



# Point of Care Testing (PoCT) in General Practice

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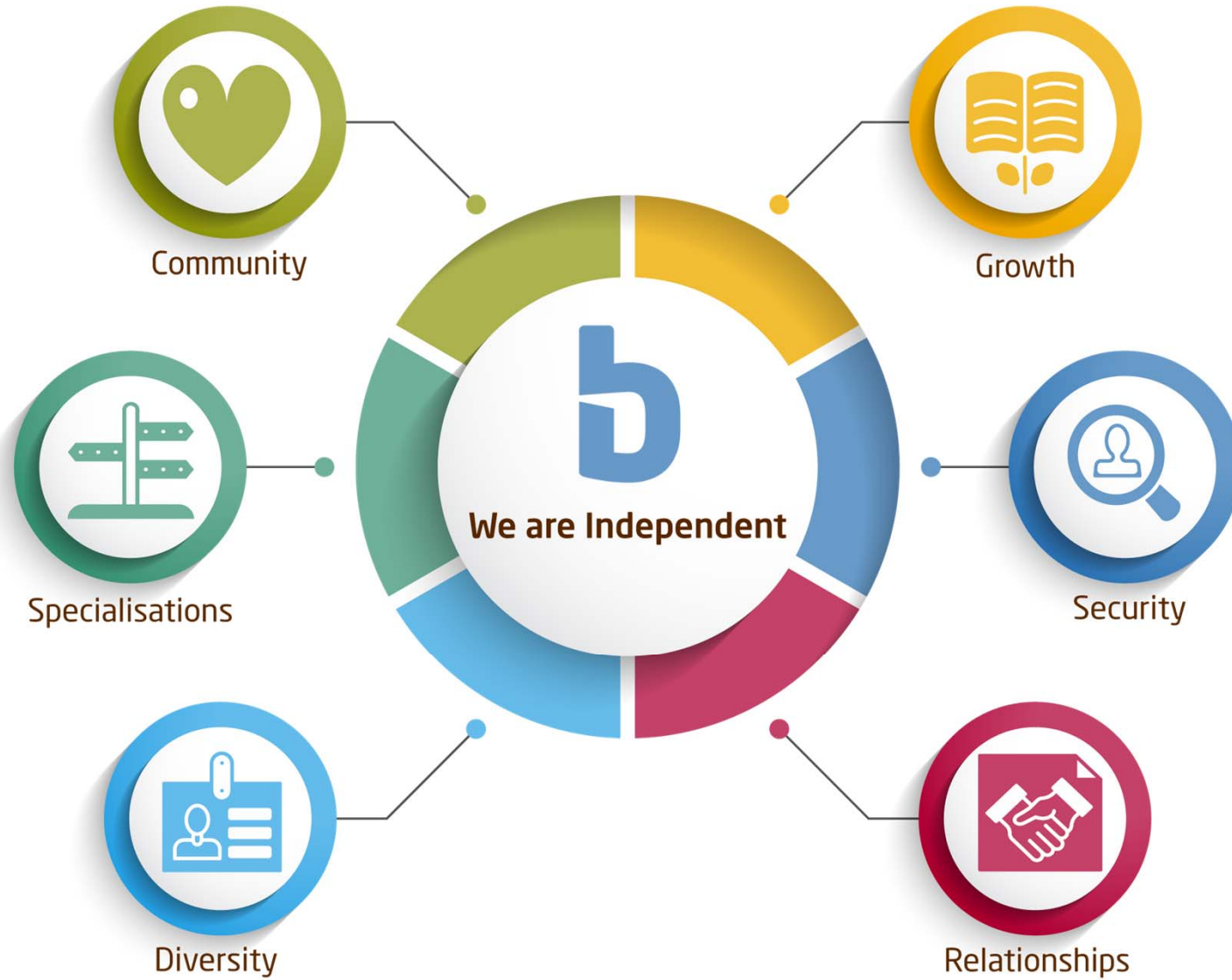
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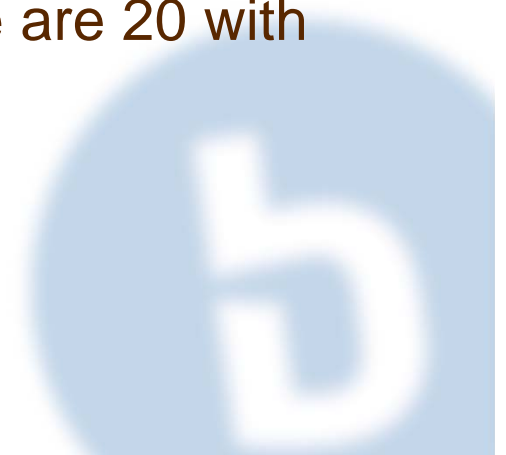


