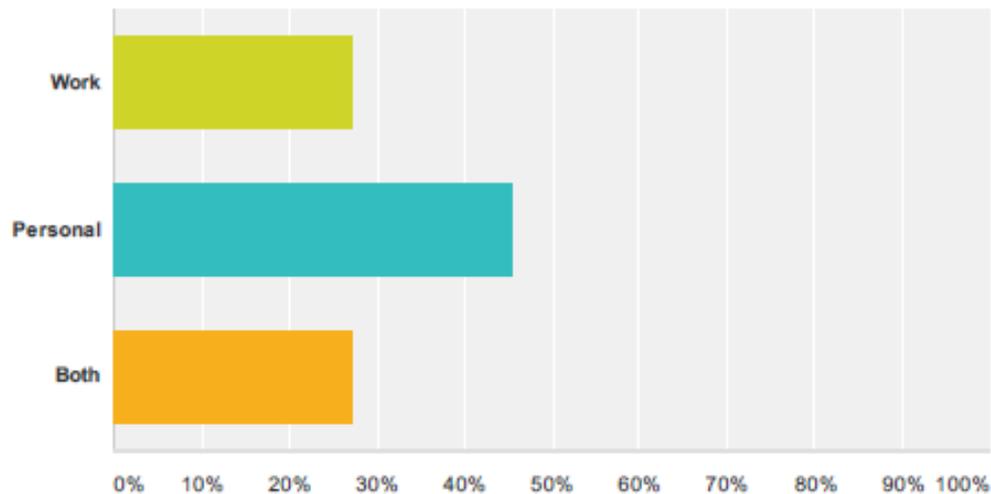
Answered: 11 Skipped: 0



Answer Choices	Responses
Computer	90.91% 10
Smartphone	54.55% 6
Tablet	9.09% 1
Total Respondents: 11	

Q7 Did you complete the Qstream course at work or or personal equipment?

