

12-MONTH FOLLOW-UP EFFECTS OF OVERDETECTION INFORMATION IN A BREAST SCREENING DECISION AID TRIAL

Jolyn Hersch,

Alexandra Barratt, Jesse Jansen, Gemma Jacklyn, Kevin McGeechan, Les Irwig, Hazel Thornton, Haryana Dhillon, Nehmat Houssami, Kirsten McCaffery

SYDNEY MEDICAL SCHOOL

Sydney School of Public Health



THE UNIVERSITY OF
SYDNEY

 @jolynhersch



- › Screening → early diagnosis + treatment
→ reduce breast cancer deaths

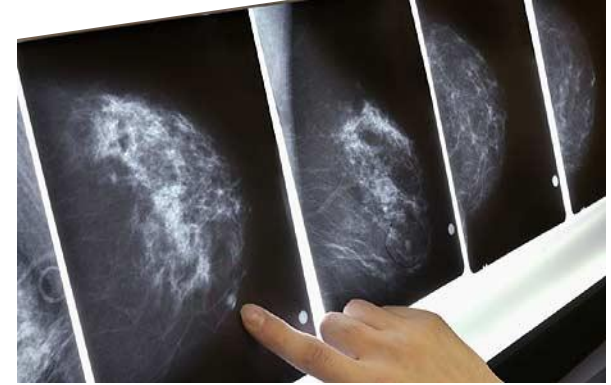


Image from guardian.co.uk

- › **Overdiagnosis / overdetection**
 - Finding disease that would not present clinically in lifetime
 - Leads to **overtreatment**
- › What is the risk of overdetection through regular screening?
 - Estimates vary
 - 30% of breast cancers diagnosed in regularly screened women, during the active screening period (Jacklyn et al. 2016)


RATIONALE FOR STUDY

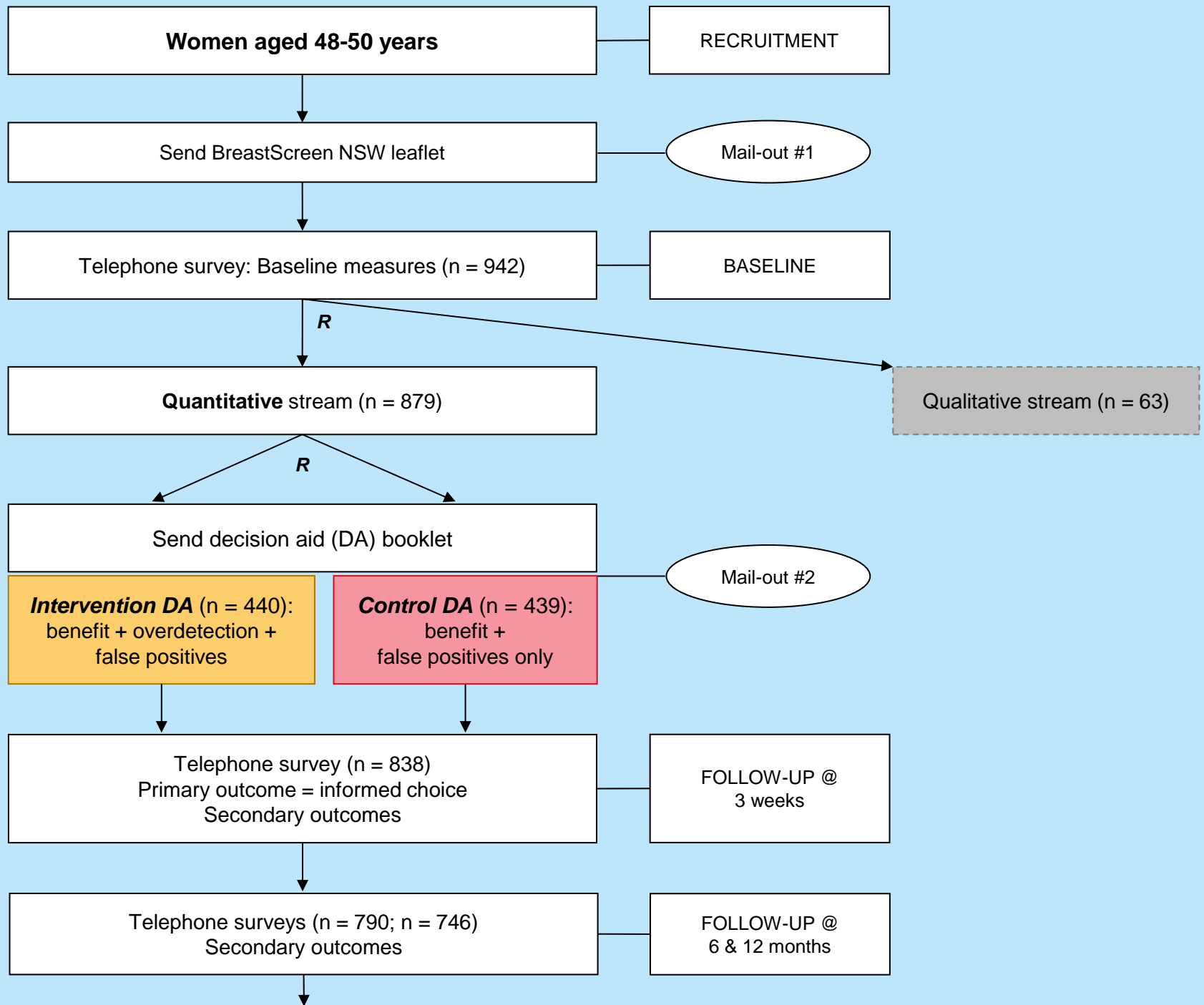
- › Breast screening can lead to over detection / over diagnosis and overtreatment of inconsequential breast cancers
 - Harm to physical and emotional health in short and long term



