Evaluating the Effectiveness of FASD Prevention in a Remote Indigenous Community in Australia: Alcohol Consumption during Pregnancy

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MARULU FASD STRATEGY
MAKING FASD HISTORY

THE UNIVERSITY OF WESTERN AUSTRALIA
SEEK WISDOM

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Learning Objectives

- To describe the evaluation of a community-led FASD prevention program by examining alcohol consumption during pregnancy
- To describe the difficulty of combining data from different sources
- To describe the implementation of a brief screening tool for alcohol consumption (AUDIT-C) as an automated alert in a computer based record keeping system
- **To let everyone know some good news!**

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Town

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Background

- The Fitzroy Valley is a remote region in the North of Western Australia
- ~4500 predominantly Aboriginal people living in over 40 communities
- Lililwan active FASD prevalence study (2010) found approximately 1 in 5 children born with FASD
- Marulu FASD Strategy was implemented

Adapted from Canadian FASD Prevention Researcher Nancy Poole's Four Part Model

Prevention Activities

- Alcohol restrictions since 2007
- Community-based action and community champions
- Midwives very active and well trained
- Education
- Nindilingarri Cultural Health (Maternity Prevention Officer, Sexual Health Officer, Alcohol Prevention Officer)
- Marninwarntikura Women's Centre

Aim

- The Telethon Kids Institute was approached by local community leaders to evaluate the Marulu FASD Prevention Strategy

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Methods

- Self-reported alcohol consumption during pregnancy
- Recorded by midwives in the Fitzroy Valley since the 4th quarter of 2008
- Data was collected by two experienced midwives as part of their usual practice

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Paper-based Pregnancy Outcomes N=386

Name	Mother DOB	Baby DOB	Birth Weight	Gestation	Mother Ethnicity	Father Ethnicity	Alcohol 1st Trimester	Alcohol 3rd Trimester	Smoking 1st Trimester	Smoking 3rd Trimester	Illicit Drugs 1st Trimester	Illicit Drugs 3rd Trimester	1st Antenatal Presentation	Number of midwife visits
			3835	40	Cauc	Cauc	–	–	–	–	–	–	15	6
			2445	38	Ab	Ab	✓	–	✓	✓	–	–	18	2
			3620	40	Ab	Ab	–	–	✓	✓	–	–	35	2
			3360	39	Ab	Ab	✓	–	✓	✓	–	–	20	4
			3420	40	Ab	Ab	–	–	–	–	–	–	–	–

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Communicare Pregnancy Outcomes N=630

Alcohol consumption during pregnancy (circle one)

x High risk alcohol consumption:

x Low risk alcohol consumption

x No alcohol consumption

a) High 1 - a person who consumes more than 7 standard drinks per week

b) High 2 - a person who consumes more than 2 standard drinks per day.

c) Low - a person who over a week, has less than 7 standard drinks, AND on any one day, no more than 2 standard drinks (spread over at least two hours)

d) No alcohol consumption - a person who does not drink at all during the pregnancy

At any time since you confirmed your pregnancy have you consumed alcohol? If yes how frequently?

(Note: if antenatal check is during third trimester ask 'During the third trimester of your pregnancy what has your alcohol consumption been?')

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Antenatal Visits (n=1933 for 374 pregnancies)

Surname:	MRN:	**KIMBERLEY ANTENATAL RECORD**
Given names:		
Medicare no:	DOB:	**RISK FACTORS / REFERRALS / DELIVERY PLAN**
Address:	Phone:	

PREGNANCY SUMMARY	
Gravida	Parity
BMI: Booking	32/40
EDD: / /	by
Blood group:	GBS 36/40

ANTENATAL VISITS

Date	Wks	Fundal Height	Wt	BP	Urine	Oedema	Presentation	Position	FHR	FM	Next visit	Sign Dr/MW

Smoking O Alcohol O Mood O Diet & Exercise O Social Assessment O

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AUDIT-C and Maternal Risk Advice before knowledge of pregnancy n=68, during pregnancy n=101

- Alcohol Use Disorders Identification Test
- Validated measure
- Implemented as an automated alert in Communicare
- Asked for periods before knowledge of pregnancy and during pregnancy

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Assessing alcohol use during pregnancy