# Who we are:



# CSAPHN PoCT Program

- Country SA PHN & iCCnet have supported HCH practices in rural SA to trial POCT in their practice.
  - Covering costs for POCT devices, consumables and staff performing tests
- Original program - 5 of the 10 sites with PoCT plus the 2 comparator practices (7 in total)
- Expanded program - including HCH sites, there are 20 with PoCT



# PoCT Project

- This project has been commissioned by Country SA PHN in collaboration with iCCnet
- Brentnalls Health investigated the prospect that PoCT in General Practices across rural SA is viable on both a clinical and financial level
- Financial analysis & business case for PoCT
  - Costs and Benefits
  - Variable + Fixed Costs
- PoCT Analysis Tool (PoCTAT)



# What is PoCT

- What is Point of Care Testing (PoCT)?
  - Pathology testing where the analysis of the tests is done immediately at the point of contact where the healthcare is provided to the patient.
  - It means that the pathology services are provided within the general practice instead of the traditional method of analysis conducted in a remote clinical laboratory.
  - Delivering PoCT in general practice is not a new concept having been embedded in the practice of diabetes care in Aboriginal Community Controlled Health Organisations (ACCHOs) across Australia since it commenced as a trial in June 1999.



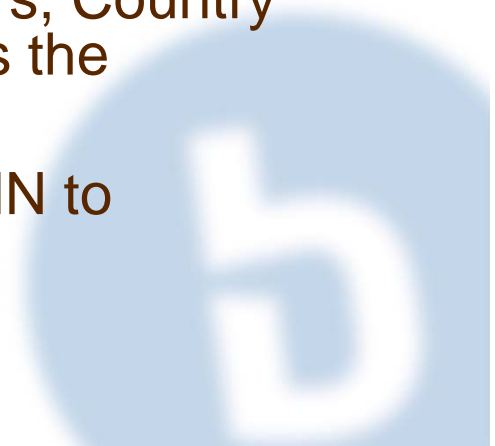
# Tests Considered

Test	Machine Used	Purpose
CRP	Affinion Analyzer AS100	CRP is a blood test marker for inflammation in the body. It can be used to determine how well the body is fighting infection and can be used to decide whether to administer antibiotics to a patient.
Lipids	Affinion Analyzer AS100	Measure total cholesterol (both HDL & LDL) and triglycerides and to determine the risk of developing a cardiovascular disease and to monitor conditions that can cause a hardening of the arteries.
HbA1C	Affinion Analyzer AS100	Measure glycated Haemoglobin A1C to reflect average blood glucose levels so to monitor diabetes and is used alongside blood-sugar tests providing long term measurement of blood glucose levels.
ACR	Affinion Analyzer AS100	Used to screen for kidney disease in persons with chronic conditions, such as diabetes and high blood pressure via a urine sample.
INR	CoaguCheck	Testing Prothrombin produced by the liver to monitor how well blood thinning medication is working to prevent blood clots.
NT- proBNP	Cobas H 232	Test that measures levels of BNP protein made by heart and blood vessels to exclude heart failure as a cause for difficult breathing or to diagnose the severity of heart failure.



# Methodology

- Time in motion study of how PoCT operates in practice.
- Interviewed six practices across rural SA to gather both quantitative data and qualitative information about the process of PoCT
  - Time
  - Cost of consumables
  - Benefits to patients and practice.
- Data was consolidated used to create the PoCTAT.
- Multiple progress meetings with the stakeholders, Country SA PHN & ICCnet to gain feedback and discuss the investigation.
- Developing Business Report for Country SA PHN to distribute.