- › “Information should be made available in a transparent and objective way to women invited to screening so that they can make informed decisions” - *Independent UK Panel*
- › Need to investigate the effects of giving women information about over detection

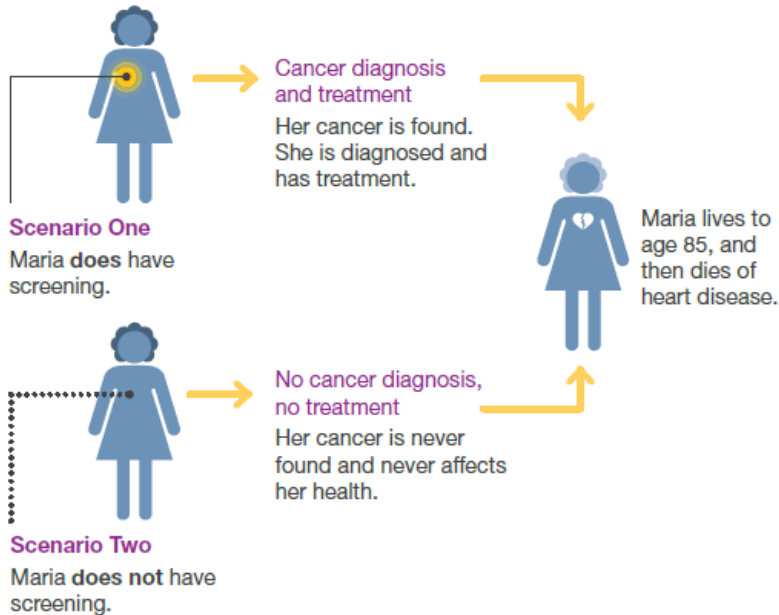
STUDY QUESTION & OUTCOMES

- 
- › What are the consequences of providing **written info about overdetection of breast cancer** to women approaching the age of invitation to screening?
 - Primary outcome: informed choice about screening
 - Other outcomes: knowledge, attitudes, intentions, psychosocial wellbeing (anxiety, worry), risk perceptions, screening participation



Over-detection: an example

Imagine a woman called Maria who develops a small, slow-growing breast cancer in her 50s or 60s. The picture below shows two possible scenarios that could happen to Maria: Scenario 1 (top) is with screening, and Scenario 2 (bottom) is without screening.



