

# HemoCue<sup>®</sup> WBC DIFF System in psychiatric care

## Agenda

- Slide 3 Clinical background & market need
- Slide 4-7 HemoCue<sup>®</sup> WBC DIFF System
- Slide 8 Clozapine supply models across AUS, NZ & UK
- Slide 9-10 Voice of consumer & clinicians
- Slide 11 Costs
- Slide 12 Summary of benefits for POCT

# Clinical background & market need

Clozapine is a third-line antipsychotic used for patients with schizophrenia who have not responded to at least two other antipsychotic medications<sup>1</sup>.

Monthly haematological monitoring is mandatory after initiation to mitigate the risk of agranulocytosis. Initially weekly blood tests for 18 weeks, followed by 4-weekly monitoring thereafter<sup>2</sup>.

Consumers in rural and remote areas often face difficulties accessing timely venous blood collection, and mandatory haematological monitoring can deter both patients and clinicians from continuing or prescribing clozapine, contributing to poor adherence and outcomes<sup>3</sup>.

Furthermore, if a patient becomes non-compliant with blood monitoring or medication, clozapine must be re-titrated, a process that typically takes between 6 and 18 weeks<sup>4</sup>.

## Solution: Simple blood monitoring that provides results at the point of care via fingerprick

1. Winckel K, Siskind D. Clozapine in primary care. *Aust Prescr* 2017;40:231-6. doi:10.18773/austprescr.2017.067

2. Government of Western Australia, East Metropolitan Health Service. *Clozapine eLearning* [Internet]. Perth: WA Health; 2017 [cited 2025 Sep 18]. Available from: [https://www.health.wa.gov.au/~/\\_media/Files/Corporate/general-documents/Quality/PDF/Clozapine-elearning.pdf](https://www.health.wa.gov.au/~/_media/Files/Corporate/general-documents/Quality/PDF/Clozapine-elearning.pdf)

3. Nielsen J, Thode D, Stenager E, Andersen KØ, Sondrup U, Hansen TN, et al. Hematological clozapine monitoring with a point-of-care device: a randomized cross-over trial. *Eur Neuropsychopharmacol*. 2012 Jun;22(6):401-5. doi: 10.1016/j.euroneuro.2011.10.001. Epub 2011 Dec 1. PMID: 22137859

4. SA Health. *Clozapine Management Clinical Guideline: Version 2.0* [Internet]. Adelaide: Government of South Australia; 2022 [cited 2025 Sep 18]. Available from: <https://www.sahealth.sa.gov.au/wps/wcm/connect/059961804298b3078c77be80c298878e/Clozapine+Management+Clinical+Guideline+ 2.0 final.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-059961804298b3078c77be80c298878e-p4gHBB2>

# HemoCue® WBC DIFF System

01

## Simplified blood monitoring

HemoCue® WBC DIFF System brings the unique possibility to test and receive reliable results for WBC + ANC, right at the point of care. The portable device can be operated from any electrical outlet or from batteries.

02

## Patient-friendly blood monitoring

Requires only 10 µL of capillary\* or venous blood, and prevents any patient discomfort caused by testing at or sending samples to the lab.

03

## Faster treatment decisions and streamlined workflow

In just 5 minutes, HemoCue® WBC DIFF System provides conclusive results that can guide treatment decisions – saving time for both you and your patients.



\*It is recommended to verify unexpected results or results below normal range using venous blood, or to confirm results by an alternative method.

# HemoCue® WBC DIFF System

HemoCue® WBC DIFF System uses a groundbreaking technology with an imaging system that characterises white blood cells that are stained, identified and counted. It's easy to use by healthcare professionals after a brief training.