# HCH PoCT Funding by CSAPHN

Test	HCH GP Practice Payment
CRP	\$ 15.00
Lipids	\$ 15.00
HbA1C	\$ 15.00
NT-proBNP	\$ 15.00
Urine CR	\$ 15.00
Quality Control Reporting	\$ 15.00

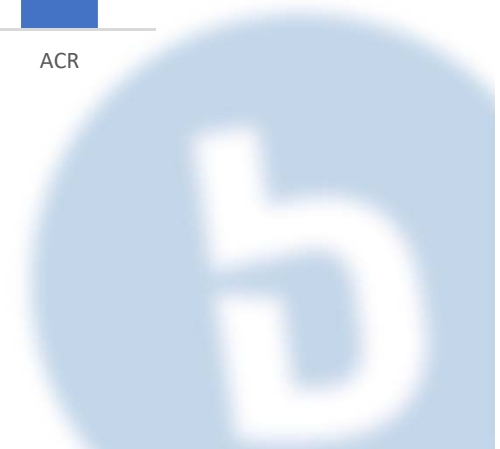
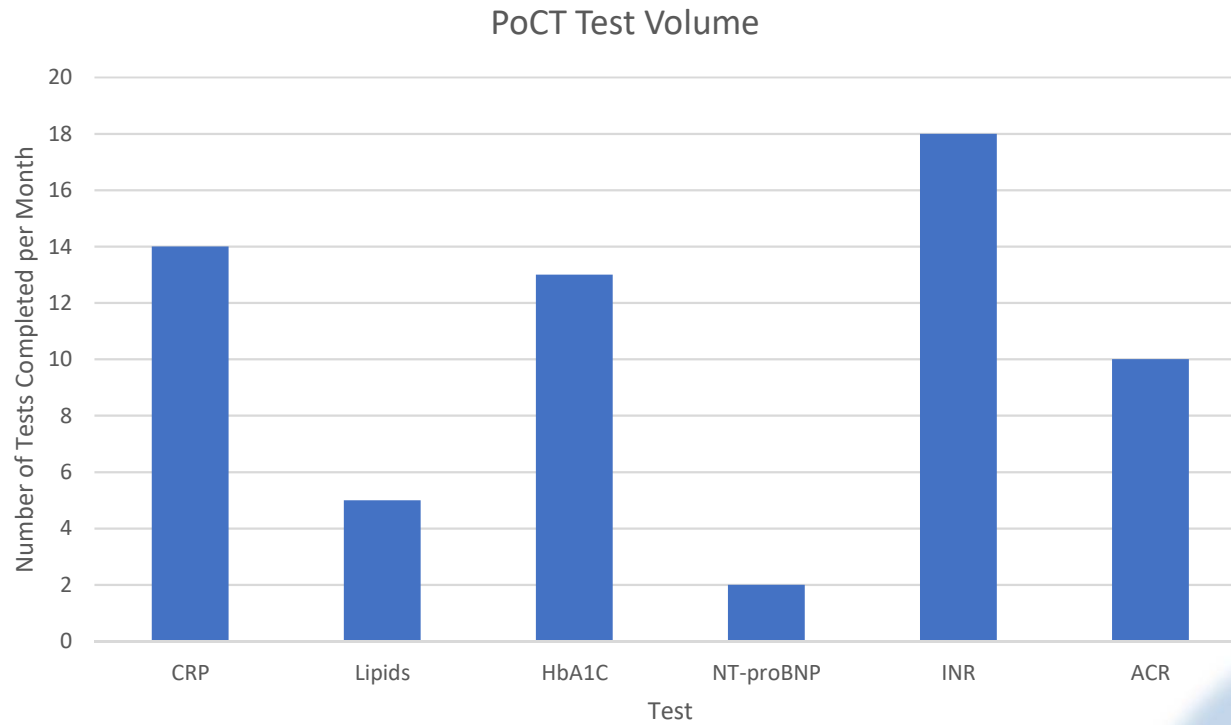


# PoCTAT - Financial Analysis

- Developed a tool to help calculate the funding required.
- Researched and looked into detail around all the potential costs associated.
- 3yr break-even was assumed. As life of machine estimated to be 3 years.
- Have converted into a tool that a practice can use.