AUDIT-C for women: Instructions: *Ask* your client the following questions about their alcohol use to *Assess* their level of risk Add the scores for each question to get a total score. Match the total score to the level of risk.					**Score**
1. Since becoming pregnant/ last appointment: how often have you had a drink containing alcohol?					
SCORE: **0**	**1**	**2**	**3**	**4**	
Never	Monthly or less	2-4 times a month	2-3 times a week	4 + times a week	
2. How many standard drinks containing alcohol do you have in a day when you are drinking?					
SCORE: **0**	**1**	**2**	**3**	**4**	
1 or 2	3 or 4	5 or 6	7-9	10 +	
3. How often do you have five or more standard drinks in one sitting?					
SCORE: **0**	**1**	**2**	**3**	**4**	
Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
				Total score	

Interpretation of AUDIT-C score: maternal risk

Low risk of harm to women[$] (total score: 0-3)	**Medium risk of harm to women** (total score: 4-7)	**High risk of harm to women** (total score: 8+)
(a.) Discuss **AUDIT-C score** and provide feedback for **low risk drinking** for women. *(b.)* ***Assist*** by providing alcohol harm prevention and reduction resources such as: *Here's to your health; Alcohol and pregnancy wallet card* (c.) Offer to ***Arrange*** a follow-up session (if needed).	(a.) Discuss **AUDIT-C score** and provide feedback for ***risky drinking.*** (b.) Discuss **positives and negatives** of taking action. (c.) Discuss **tips, strategies** and **plan** for taking action. (d.) ***Assist*** by providing alcohol harm prevention and reduction resources such as: *Here's to your health; Alcohol and pregnancy wallet card.* (e.) Offer to ***Arrange*** referral and a follow-up session (if needed).	(a.) Discuss **AUDIT-C score** and provide feedback for *high risk drinking*. **WARNING:** People who score in the *High Risk* range (8+) **should not** be told to stop drinking alcohol or cut down without seeing a doctor (b.) Discuss the **positives and negatives** for taking action. (c.) Provide **contact information** for alcohol and other drug services, ADIS† or doctor. (d.) ***Assist*** by providing alcohol harm prevention and reduction resources such as: *Here's to your health; Alcohol and pregnancy wallet card* (e.) Offer to ***Arrange*** referral and a follow-up session

People with health problems such as diabetes or are on medications that interact with alcohol should seek advice from their doctor.
†The Alcohol and Drug Information Service (ADIS) is a free 24 hour, confidential, telephone counselling, information and referral service available state-wide on: (country toll-free) 1800 198 024 or (metro) 9442 5000.

AUDIT-C Fetus Risk Advice

Instructions: Match the total Audit-C score to the level of risk below.

Interpretation of AUDIT-C score: fetal risk

Lower risk of fetal harm (total score ≤1)	**Risk of fetal harm** (total score 2-4)	**Higher risk of fetal harm** (total score ≥5)
▪ ***Advise*** that the **safest choice** is not drink alcohol during pregnancy. ▪ ***Advise*** that a score of **0** indicates no risk of alcohol-related harm to the developing fetus. ▪ ***Advise*** women who have consumed small amounts (e.g. 1 or 2 standard drinks) of alcohol prior to or during pregnancy, that the risk to the developing fetus is low. ▪ ***Advise*** that the risk to the developing fetus is influenced by maternal and fetal characteristics and is difficult to predict. ▪ ***Advise*** that the risk of harm to the developing fetus increases with increasing amount and frequency of alcohol consumption. ▪ Offer to ***Arrange*** a follow-up session (if needed).	▪ ***Advise*** that **the safest choice** is not to drink alcohol during pregnancy ▪ ***Advise*** that the risk of harm to the developing fetus increases with increasing amount and frequency of alcohol consumption. ▪ Advise that the risk to the developing fetus is influenced by maternal and fetal characteristics and is difficult to predict. ▪ ***Advise*** that 5 **or more** standard drinks in one sitting increases the risk of harm to the developing fetus. (Q2. 2+/Q.3 1+). ▪ ***Advise*** that **7 or more** standard drinks in **one week** increases the risk of fetal harm. ▪ Discuss **positives and negatives** of taking action. ▪ Discuss **tips, strategies** and **plan** for taking action. ▪ ***Assist*** by providing alcohol harm prevention and reduction resources such as: *Here's to your health; Alcohol and pregnancy wallet card.* ▪ Offer to ***Arrange*** referral and a follow-up session (if needed).	▪ ***Advise*** that the **safest choice** is not to drink alcohol during pregnancy. ▪ ***Advise*** that the risk of harm to the developing fetus increases with increasing amount and frequency of alcohol consumption. ▪ ***Advise*** that the risk to the developing fetus is influenced by maternal and fetal characteristics and is difficult to predict. ▪ ***Advise*** that the risk of harm to the fetus is highest when there is high, frequent maternal intake. ▪ Discuss the **positives and negatives** for taking action. ▪ Provide **contact information** for alcohol and other drug services, ADIS† or doctor. ▪ ***Assist*** by providing alcohol harm prevention and reduction resources such as: *Here's to your health; Alcohol and pregnancy wallet card.* ▪ Offer to ***Arrange*** referral and a follow-up session.