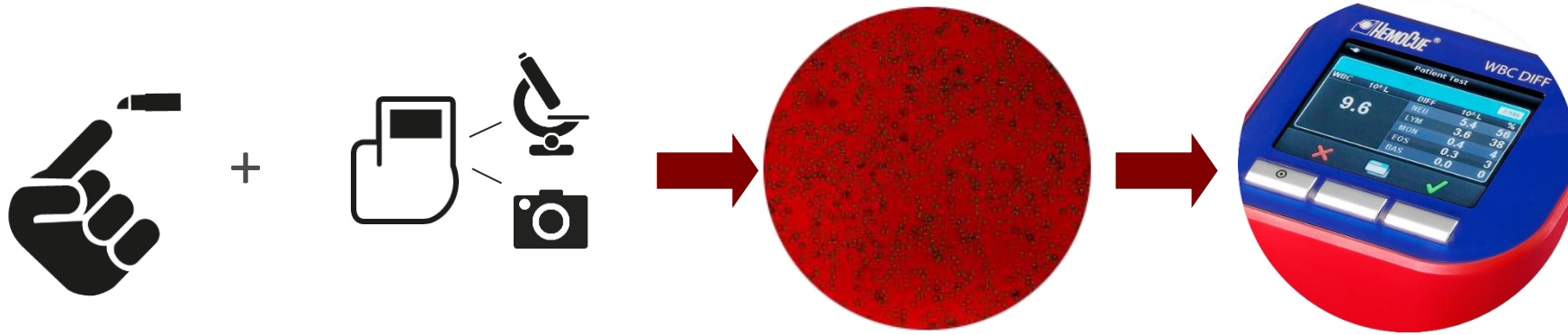
## 3 simple steps:

1. Fill the microcuvette
2. Place the microcuvette into the analyser
3. View results within 5 minutes



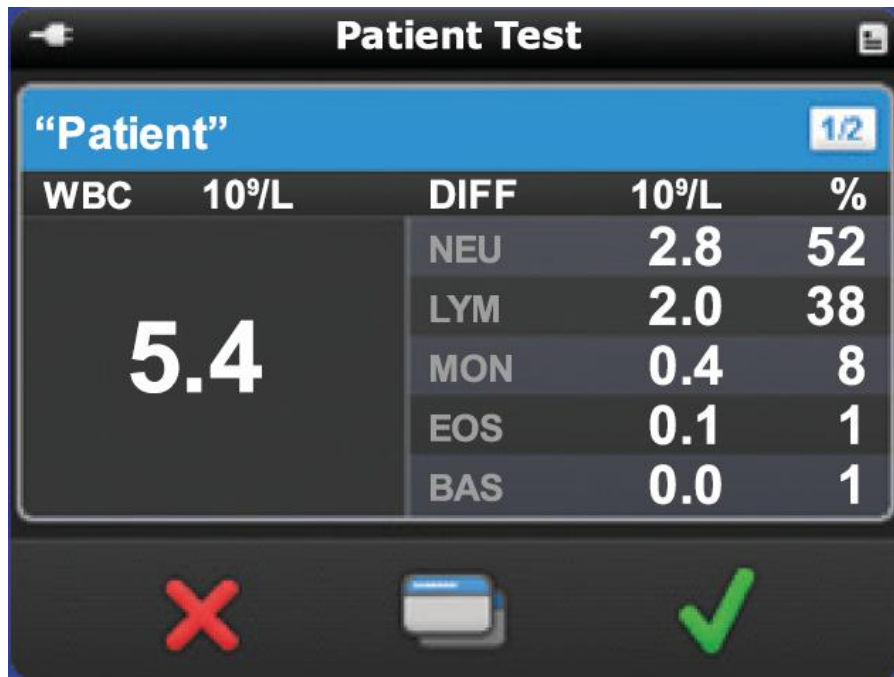
It is recommended to verify unexpected results or results below normal range using venous blood, or to confirm results by an alternative method.

# Technology



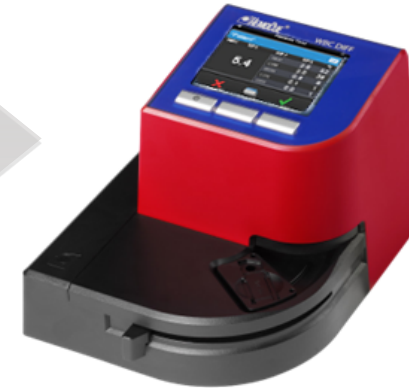
- When the microcuvette is filled with blood, the red cells are haemolysed and white cells are coloured
- The analyser contains a camera and a microscope
- Several images are taken
- The white cells are classified, and the results are presented

# Displayed results



A screenshot of a smartphone application titled "Patient Test". The screen displays a large "5.4" for WBC. Below it is a table of differential counts. At the bottom, there are three icons: a red "X", a printer icon, and a green checkmark.