Maria's life span is the same, whether or not she has screening. So if she has screening, she experiences over-detection (a diagnosis and treatment she does not need).

Putting it together ★

For women in Australia who have breast screening over 20 years:

4 out of 1000 women avoid dying from breast cancer, and 19 out of 1000 women experience over-detection.

So that means **more women experience over-detection than avoid dying from breast cancer.**

2. Screening leads to finding some breast cancers that are not harmful (over-detection)[★]

The cancers found by screening are treated to try and prevent problems later. But some cancers found by screening would never cause problems anyway. Cancers like this may grow very slowly or just stay the same. Without screening, they would never be noticed or cause any trouble. **Finding these cancers through screening is called over-detection (or over-diagnosis).**

Even after further checks and examination, doctors cannot be sure which cancers will be harmless. Therefore, treatment is recommended. So, across all the women who have screening, some end up having treatment they do not need.

Breast cancer treatments include **surgery**, **radiotherapy**, **hormone therapy**, and **chemotherapy**. There are important side effects to these treatments which are described on page 8.

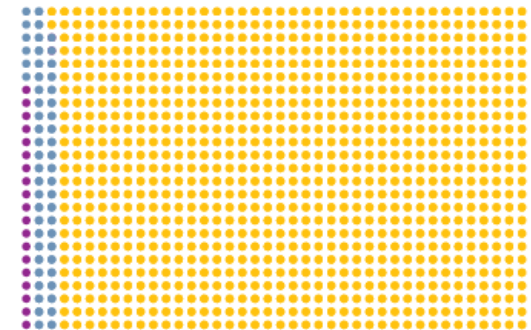
Over-detection over 20 years of screening

Out of 1000 women who have breast screening for 20 years,

73 women are diagnosed with breast cancer.

