

BEARING BARE: The SecureFit ROMPER

A 2-Way Locking Mechanism to Prevent Clients from Stripping



SN Kathrine, SN Janella, APN Regina, NC Sheeba, NC Wang Yong



Innovation That Protects Dignity

BEARING BARE: The SecureFit Jumpsuit



Background

Our team would like to eliminate the long-term undesirable behavior stripping instantly, whilst providing safer, calmer and more conducive environment with our protective garments; Bearing Bare Rompers. ANDS Ward developed an innovative anti-stripping initiative which is secured & fitting to address the issue of psychiatric clients stripping & eliminating indiscriminately, causing distress to selves and others. This long-standing issue of for the past many decades, exposing themselves to others which affects their own dignity, that is inappropriate to selves & others.



Proud Top 10 Winner of NHG Innovation Challenge 2025!

Mission Statement

To eliminate 100% of stripping behaviour in Adult Neurodevelopmental Service (ANDS) Ward* within 6 months. Adult Neurodevelopmental Service (ANDS) Ward is an inpatient ward for those with Intellectual Disability ID and/ or Autism Spectrum Disorder (ASD), with co-occurring mental health conditions.



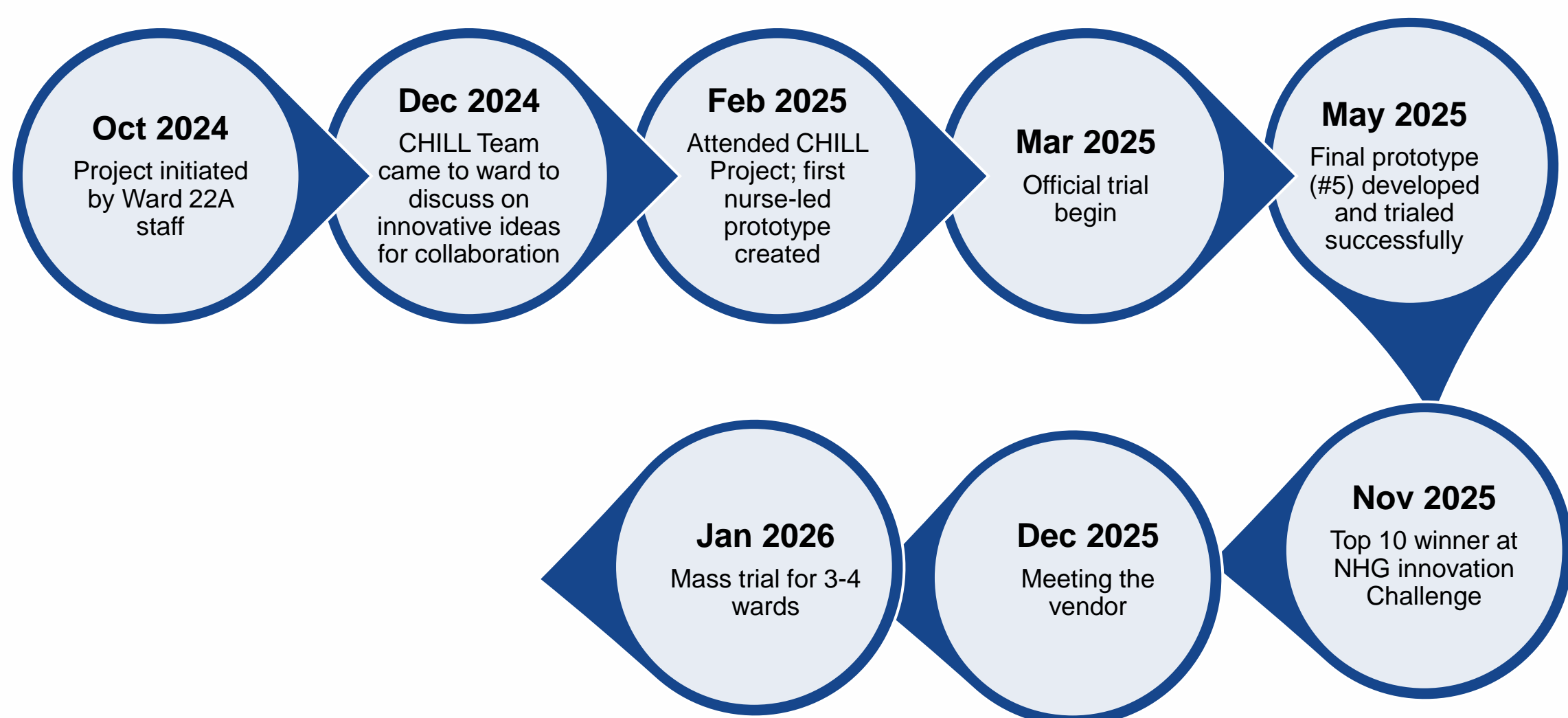
Role	Name	Designation	Department
Leader	Kathrine Joy Pascual	Staff Nurse	ANDS Ward
Facilitator	Lee Jie Xuan Keith	Senior Assistant Manager	CHI-Kaizen Office
Member	Sheeba Nithya Nirubama	Nurse Clinician	ANDS Ward
Member	Wang Yong	Nurse Clinician	ANDS Ward
Member	Janella Sarmiento	Staff Nurse	ANDS Ward
Advisor	Regina Lua Ubana	Advanced Practice Nurse	ANDS Ward