WBC	10 <sup>9</sup> /L	DIFF	10 <sup>9</sup> /L	%
5.4		NEU	2.8	52
		LYM	2.0	38
		MON	0.4	8
		EOS	0.1	1
		BAS	0.0	1



# Clozapine supply models across AUS, NZ & the UK

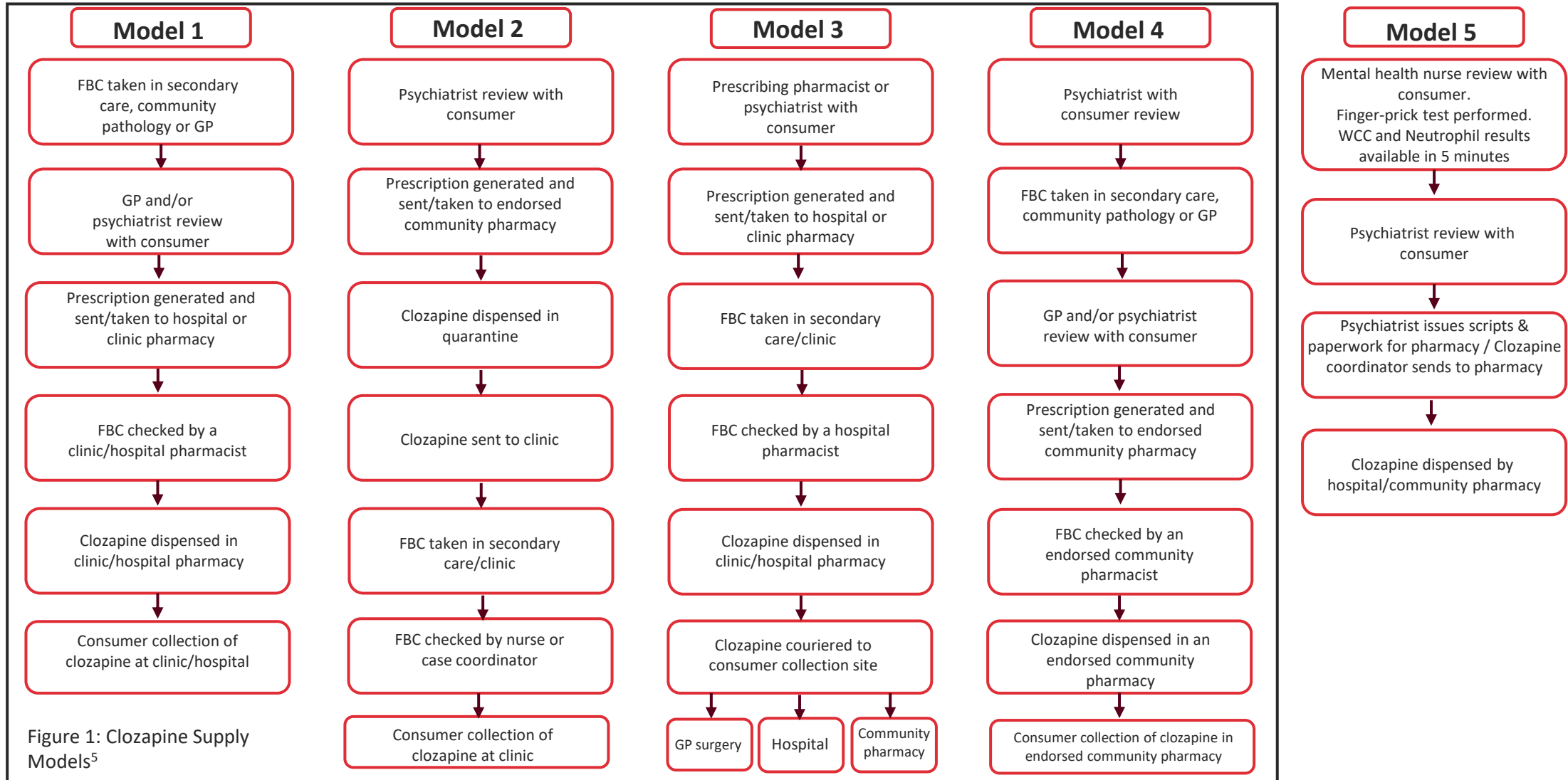


Figure 1: Clozapine Supply Models<sup>5</sup>

5. Knowles SA, McMillan SS, Wheeler AJ. Consumer access to clozapine in Australia: How does this compare to New Zealand and the United Kingdom? *Pharma Pract (Granada)*. 2016;14(2):722

