

## **Summary of healthcare professional feedback of CareSens blood glucose meters for PHARMAC**

### **Background**

In October 2015, PHARMAC ran focus groups around the country with primary and secondary care diabetes health care professionals. Twelve focus groups were held.

The purpose of the focus groups was to seek feedback from healthcare professionals on potential issues of the meters submitted in response to PHARMAC's request for expressions of interest, i.e. identifying why a meter may or may not be difficult to use.

PHARMAC used the feedback to assist in the development of implementation activities to support the decision to fund four CareSens meters. You can read all about the decision here: <https://www.pharmac.govt.nz/news/notification-2017-11-16-diabetes-management-products/>

This document provides the feedback received on the four funded CareSens meters CareSens N, CareSens N POP, CareSens N Premier, and CareSens Dual.

The form below is an example of the evaluation form used for the healthcare professional session.

**Diabetes management products evaluation focus group**

1. Please identify which health professional group best represents your day-to-day work :

- Nurse (primary care)      Nurse (secondary care)      Other nurse (specify.....)  
 Pharmacist (clinical/facilitator)      Other (specify.....)      Pharmacist (community)

2. Identify the people with diabetes you most frequently work with:

- Type 1      Type 2      Children      Youth      Adults      Older adults      English as second language  
 Parents      Caregivers      Other (specify.....)

<b>Points to consider when evaluating each blood glucose meter and test strips</b>	
<i>When considering each meter, also consider the test strips, the case it comes with (if any), instruction booklet, and software for download.</i>	
Have you had any previous clinical experience with this blood glucose meter and test strips?	

Rate the meter on each of the aspects listed and comment on rating?

1 is low/negative, 10 is high/positive

**Averaging:** 1 2 3 4 5 6 7 8 9 10  
N/A

Comment

**Back/portlight:** 1 2 3 4 5 6 7 8 9 10  
N/A

Comment

**Instructions:** 1 2 3 4 5 6 7 8 9 10  
N/A

Comment

**Size/clarity of display:** 1 2 3 4 5 6 7 8 9  
10

Comment

**Time for test:** 1 2 3 4 5 6 7 8 9 10

Comment

	<b>Memory capacity:</b>	1	2	3	4	5	6	7	8	9	10	
	Comment											
	<b>Button size:</b>	1	2	3	4	5	6	7	8	9	10	
	Comment											
	<b>Physical size:</b>	1	2	3	4	5	6	7	8	9	10	
	Comment											
	<b>Ease of opening strip packaging:</b>	1	2	3	4	5	6	7	8	9	10	
	Comment											
	<b>Accessories (eg case etc):</b>	1	2	3	4	5	6	7	8	9	10	
	Comment											
	<b>Alarms:</b>	1	2	3	4	5	6	7	8	9	10	N/A

	<p>Comment</p> <p><b>Other (specify):</b> 1   2   3   4   5   6   7   8   9   10</p> <p>Comment</p> <p><b>Other general comments:</b></p>
<p>What aspects of the meter and test strips might make it challenging for people living with diabetes, and for you to support people with diabetes, to use the meter?</p>	
<p>Would some people find using this meter more difficult than others?</p> <p><i>Consider things like age, co-morbidities, patient or a caregiver, dexterity etc.?</i></p> <p><i>Comment/give reasons on the appropriateness or otherwise of this meter for different groups you work with.</i></p>	<p>Type 1:</p> <hr/> <p>Type 2:</p> <hr/> <p>Older adult:</p> <hr/> <p>Paediatric/Youth:</p>

	English as a second language:
	Other:
What do you like about the software that comes with the meter and test strips?  <i>Think about compatibility with Practice Management Systems, patient portals etc.</i>	
What aspects of the software may make it more challenging (for how you and/or patients use the software/data)?	
Do you have any other comments to make about the meter and test strips?	

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<p>What support may be needed for healthcare professionals to teach people with diabetes (or their caregivers) how this meter should be used?</p> <p>How should this support be provided ie online information, videos, hardcopy, education sessions etc.?</p>	
<p>What support may be needed for people with diabetes (or their caregivers) to use this meter on a regular basis?</p>	

## Care Sens N

n= 11 (3 primary care nurses; 5 secondary care nurses; 1 diabetes nurse specialist)

Averaging	Back/port light	Instructions	Size of display	Memory capacity	Button Size	Physical Size	Ease of strip opening	Accessories	Alarms
8.6	5.9	7.8	8.2	8.9	5.9	7.8	6.9	7.2	8.1

### General comments:

- Does not recognise when strips are expired. Also, does not recognise if CareSens II strips are used instead of CareSens N
- Coding not required which is a plus
- Pamphlet with pictures good quick guide. Finger pricker improved. Temperature range improved. Easy shape to hold onto
- Finger pricker much improved to last one. Easy to use and more robust
- Auto lancet - good size but often too difficult to get blood
- Settings on this like date and time is a little bit hard to do and some patients are having difficulty to check and read if their meter are on correct date

### Challenges with this meter

- Working out what the up + down button does
- Strips still too fiddly for older people to manage
- Small button size. No back/port light
- If living in a cold area. No light on meter - need to ensure adequate light to read meter esp. at night
- Small strips difficult to get into meter as meter black and no light
- Buttons on front are too small for elderly hands
- Strip size too small for some patients - poor vision + arthritis patients