# Comparison of Test Volume



Costing of PoCT (Afinion Machine)

Variable Costs

	CRP		Lipids		HbA1C		ACR	
<b>Time (mins)</b>								
Operator	Registered Nurse		Registered Nurse		Registered Nurse		Registered Nurse	
Preparation (Time)		2		2		2		2
Preparation (Cost)	\$	1.32	\$	1.32	\$	1.32	\$	1.32
Operator	Registered Nurse		Registered Nurse		Registered Nurse		Registered Nurse	
Conduct Test (Time)		4		8		5		5
Conduct Test (Cost)	\$	2.64	\$	5.27	\$	3.30	\$	3.30
Operator	Registered Nurse		Registered Nurse		Registered Nurse		Registered Nurse	
Follow up/results (Time)		5		7		5		7
Follow up/results (Cost)	\$	3.30	\$	4.61	\$	3.30	\$	4.61
<b>Total Time (mins)</b>		<b>11</b>		<b>17</b>		<b>12</b>		<b>14</b>
<b>Total Cost of Time</b>	\$	<b>7.25</b>	\$	<b>11.21</b>	\$	<b>7.91</b>	\$	<b>9.23</b>
<b>Consumables</b>								
Strips/Cartridge	Yes	\$ 13.00	Yes	\$ 15.60	Yes	\$ 13.00	Yes	\$ 13.00
Needle (finger prick)	Yes	\$ 0.31	Yes	\$ 0.31	Yes	\$ 0.31	No	\$ -
Gloves	Yes	\$ 0.14	Yes	\$ 0.14	Yes	\$ 0.14	Yes	\$ 0.14
Cotton Buds	Yes	\$ 0.01	No	\$ -	Yes	\$ 0.01	No	\$ -
Pipette	No	\$ -	No	\$ -	No	\$ -	No	\$ -
Band-aid	Yes	\$ 0.09	No	\$ -	Yes	\$ 0.09	No	\$ -
Vacutainer	Yes	\$ 0.72	No	\$ -	Yes	\$ 0.72	No	\$ -
Cardiac Syringe	No	\$ -	No	\$ -	No	\$ -	No	\$ -
Sharps container	Yes	\$ 4.51	No	\$ -	Yes	\$ 4.51	No	\$ -
Urine pot	No	\$ -	No	\$ -	No	\$ -	Yes	\$ 0.28
Other Consumable #1	No	\$ -	No	\$ -	No	\$ -	No	\$ -
Other Consumable #2	No	\$ -	No	\$ -	No	\$ -	No	\$ -
Other Consumable #3	No	\$ -	No	\$ -	No	\$ -	No	\$ -
Other Consumable #4	No	\$ -	No	\$ -	No	\$ -	No	\$ -
Other Consumable #5	No	\$ -	No	\$ -	No	\$ -	No	\$ -
<b>Total Cost of Consumables</b>	\$	<b>18.78</b>	\$	<b>16.04</b>	\$	<b>18.78</b>	\$	<b>13.42</b>
<b>Total Cost Per Test</b>	\$	<b>26.03</b>	\$	<b>27.25</b>	\$	<b>26.69</b>	\$	<b>22.64</b>



**Non-Variable Costs  
Recurrent Costs**

<b>Quality Control</b>		Registered Nurse	Registered Nurse	Registered Nurse	Registered Nurse
	<i>Operator</i>				
	<i>Quality Control (Time per test)</i>	10	14	10	10
	<i>Quality Control (Cost)</i>	\$ 6.59	\$ 9.23	\$ 6.59	\$ 6.59
	<i>No. of Quality Control per year</i>	36	36	18	36
	<b>Total Cost of Quality Control</b>	\$ 237.30	\$ 332.22	\$ 118.65	\$ 237.30
	<b>Total Recurrent Costs</b>	\$ 2,776.41			