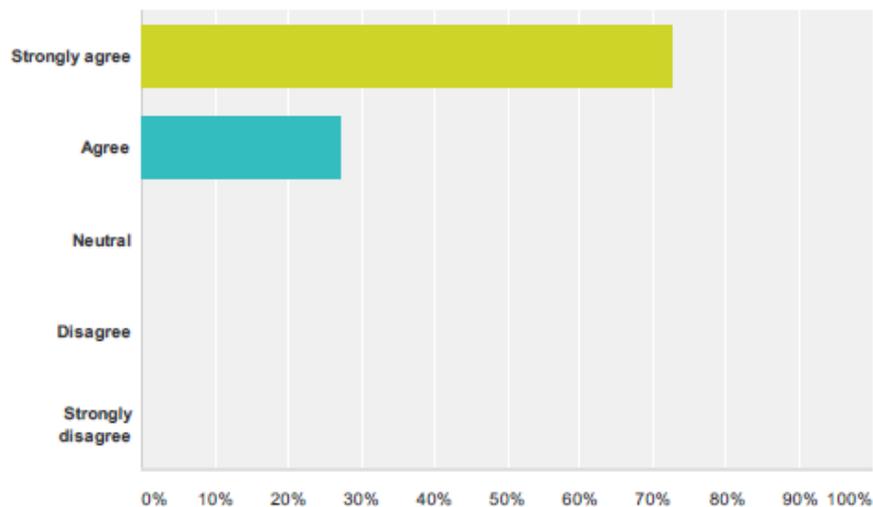
Answered: 11 Skipped: 0



Answer Choices	Responses
Work	27.27% 3
Personal	45.45% 5
Both	27.27% 3
Total	11

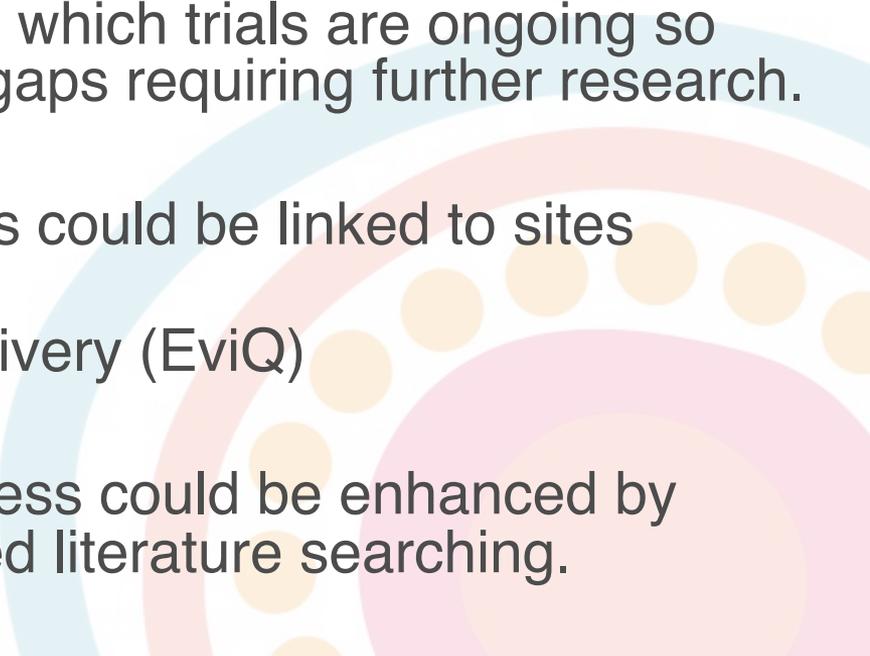
Q10 I would be happy to undertake other health related programs if offered in the Qstream course format

Answered: 11 Skipped: 0



Answer Choices	Responses
Strongly agree	72.73% 8
Agree	27.27% 3
Neutral	0.00% 0
Disagree	0.00% 0
Strongly disagree	0.00% 0
Total	11

E- Guidelines

- Guidelines in an electronic format could also be linked to other useful online resources
 - clinical trials registries to give investigators access to access current evidence-based practice, the papers still to be appraised and which trials are ongoing so that they could identify gaps requiring further research.
 - General therapy recommendations could be linked to sites providing specific information
 - for example on drug delivery (EviQ)
 - Also, the literature searching process could be enhanced by improving algorithms for automated literature searching.
- 

Drug	Dose	Route
Crizotinib	250 mg TWICE a day	PO

Cycles: Continuous until disease progression or unacceptable toxicity. Therapy may be continued after initial disease progression in cases wherein there is limited progression and ongoing evidence of clinical benefit.

 [Full View](#)

 [Prescribing](#)

 [Administering](#)

 [Monitoring](#)

 [Evidence](#)

 [Patient](#)

Full View

Indications and Patient Population

Indications:

- treatment of locally advanced or metastatic anaplastic lymphoma kinase (ALK)-positive non-small cell lung cancer after failure of prior platinum-based chemotherapy
- initial treatment of patients with locally advanced or metastatic ALK- positive non-small cell lung cancer

Exclusions:

- patients with known congenital Long-QT syndrome

Drug Status:

Crizotinib is TGA registered but not PBS listed.

Crizotinib (Xalkori®) is available in **200 mg** and **250 mg** capsules

Cost: ~ \$7500 per month

Link:

Trial from ANZCTR

Trial Id	ACTRN12614000486628	Registration Title	View 
Recruitment Status	Not yet recruiting	A Phase I/II Trial of the combination of BRAF and EGFR inhibition in BRAF V600E mutant colorectal, advanced or metastatic lung adenocarcinoma and other cancers.	
Date Registered	09/05/2014		
Start Date	15/05/2014		
Date of Last Update	12/05/2014		
Ethics Approval	Yes		
Prospectively registered		Select for download <input type="checkbox"/>	

Acknowledgements

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Guidelines Network

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