

Mid-North Coast Fruit and Vegetable Program

HEALTH INTERVENTION OR HAND-OUT?

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Outline

- Background- Healthy food subsidy programs
- Bulgarr Ngaru Fruit and Vegetable program and evaluation design
- Preliminary Results and Conclusions

Impact of “healthy” food subsidy programs

- USA- Special Supplemental Nutrition Program for Women, Infants and Children (WIC)
 - National program US\$6.5 billion in 2009
 - Participant’s nutritional status and health outcomes improved
 - Health care savings exceed program costs (in first 60 days after birth)

- Other international programs/research
 - Healthy Start- UK food subsidy program-launched 2006
 - Improved nutritional status- pregnant participants
 - Supermarket Healthy Options Project - RCT in NZ healthy food subsidies not nutrition education reduced saturated fat (food purchases)

Bulgarr Ngaru Fruit and Vegetable program

- Subsidised fruit and vegetable program for disadvantaged Aboriginal families with 0-14 yo children
- Families pay \$5 per week to receive \$40 box of fresh fruit and vegetables.
- Funding for 50 families across the five communities in the Clarence Valley
- Regional initiative
 - Galambila Aboriginal Medical Service, Coffs Harbour, Giingan Darrunday Marlaangu Health Clinic Bowraville, Nambucca Valley



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Fruit and Vegetable program

- Engage families in preventive health care
 - MBS Health Assessments- annually
 - Dental and hearing checks
- Nutrition education- 2 Dietitians
 - Practical cooking sessions
 - Simple seasonal recipes in F&V boxes
- Market Garden- Community school garden



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Program Evaluation-

Why did we do it?

- Strong community support for the program
 - Positive community relations
- Look at what we are doing
 - “Cost-benefit analysis”
 - Increased access to Fruit and Vegetables?
- Time/Resource requirements
 - local community, health service
- Design-Pre and Post program assessments

Aims

- To determine the impacts of the Bulgarr Ngaru Fruit and vegetable program on Children's nutritional status
- If there are nutritional benefits, are there any short-term health benefits from the program?

Evaluation

Eligibility for program:

- Aboriginal families with children 0-14 years or pregnant women
- Centrelink benefits as main income
- Regular Bulgarr Ngaru clients
- Agree to annual health assessment
- Children have identified nutritional risk

Consent
Y/N



Initial assessments:

- 24 Hour Dietary recall
- Pathology test- Carotenoids, Folate, Vitamins A, C, E, Iron
- Anthropometric measurements



Follow-up assessment at 12 months:

- 24 Hour Dietary recall
- Pathology test- Carotenoids, Folate, Vitamins A, C, E, Iron
- Anthropometric measurements



The Program

- Receive weekly box of fruit and vegetables with seasonal recipes
- Nutrition promotion
- Cooking classes



Process evaluation

- Interviews- key stakeholders
- Focus groups- participants
- Uptake assessed using greengrocer receipts

Health record audit (12 months prior to and during program)

