### TECHNOLOGY DRIVEN HEALTHCARE SOLUTIONS

# NURSELENS

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## Let's Start!





## ACHNOULEDGEMENT

I am privileged to be joining you today from the unceded land of the Kwantlen First Nation







Background



NurseLens

**Google Search** 



Features



Benefits



Challenges



Narration: Critical Care



Narration: Home



# BACKGROUND

Cognitive Overload & Workflow Fragmentation in Nursing

High-acuity settings (ICU, ED, med-surg) demand multitasking under pressure (Surendran et al., 2024).

Nurses must manage patient care, data recall, alarms, and interdisciplinary coordination—often without integrated systems.

Fragmented digital tools (EHRs, decision-support) increase toggling, manual entry, and cognitive fatigue (Harris et al., 2018).

Workflow disruptions lead to errors, delayed care, and emotional exhaustion (Harvey et al., 2020; Gündüz & Öztürk, 2025).

Solution: Intelligent, integrated technology that supports real-time decisionmaking and reduces cognitive burden.









## Augmented Reality for Smarter Nursing

NurseLens uses AR smart glasses to display real-time, patient-specific data in the nurse's field of view (Malungana & Chimbo, 2024).

Eliminates need to pause care for chart access—info like allergies, mobility, and orders appears instantly.

Interactive checklists support evidence-based assessments; voice/gesture controls enable hands-free documentation.

Virtual unit map enhances coordination; built-in prompts support novice nurses with just-in-time guidance.

Reduces cognitive fragmentation, supports task prioritization, and keeps focus on direct patient care.

No existing AR system like NurseLens is currently implemented in clinical nursing practice in British Columbia.

Comprehensive search of databases, journals, and institutional websites (UBC, BCIT) revealed no point-of-care AR tools in use.

Existing AR efforts in BC focus on education and simulation not real-time bedside nursing support.

NurseLens represents a novel, original concept with potential to transform frontline nursing workflows through AR integration.







### PATIENT DATA **OVERLAY**

RAPID DETECTION AND TIMELY INTERVENTION

INTERACTIVE GUIDED CHECKLISTS

### HANDS-FREE DOCUMENTATION





- Streamlines multitasking
- Reduces cognitive overload
- Improves protocol adherence
- Prevents missed or delayed care



**Overreliance on Prompts** Impairs critical thinking and clinical judgment Physical Discomfort and Fatigue









Reduces patient-nurse interaction

Nurses may appear distracted and disconnected: missing emotional and nonverbal cues

Patients feel overlooked or dismissed, leading to loss of trust and empathy





## MAYA'S FIRST SHIFT WITH NURSELENS



## NURSELENS FOR EVERYDAY



RELAX

# MARIA'S JOURNEY WITH NURSELENS