### Would some people find this more difficult to use?

- Sight impaired - no backlight. Also, difficult for them to locate where to put the test strip
- Appears easy to use for all age groups/diabetic type - may be because I am familiar with it
- Elderly find understanding meter error messages too fiddly and then get frustrated
- Visually impaired
- Setting the meter. Putting in the strip



## Care Sens Dual

n= 14 (4 primary care nurses; 8 secondary care nurses; 2 diabetes nurse specialists; 1 paediatrician)

Averaging	Back/port light	Instructions	Size of display	Memory capacity	Button Size	Physical Size	Ease of strip opening	Accessories	Alarms
9.2	7.8	8.76	8.7	9.3	9.5	7.9	8.6	7.3	8.5

### General comments:

- Good that it can read ketones
- Good ease of use. Test strips easier for less dexterous fingers + easier to see which way up it goes
- Lancet is old technology - needs improving.
- Lancet device - has had some negative feedback due to difficulty in obtaining blood sample
- Lancet device needs upgrading
- Good that it tests for ketones
- Type 1 diabetes should all have access to blood ketone testing. Urine ketones should not be method of choice. Easy recognition + prevention of DKA should be a priority across NZ
- Bluetooth = great! Test strip ejector = great! Case is not big enough for equipment. Pre + post meal testing = great
- Case almost too small, although insulated so this would be good for cooler regions
- Meter seems a bit bulky to handle. Excellent display; light of Bluetooth setting. Will be interesting to know about downloading capabilities of this meter
- CareSens has listened to what we want + produced it simple + easy to use
- Perfect in every way

### Challenges with this meter

- If strip is in backwards - will activate but unable to put blood on - potential for confusion
- Temperature ranges, cold damp housing effects meter frequently
- Minimal challenges - looks like it would suit most people
- Less storage space in case. Pricker device may be difficult to operate by older patients
- Bulky - no back light, just an 'LED' display (what is on the SPECS sheet)
- Love the fact someone with D1DM can check ketone & glucose levels
- Strip expiry detection excellent
- Easy change from existing meter to new meter if this was chosen

**Would some people find this more difficult to use?**

- A lot of patients like the finger prickers with drums not single lancet
- No appropriate to ages etc.
- Very concerned about meter that used control solutions for (? Calibration?). Relies on family being motivated
- PHARMAC - please fund ketone test strips for all people with T1DM.
- Very easy to use across all age groups. Not too different to current CareSens N meter. Excellent that can check glucose + ketones
- PHARMAC - please fund ketone testing strips for all patients with Type 1 DM
- Perfect, good temp control. Strips are easy to open

## CareSens N POP

n= 12 (0 primary care nurse; 8 secondary care nurse; 3 diabetes nurse specialist)

Averaging	Back/port light	Instructions	Size of display	Memory capacity	Button Size	Physical Size	Ease of strip opening	Accessories	Alarms
7.8	7.7	6.7	5.5	8.1	5.5	6.3	6.5	7	7.1

### General comments:

- Evidence of lots of errors in strips if you don't get right amount of blood on strip
- Scrolling buttons can be confusing
- Lance device is a lot of work. A number of pts have needed replacement
- Lancet device is terrible, difficult to use, have to re-load multiple times. V misfires. Strip case too big
- Good temperature range
- Log book very small but does fit in case
- No ketone testing main issue. NZ temp reg <5 degrees over winter. No good if T1 hypo overnight

### Challenges with this meter

- People struggle how the immediate blood sugar level doesn't show up. You have to use the 's' button to get that immediate result. Sometimes the meter will drop off tests
- Small, small screen. Date + time small
- Confusing S >> buttons: harder to search through. Is there an easier lancing device e.g. like the ND one that went with Accu-Chek
- Very small, visually difficult to read. Comes up with average before lost BGL
- Fiddly for an elderly person. Test strips are able to identify end for blood. Could use more colour
- No ability to test ketones
- Size - re visual acuity issue
- Excellent finger pricker + case
- Angled edge of test strips make it easy for patients to determine which way to insert them
- See above

### Would some people find this more difficult to use?

- It is not an easy meter to educate/show people
- Yes - older, poor dexterity. Poor site
- Too quick to change off date time screen

- Yes. Would not work for majority of people with diabetes. New download very good.
- Small display - hard for elderly. Good back light - adolescents/young like the size
- Easy to use as no coding - is quite small for people with poor sight
- Need good dexterity for this meter
- Older people or those with poor dexterity, struggle with the size. Using the buttons to access the memory etc is difficult for those with lower technology literacy
- Smaller - problems for older people as gout, arthritis can be slippery to hold

## CareSens N Premier

n= 11 (1 primary care nurse; 6 secondary care nurse; 4 diabetes nurse specialist)

Averaging	Back/port light	Instructions	Size of display	Memory capacity	Button Size	Physical Size	Ease of strip opening	Accessories	Alarms
7.6	9	6.4	8.7	9.4	8.5	6.7	7.9	7.2	7.8

### General comments:

- Download via bluetooth option may be useful
- Basic finger-pricker. Live option of connecting to phone (shame it's not cloud-based)
- Huge case. Cumbersome. Great size display for vision impaired
- Will be used widely
- Bluetooth good, no ketones

### Challenges with this meter

- Size longer than needed, bulkier to carry
- Large size will not be acceptable to adolescents. No ketone testing makes the need for 2 separate meters
- Big + easy to read
- Most people I see as patients use the CareSens N well

### Would some people find this more difficult to use?

- No ketone testing an issue