Challenges Faced

changing (restrained patients)	Difficult and time-consuming with current (non-zipper) jumpsuit: remove from top, thread through body restraint, then pull down trousers.	Leads to workflow delays and patient discomfort, especially during nighttime. nokmime.
High workload due behaviour	Frequent re-dressing/cleaning (5-7x per shift), documentation, restraining for PICA, calling cleaners.	SN, EN, CSA all impacted; staggered workload and productivity loss.
Laundry / logistics	Jumpsuit colour matching hospital uniform led to items being sent to general laundry by mistake.	v2 introduced different colour to mitigate.
& infection control (early versions)	Ligatures not approved (strangulation risk); infection control standards not met; skin irritation risks.	Drove design changes toward safer, skin-friendly materials and closures.
Vendor prototype issues (current vendor iteration)	Fit & materials: too hot; too long; tight neck when seated; garter leg opening vs jogger; weak zipper; small sizing.	Staff suggested cotton fabric, below-knee length, jogger cuffs, stronger zipper.

Project Timeline

- Multiple prototypes were trailed from October 2024 to June 2025.
- A two-week trial of SecureFit romper (final prototype #5) showed:
 - Significant reduction in stripping and digging behaviours
 - Positive feedback from staff on usability and efficiency
 - Improved patient comfort and fewer nighttime disturbances



Implementation

Impact and Outcomes

Effective in behavior management	Ease of use for caregivers	Patient comfort maintained	Successful trial	Ward staff preference
Successfully mitigates stripping and digging behaviours.	Two-way zipper allows easy access for diaper changes without fully removing jumpsuit.	Patients are less disturbed care routines, especially at night.	2-week trial demonstrated effectiveness and acceptance.	Staff reported preferred it as user-friendly as and time-saving

Prototype History and outcome

Prototype 1



Did not stop digging; diaper changes time-consuming; disturbed patients at night

Prototype 2



diaper changes time-consuming; disturbed patients at night. Hard for restrained patients (must remove from top)

Prototype 3



- Patient may discover zipper location
- Patient can remove the jumpsuit like a dress → reduces effectiveness in anti-stripping cases.
- Securing with bra lock can be time-consuming, especially in dim environments. Large zipper may cause discomfort due to stiffness, especially when sitting or lying down.

Prototype 4



Too long; hot fabric; tight neck; weak zipper; wrong sizing; garter cuffs

Prototype 5 (final prototype)



- Two-Way Locking Mechanism:** Prevents patients from self-stripping while allowing caregivers quick access for diaper changes without removing the whole suit.
- Jogger-Style Cuffs:** Tapered leg openings ensure, comfortable fit that prevents digging.
- Optimal Comfort:** Made from breathable cotton fabric with a length that sits respectful below the knee

Project Timeline

Category	Without Jumpsuit (Traditional Care)	With Jumpsuit (SecureFit Modified)	Color Code	Notes
Cost (per 15 pcs)	—	Vendor: S\$1,950 Staff-made: S\$375	■ hospital uniform ■ Staff	Staff-made is significantly cheaper
Total Savings	—	S\$1,575 saved	■ Efficiency	Combined cost + FTE savings
Staff Nurse Workload	■ 5-7x re-dressing & cleaning per shift Frequent documentation, restraining, calling cleaners	■ Fewer behavioural incidents → less documentation & restraint	■ Improvement	Improves productivity and reduces burnout
Enrolled Nurse Workload	■ Work disrupted to assist in cleaning and managing behaviour	■ Less disruption; able to focus on core nursing tasks	■ Improvement	Less diversion from duties
CSA / Cleaners Workload	■ 5-7x cleaning of patient & environment daily	■ Reduced cleaning frequency & workload	■ Improvement	Significant decrease in repetitive cleaning tasks
Uniform / Linen Usage	■ Frequent uniform depletion due to constant changing	■ Only 2 jumpsuit uses in 24 hrs during trial	■ Efficiency	Reduced linen consumption
Overall Workforce Impact	■ High workload across SN / EN / CSA	■ Time saved, smoother workflow, improved safety	■ Positive	Better patient & staff experience

A Story of How Something Small Became Something Significant

Top 10 Winner — NHG Innovation Challenge 2025

Before this project began, I never expected that a simple, personally sewn uniform could spark meaningful change. It started as a small solution to a daily challenge in the ward, meant only to help our patients feel safer and preserve their dignity. After refining the design and seeing how each improvement eased the burden on caregivers, reassured relatives, and supported the MDT, I realized how even the simplest initiative can create a powerful impact. And now, this humble idea has brought me all the way to securing a spot in the Top 10 of the NHG Innovation Challenge, giving me the support to further develop and expand the project. This journey is a reminder that big transformations often begin with small, heartfelt beginnings.