**Establishment/Fixed Costs**

<b>Machine</b>					
	<i>Affinion AS100 Analyser</i>	\$ 5,000.00			
<b>Accreditation</b>					
	<i>Cost per Machine</i>	\$ 249.33			
<b>Training</b>					
	<i>Trainee #1</i>	Registered Nurse			
	<i>Online Training (Time) (min)</i>	60			
	<i>Online Training (Cost based on staff time)*</i>	\$ 39.55			
	<i>Trainee #2</i>				
	<i>Online Training (Time) (min)</i>				
	<i>Online Training (Cost based on staff time)*</i>	\$ -			
	<i>Trainee #3</i>				
	<i>Online Training (Time) (min)</i>	0			
	<i>Online Training (Cost based on staff time)*</i>	\$ -			
	<i>Cost of other training course</i>	\$ -			
	<b>Total Training Cost</b>	\$ 39.55			
<i>* is based on the hourly rate of staff competing training</i>					
<b>External Quality Control</b>					
	<i>Subscriptions Fees</i>	\$ 2,220.00	\$ 2,520.00	\$ 1,350.00	\$ 1,860.00
	<b>Total Fixed Cost</b>	\$ 13,238.88			
<b>Wastage</b>					
	<i>Wastage %</i>	5%	5%	5%	5%
	<i>Wastage \$</i>	\$ 1,639.67	\$ 392.38	\$ 1,008.72	\$ 896.70
	<b>Total Fixed and Recurrent Costs</b>	\$ 19,952.76			

Total Contribution Margin per month to cover fixed costs	\$ 554.24			
<i>Funding Per Test</i>	\$ 32.47	\$ 33.69	\$ 33.13	\$ 29.09
Contribution Margin	\$ 6.44	\$ 6.44	\$ 6.44	\$ 6.44
Contribution Margin Percentage	20%	19%	19%	22%
Tests to be completed within 3 years	3,096			
Number of tests completed per month	35	8	21	22
Total Monthly tests	86			
% of monthly tests	41%	9%	24%	26%
Months to break-even	36			
Years	3			



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# Pathology vs Proposed PoCT Funding

Test	Pathology MBS Item	Pathology MBS Rebate (85%)	Proposed PoCT funding
INR	65120	\$11.65	
	73928	\$5.10	
		\$16.75	\$18.52
Hba1c	66551	\$14.30	
	73928	\$5.10	
		\$19.40	\$33.13
CRP	66500	\$8.25	
	73928	\$5.10	
		\$13.35	\$32.47
Lipids	66512	\$15.05	
	73928	\$5.10	
		\$20.15	
	40% Grouped adjustment*	\$8.06	\$33.69
ACR	66560	\$17.10	
	73928	\$5.10	
		\$19.40	\$29.09
BNP	66830	\$49.75	\$133.18



# Question Time





# PoCT Analysis Tool (PoCTAT) Demonstration

- Walk through of PoCTAT in a practical sense & how as a practice you can input your figures



# Scenario 1 – Increased Volume of each test by 15%

Costing of PoCT (Afinion Machine)				
	Variable Costs			
	CRP	Lipids	HbA1C	ACR
<b>Total variable cost per test</b>	\$ 26.03	\$ 27.25	\$ 26.69	\$ 22.64
<b>Total Fixed and Recurrent Costs over period selected</b>	\$ 20,502.42			
<b>*Assumed* Funding Per Test</b>	\$ 32.47	\$ 33.69	\$ 33.13	\$ 29.09
Tests to be completed to break even	3,182			
Number of tests completed per month	40	9	24	25
Number of tests to be completed in selected period	1440	324	864	900
Total number of tests completed in selected period	3528			
Percentage of total tests	41%	9%	24%	26%
Total variable Cost over selected period	\$ 89,742.55			
Total non-variable cost over selected period	\$ 20,502.42			
Total Funding Received Monthly	\$ 3,124.38			
Total Funding Received over selected period	\$ 112,477.68			
Surplus/Deficit over selected period	\$ 2,232.00			