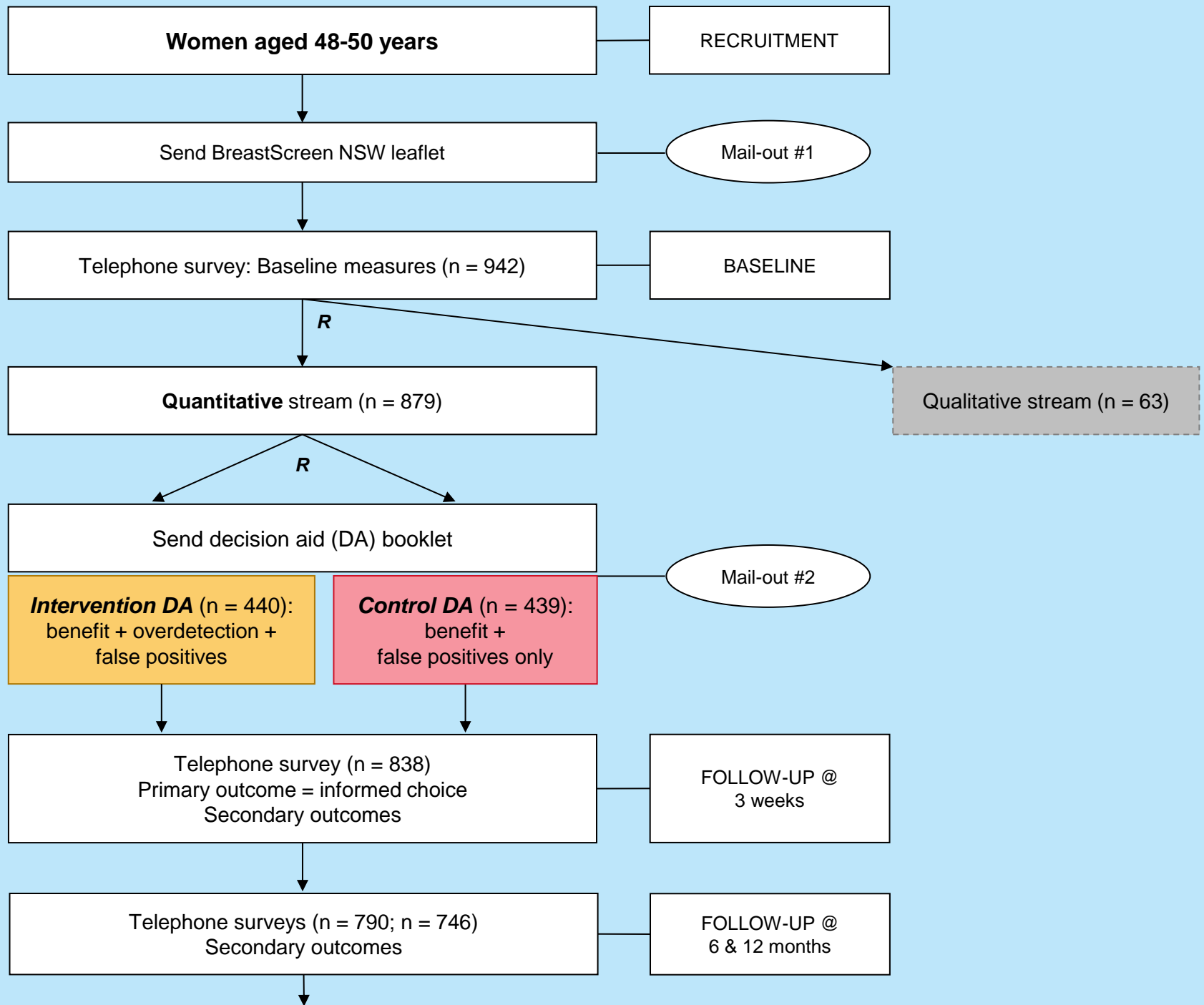
Of these,

- 19 women experience over-detection: they are diagnosed and treated for a cancer that would not have caused any trouble and
- 54 women are diagnosed with breast cancer that is not over-detection.