The 'risk of harm' indicated by the AUDIT-C score only applies to the adult woman and not to the developing fetus, unless specified.

†The Alcohol and Drug Information Service (ADIS) is a free 24 hour, confidential, telephone counselling, information and referral service available state-wide on: (country toll- free) 1800 198 024 or (metro) 9442 5000.

Data Collection Differences

	Paper Based Records	Communicare Pregnancy Outcomes	Communicare Antenatal Visits	AUDIT-C (For Fetus)
Record Type	Per pregnancy 1st and 3rd Tri	Per Pregnancy 1st and 3rd Tri	Per visit	Per visit Pre-pregnancy knowledge and Post-pregnancy knowledge/last visit
No Alcohol Consumption	Dash or "No"	No drinking at all during the pregnancy	No alcohol consumption	Score of 0 No alcohol consumption
Low Risk	Not specifically recorded	<7 standard drinks per week AND <= 2 standard drinks per day	Low risk	Score of <=1 Drinks monthly or less <=2 standard drinks per occasion
Risk	Not specifically recorded	Not specifically recorded	Not specifically recorded	Score of 2-4 Mixed
High Risk	Not specifically recorded Tick for consumption	>7 standard drinks per week OR >2 standard	High Risk	Score >= 5 Mixed

Data Collection Timeline

Data Source	2008	2009	2010	2011	2012	2013	2014	2015
Paper Based	Feb					Dec		
Communicare Pregnancy Outcomes	Oct							
Communicare Antenatal Visits					Jan			
AUDIT-C								Q2

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Data Cleaning

- Assigning pregnancies to regions
- Removing or fixing impossible gestational ages and birth-weights
- Removing duplicate antenatal visits
- Matching antenatal visits to pregnancy outcomes (ongoing): No common key!
- Matching paper records to Communicare records on DOB and birth-weight: No ID!

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Missing Data

- The proportion of missing data fluctuated over the time period and collection method
- Paper-based records were most complete

	Paper Outcomes 1st Tri	Paper Outcomes 3rd Tri	Communicare Outcomes 1st Tri	Communicare Outcomes 3rd Tri	Antenatal Visits
MIN	0%	0%	50%	11%	4%
MAX	40%	47%	93%	74%	47%
MEAN	8%	11%	66%	42%	26%

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Reasons for Missing Data

- Didn’t visit the midwife
- Refused (not recorded)
- Moved in or out of area
- Sent to Perth for at risk birth
- Addresses not updated
- Paper record not transferred to Communicare
- Midwife on holiday
- Gestation not recorded