# Scenario 2 – Increased Volume of each test by 15% - Increased wastage to 10%

Costing of PoCT (Afinion Machine)				
	Variable Costs			
	CRP	Lipids	HbA1C	ACR
<b>Total variable cost per test</b>	\$ 26.03	\$ 27.25	\$ 26.69	\$ 22.64
<b>Wastage</b>				
Wastage %	10%	10%	10%	10%
Wastage \$	\$ 3,747.81	\$ 882.85	\$ 2,305.64	\$ 2,037.95
<b>Total Fixed and Recurrent Costs over period selected</b>	\$ 24,989.55			
<b>*Assumed* Funding Per Test</b>	\$ 32.47	\$ 33.69	\$ 33.13	\$ 29.09
Tests to be completed to break even	3,878			
Number of tests completed per month	40	9	24	25
Number of tests to be completed in selected period	1440	324	864	900
Total number of tests completed in selected period	3528			
Percentage of total tests	41%	9%	24%	26%
Total variable Cost over selected period	\$ 89,742.55			
Total non-variable cost over selected period	\$ 24,989.55			
Total Funding Received Monthly	\$ 3,124.38			
Total Funding Received over selected period	\$ 112,477.68			
Surplus/Deficit over selected period	-\$ 2,254.00			



# Scenario 3 – Increased time taken to complete tests by 15%

Costing of PoCT (Afinion Machine)				
Variable Costs				
	CRP	Lipids	HbA1C	ACR
<b>Total variable cost per test</b>	\$ 27.11	\$ 28.93	\$ 27.87	\$ 24.03
<b>Total Fixed and Recurrent Costs over period selected</b>	\$ 20,145.15			
<b>*Assumed* Funding Per Test</b>	\$ 32.47	\$ 33.69	\$ 33.13	\$ 29.09
Tests to be completed to break even	3,943			
Number of tests completed per month	35	8	21	22
Number of tests to be completed in selected period	1260	288	756	792
Total number of tests completed in selected period	3096			
Percentage of total tests	41%	9%	24%	26%
Total variable Cost over selected period	\$ 82,597.07			
Total non-variable cost over selected period	\$ 20,145.15			
Total Funding Received Monthly	\$ 2,741.68			
Total Funding Received over selected period	\$ 98,700.48			
Surplus/Deficit over selected period	-\$ 4,041.00			



# Scenario 4 – Increased Volume of each test by 15% - decreased taken to complete tests by 15%

Costing of PoCT (Afinion Machine)					
Variable Costs					
	CRP	Lipids	HbA1C	ACR	
<b>Total variable cost per test</b>	\$ 24.94	\$ 25.57	\$ 25.50	\$ 21.26	
<b>Total Fixed and Recurrent Costs over period selected</b>	\$ 20,283.33				
<b>*Assumed* Funding Per Test</b>	\$ 32.47	\$ 33.69	\$ 33.13	\$ 29.09	
Tests to be completed to break even	2,608				
Number of tests completed per month	40	9	24	25	
Number of tests to be completed in selected period	1440	324	864	900	
Total number of tests completed in selected period	3528				
Percentage of total tests	41%	9%	24%	26%	
Total variable Cost over selected period	\$ 85,360.81				
Total non-variable cost over selected period	\$ 20,283.33				
Total Funding Received Monthly	\$ 3,124.38				
Total Funding Received over selected period	\$ 112,477.68				
Surplus/Deficit over selected period	\$ 6,833.00				



# Question Time



# Qualitative Factors

Reported on the key non-financial factors

- Costs in General Practice
- Economies of Scale
- Efficient Access to Care
- Patient Benefit
- Public Health Benefit
- Efficiencies within the practice.



# Summary of Models

## 1. Full MBS Model

- Requires break-even volume of tests to be viable
- Financial risk to the practice if break-even volume is not achieved
- Financial gain after the break-even volume is achieved

## 2. Part MBS & Practice Incentive Payment (PIP)

(Recommended)

- MBS rebate funds the variable costs per test.
- PIP funds the non-variable costs
  - Equipment, Accreditation, Quality Control testing
- Cost neutral
- Not volume dependent