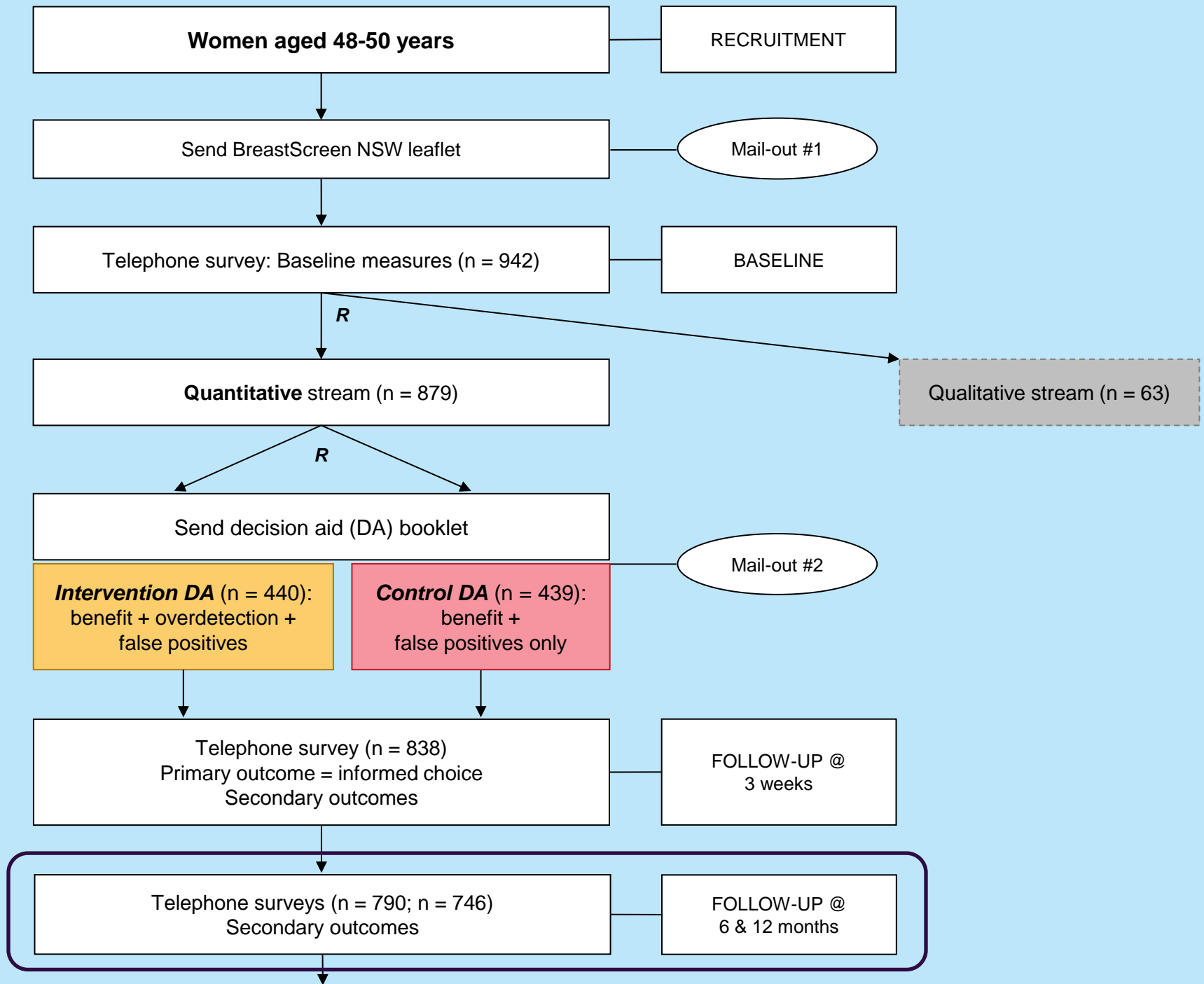
- extra woman diagnosed with breast cancer due to over-detection
- woman diagnosed with breast cancer that is not over-detection
- woman not diagnosed with breast cancer