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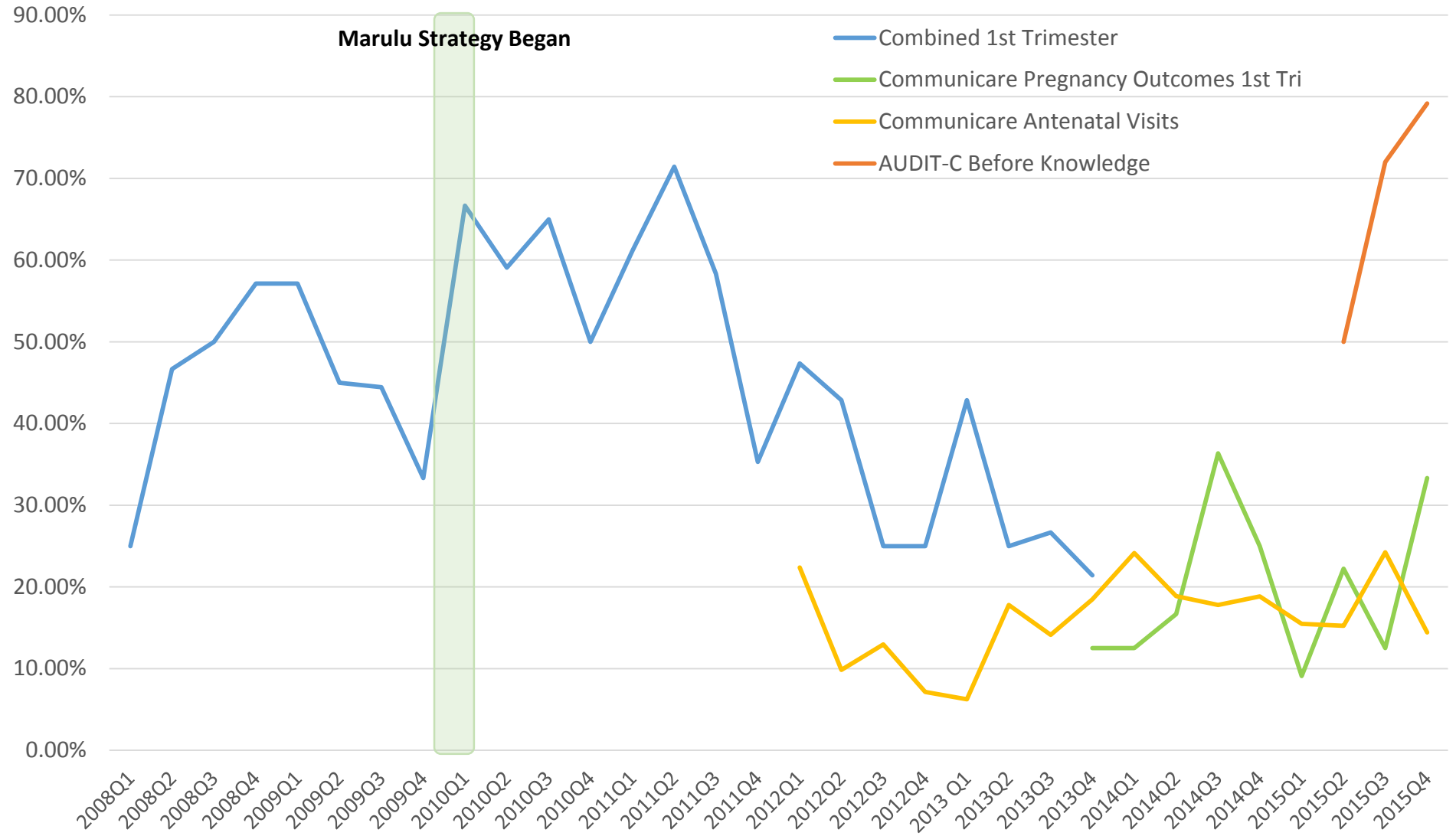
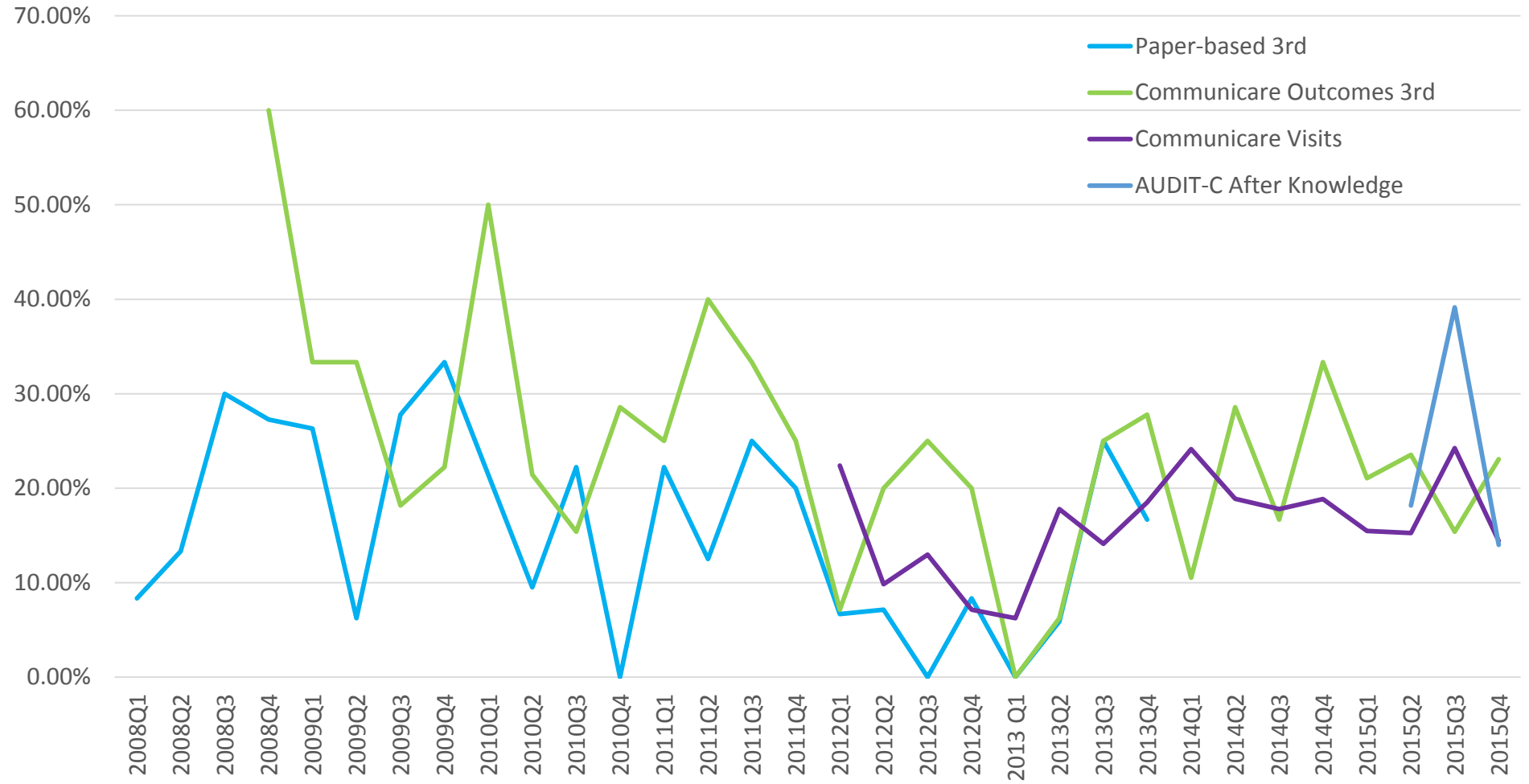
Proportion of Women Consuming Alcohol in the 1st Trimester



Proportion of Women Consuming Alcohol in the 3rd Trimester



Advice

- In Australia trained midwives are key
- Collect the data, essential for estimating prevalence and diagnosing FASD
- Record consumption before knowledge of pregnancy
- Regular data cleaning
- Make sure databases have good keys and unique ID’s
- Only collect data in one form, preferably electronic (it is 2017!)
- Automate data collection reminders

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Conclusions

- The proportion of women consuming alcohol has fallen significantly: 70% to 20% in 5 years
- Community led FASD prevention efforts coupled with health promotion events were successful in this remote indigenous community
- This approach could be trialled in other Indigenous or regional settings, and is currently being assessed in the remote Pilbara region of Australia
- Further efforts must be taken to increase the completeness of data for alcohol consumption during pregnancy

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Conclusions

- Reaching the target of <10% of woman consuming any alcohol during pregnancy may require more targeted interventions for the women most at risk
- The AUDIT-C results show high rates of alcohol consumption before the knowledge of pregnancy
- As the first trimester is critical for FASD, future efforts could focus on family planning education and encouraging women to visit the midwife as early as possible after discovering they are pregnant

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