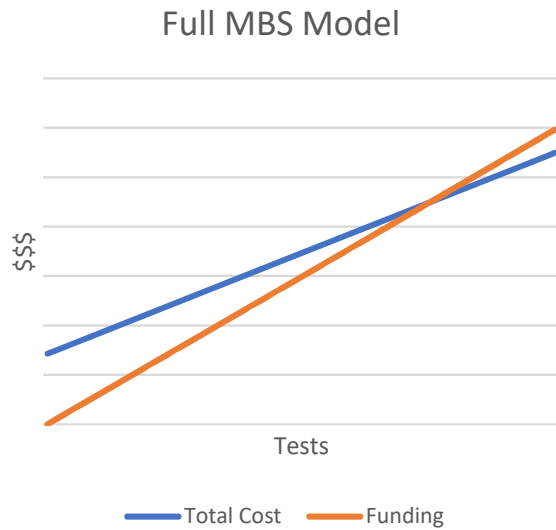


# Recommended MBS Funding

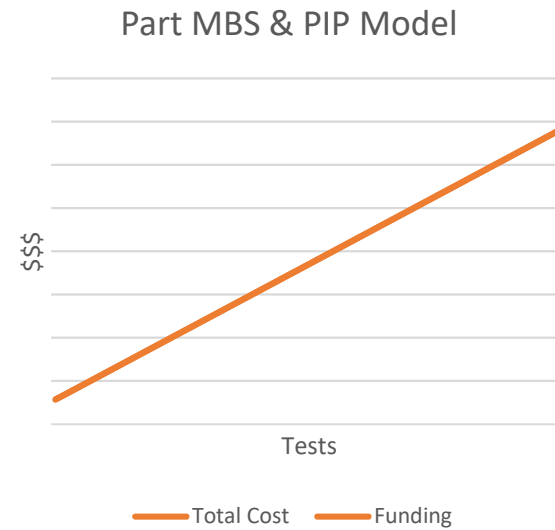
Test	Full MBS Model	Part MBS & PIP Model
CRP	\$32.47	\$26.03
Lipids	\$33.69	\$27.25
HbA1C	\$33.13	\$26.69
ACR	\$29.09	\$22.64
INR	\$18.52	\$15.45
BNP	\$133.18	\$62.58



# Comparison of Full MBS & Part MBS PIP Models



Graph 1: Full MBS Model



Graph 2: Part MBS & PIP Model



# Summary of Models

## 1. Full MBS Model

- Volume dependent

## 2. Part MBS & Practice Incentive Payment (PIP)

(Recommended)

- Cost neutral
- Not volume dependent

## 3. Service Incentive Payment (SIP)

- Bundled care approach – incorporated into their chronic disease care planning process.
- Limited to chronic disease cohort



# Quadruple Aim

## 1. Improved Patient Experience

- Patient care and experience being the number one priority of PoCT as it allows patients access to immediate results while in a consultation with their GP

## 2. Improved Population Health Outcomes

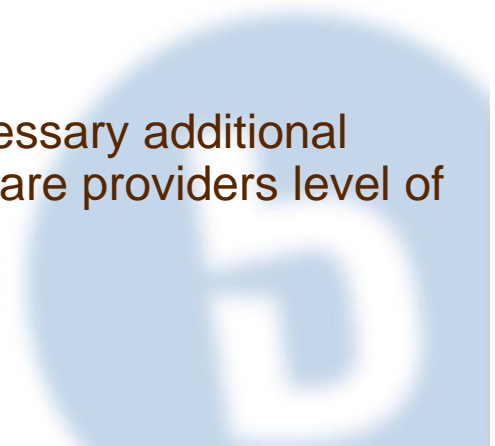
- PoCT aims to help have a public health benefit as the CRP testing will hopefully improve antimicrobial stewardship and reduce the amount of antibiotics being unnecessarily prescribed to patients as a result of using this test as a screening measure to inform prescribing decisions

## 3. Improved Cost Efficiency and Sustainability

- This report proposes models of funding that can be efficiently implemented while offering a viable proposition for general practices so that they can deliver their services in a much more efficient manner.

## 4. Improved Health Care Provider experience

- Improving the immediacy of service and eliminating unnecessary additional steps, processes and tasks all help to improve the health care providers level of satisfaction.



# Question Time





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Considered Value