As this information is new, there is an example of over-detection on the next page.



SUMMARY OF INITIAL FINDINGS

- Compared with the control DA, the **intervention** resulted in
- › improved **knowledge** about breast screening
 - › less positive **attitudes** towards having breast screening
 - › reduced **intentions** to have breast screening in next 2-3 years
 - › more women making an **informed choice**
 - › lower **worry** about breast cancer
 - › no differences in **anxiety** or **perceived risk** of breast cancer.



KNOWLEDGE & ATTITUDES, 12m

Outcome	Intervention Group	Control Group	P value
Adequate conceptual knowledge	40%	20%	<.01
Positive attitudes towards screening	77%	85%	<.01

ANXIETY & PERCEIVED RISK, 6m

Outcome	Intervention Group	Control Group	P value
Anxiety (<i>STAI-short</i>)	32.5	32.7	.8
Perceived risk (<i>absolute</i>)			.1
No chance	04%	04%	
Low chance	64%	57%	
Medium / high chance	32%	39%	
Perceived risk (<i>relative</i>)			.4
Much / a bit lower	32%	29%	
About the same	61%	62%	
A bit / much higher	07%	10%	

ANXIETY & PERCEIVED RISK, 12m

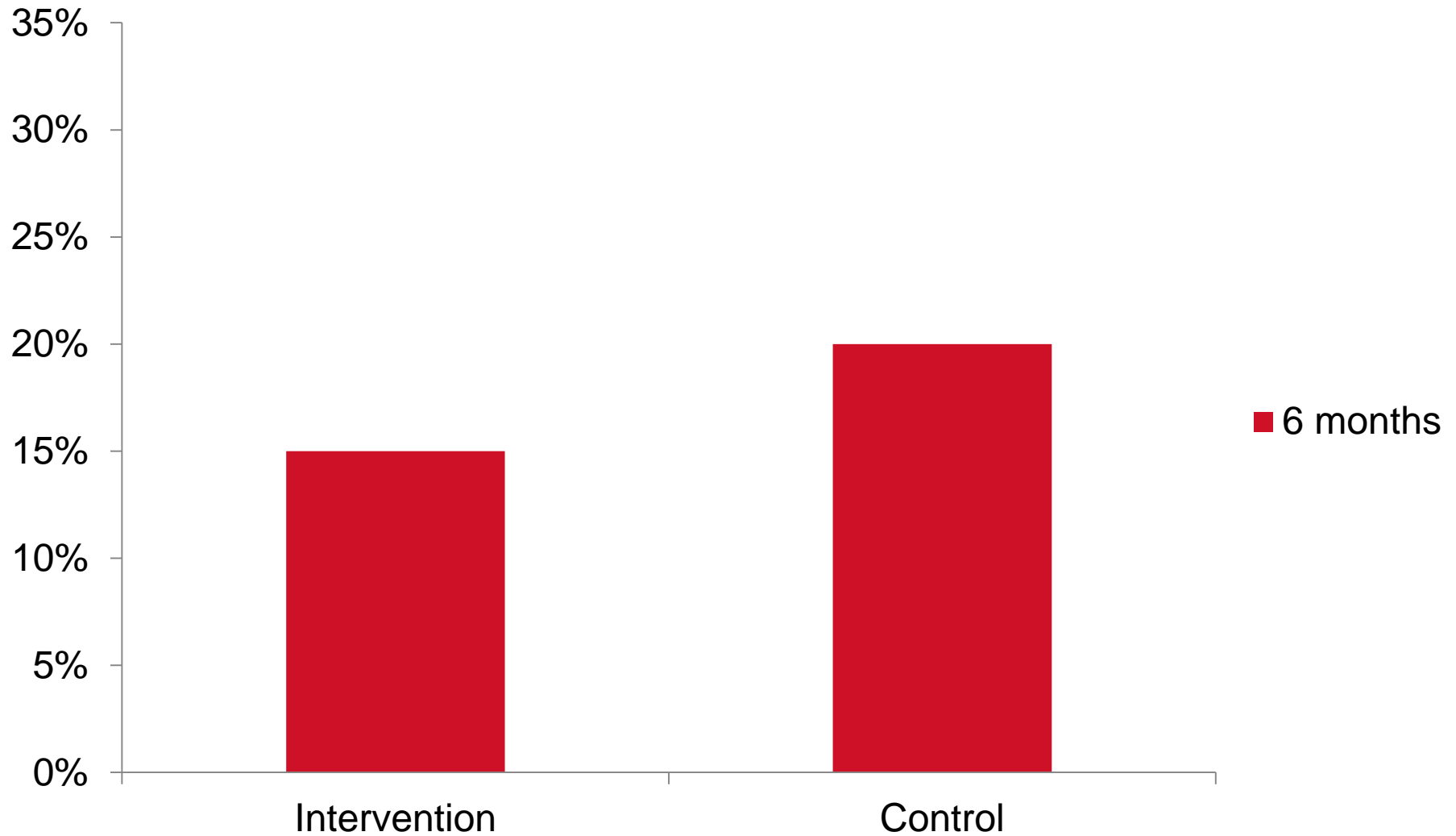
Outcome	Intervention Group	Control Group	P value
Anxiety (<i>STAI-short</i>)	31.7	32.2	.6
Perceived risk (<i>absolute</i>)			.5
No chance	03%	04%	
Low chance	63%	59%	
Medium / high chance	35%	38%	
Perceived risk (<i>relative</i>)			.1
Much / a bit lower	38%	31%	
About the same	53%	60%	
A bit / much higher	10%	09%	

BREAST CANCER WORRY, 6 & 12m

Outcome	Intervention Group	Control Group	P value
6m – Breast cancer worry			.05
Not worried at all	45%	38%	
A bit worried	51%	55%	
Quite worried	04%	06%	
Very worried	01%	02%	
12m – Breast cancer worry			.07
Not worried at all	47%	39%	
A bit worried	49%	55%	
Quite worried	04%	05%	
Very worried	01%	02%	