# Voice of consumer, via clinician's perspective

In the study by Kalaria & Kelly (2019), a consistent trend was observed in favour of capillary blood testing as a significant number of consumers reported less pain and anxiety, greater convenience, less fear, and a better understanding of the intended purpose of the sample collection<sup>6</sup>.



## Voice of Australian mental health nurses<sup>7</sup>

### WA

“Less stress/anxiety, patients will get their results in time”

“Saved patients from going down the hospital route due to the WBC DIFF e.g. missed blood”

“More time, less waiting on forms, waiting on case worker etc.”

### QLD

“Less painful, fast, instant peace of mind”

6. Kalaria SN, Kelly DL. Development of point-of-care testing devices to improve clozapine prescribing habits and patient outcomes. *Neuropsychiatr Dis Treat.* 2019;15:2365-2370. doi:10.2147/NDT.S216803

7. Anon survey of clinicians in Australia 2025

# Voice of clinician

From the same publication in 2019, healthcare practitioners reported a greater advantage of using the point of care testing (POCT) device that provided quick turnaround of analysing the sample and reporting results<sup>6</sup>.

## Voice of Australian mental health nurses<sup>7</sup>

### WA

“Great backup”

"Cost far outweighs what it would be for someone to NOT have the HemoCue done, and end up in ED, and end up back re-titrating"

### QLD

“Instant script – don’t need to be chasing customer for bloods”



6. Kalaria SN, Kelly DL. Development of point-of-care testing devices to improve clozapine prescribing habits and patient outcomes. *Neuropsychiatr Dis Treat.* 2019;15:2365-2370. doi:10.2147/NDT.S216803

7. Anon survey of clinicians in Australia 2025

# Costs

The cost of clozapine initiation in the inpatient setting was AU\$24,421.96 per patient over the first fortnight<sup>8</sup>.

The cost of clozapine in the outpatient setting was AU\$4,183.56, which is **85% less** than an equivalent 2-week admission for titration<sup>8</sup>.

A point of care WBC DIFF\* would cost the clinic ~AU\$10 after claiming the Medicare Benefit Scheme rebate (code 73802)<sup>9</sup>.

For consumers, a price is paid in other ways. Patients encounter a loss of time, freedom and autonomy, experience psychological and emotional impacts, financial burden and barriers to initiation or continuation.

\*Analyser at additional cost.



8. Paul J, Ayeni B, Ienco R, Waters F, Varghese S, Nguyen T, Shymko G. Initiating clozapine in the outpatient setting: A retrospective study examining the cost-effectiveness, feasibility and safety. *Australas Psychiatry*. 2025 Jul 4;10398562251358132. doi: 10.1177/10398562251358132. Epub ahead of print. PMID: 40614222  
9. Australian Government Department of Health. MBS Item 73802 [Internet]. Canberra: Department of Health [cited 2025 October 9]. Available from: <https://www9.health.gov.au/mbs/search.cfm?q=73802&sopt=i>

# Summary of benefits for POCT

## Benefits to patients

- Finger-prick overall is viewed less painful and more easily accessible than venipuncture
- Test is performed by their regular healthcare professional, right in front of the patient
- No need to have a separate pathology appointment the day prior to clinic
- Some patients do not live close to pathology laboratories, having option of POCT could enable new clozapine prescriptions, creating better quality of care

## Benefits to clinic and nursing team

- Do not need to be following up blood results with pathology
- Saves time
- Patients more relaxed in the clinic
- Eases stress around public holidays when pathology is closed
- Easier to do a finger-prick than re-titrate a consumer
- Patients' veins can be difficult to access for a multitude of reasons

## Benefits to psychiatrist

- Possibility to manage more patients due to ease of blood tests
- Finger prick allows easier management of patients
- Increased consumer compliance

# Thank you