- Antibiotic prescriptions
- Episodes of otitis media
- Episodes of pyoderma

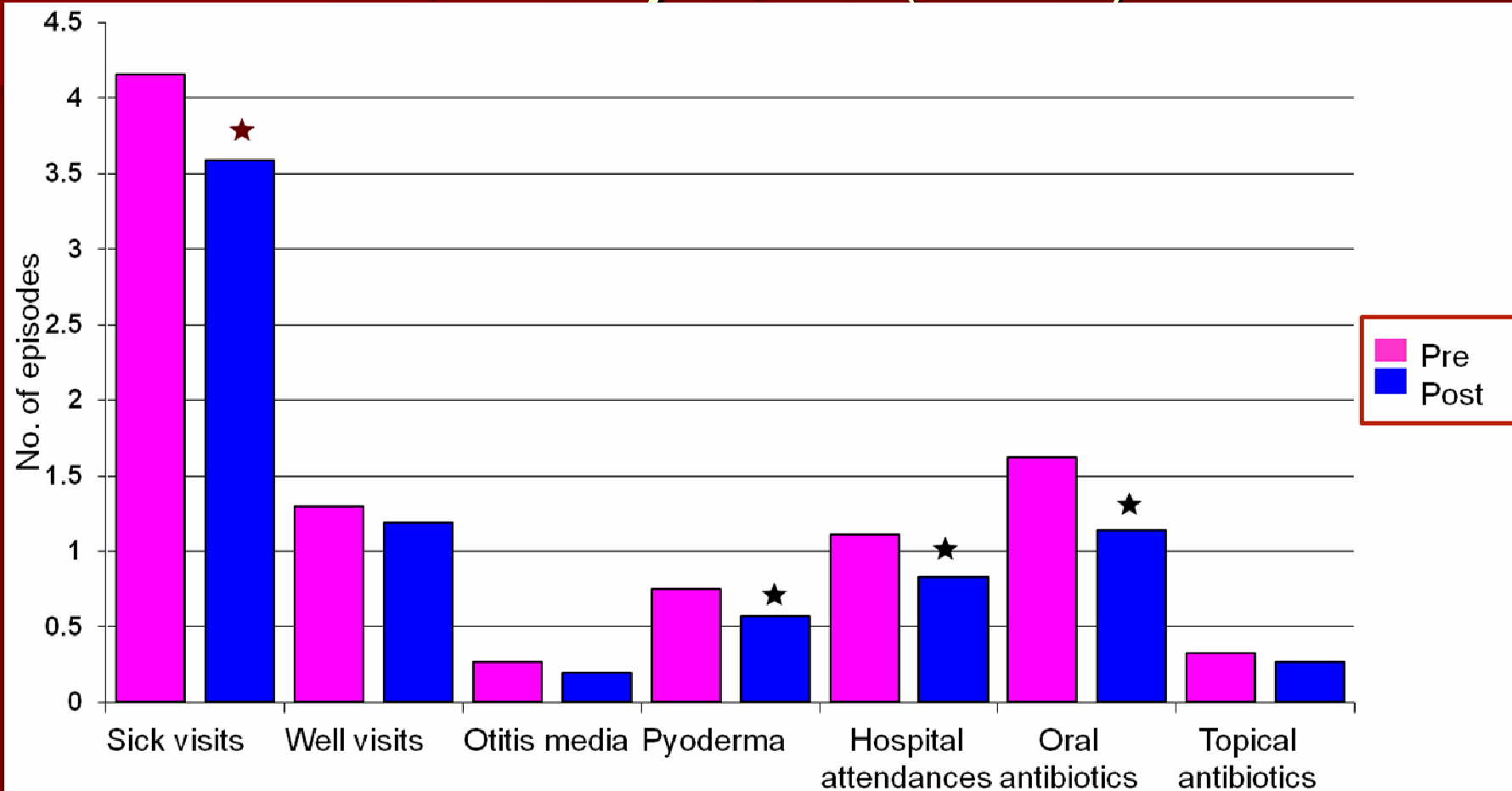
Fruit and vegetable intake of children 0-14 years (n=121)

	24 hr Recall			Short Questions	
Serves Per day	Fruit	Vegetables	Vegetables (inc Potato)	Fruit	Vegetables
Before Mean(SD)	1.0(1.4)	0.6(0.9)	0.8 (1.2)	2.2(1.0)	2.5 (1.4)
After Mean (SD)	1.0 (1.1)	0.5 (0.8)	0.7 (0.9)	2.5 (1.4)	2.2 (1.1)

Serum Biomarkers in children 0-14 years (n=115)

		Mean (nMol/L)	Mean Difference (nMol/L)	P value
β-carotene	Post	339	-7.739	.630
	Pre	347		
α-carotene	Post	82	15.817	.100
	Pre	66		
Lycopene	Post	587	-50.861	.074
	Pre	638		
β-Cryptoxanthin	Post	184	24.974	.027
	Pre	159		
Lutein-Zeaxanthin	Post	338	34.470	.026
	Pre	303		
Red Cell Folate	Post	956	192.856	<.001
	Pre	763		
Ascorbate (uMol/L) (n=57)	Post	60	10.474	.013
	Pre	49		

Health outcomes in children 0-14 years (n=167)



★ P < .05

Good investment?

- Mid-North Coast F&V program
 - Demonstrated nutrition and health benefits
 - Fruit more readily acceptable to children
- Expensive intervention- \$1820/family/yr
- Food insecurity
 - not adequately addressed by food subsidies alone
- Potential health benefits suggest need for a larger trial of healthy food subsidies

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