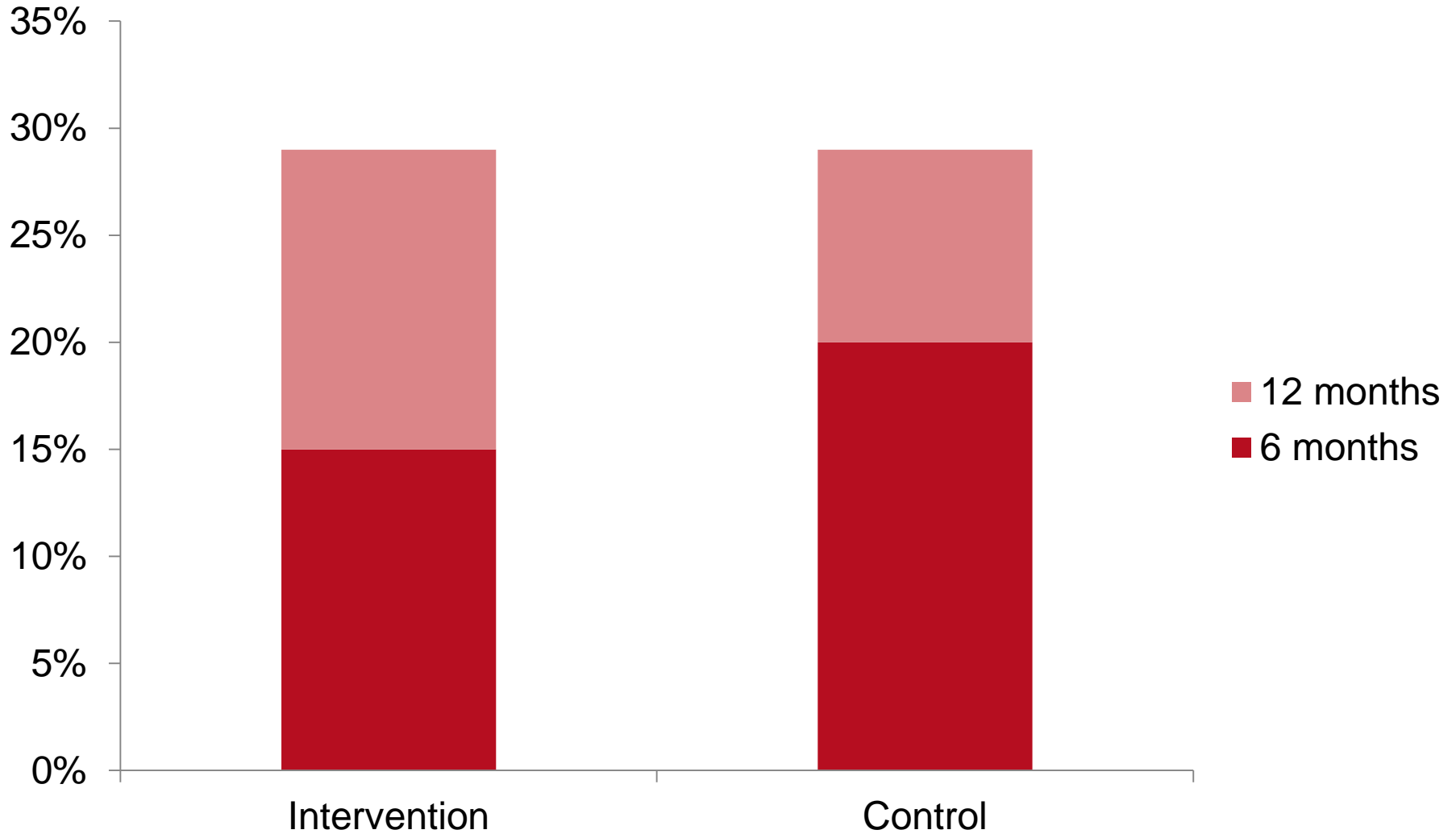


MAMMOGRAPHY, 6m





MAMMOGRAPHY, 12m



SUMMARY & NEXT STEPS

- › Including information about overdetection in a decision aid
 - › improved conceptual knowledge and shifted attitudes
 - › did not raise anxiety; lowered breast cancer worry
 - These effects persisted 12 months post-intervention
- › Although screening intentions differed between study groups, self-reported screening uptake did not differ after 12 months
- › Final, 2-year follow-up round just completed, including both self-reported and objectively recorded screening participation

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jolyn.hersch@sydney.edu.au

 [@jolynhersch](https://twitter.com/jolynhersch)