

### **Project Title**

Reduction of manual transfer of clients using Kee Low Device (KLD)

### **Organisation(s) Involved**

The Salvation Army Peacehaven Nursing Home

### **Project Period**

Start date: Apr 2017

Completed date: May 2018

### **Lessons Learnt**

One lesson we learnt is that in finding solution(s), sometimes we need to explore outside our industry where others may have the suitable solution to our needs. Another lesson learnt is that critical thinking and identifying the specific problem is the key to finding the exact solution. Multiple disciplinary staff contribution to improve on the solution is important. Hearing from the direct staff issue proved to be critical in the workflow.

### **Additional Information**

NHIP 2017 Poster Presentation

### **Project Category**

Process Improvement, Technology

### **Keywords**

Process Improvement, , Technology, Productivity, Quality Improvement Methodology, Community Care, Safe Care, Staff Safety, Patient Safety, Injury Prevention, Eldercare, Nursing, Occupational Therapy, Multidisciplinary Team, Manpower Saving, Cost Saving, The Salvation Army Peacehaven Nursing Home, Intermediate and Long-Term Care, Day Care Centre, Integrated Home Day Centre, Kee Low Device, Reduce Manual Transfer, Padded Reclining Wheelchair, Manual Handling, Ramp System, Automated Hydraulic Platform, Fish Bone Diagram, Root Cause Analysis

**Name and Email of Project Contact Person(s)**

Name: Mdm Low Mui Lang, Executive Director, The Salvation Army Peacehaven Nursing Home

Email: [peacehaven@smm.salvationarmy.org](mailto:peacehaven@smm.salvationarmy.org)

## Community Care Excellence Awards 2018 Nomination Form – Team Award

Team Awards		
<p>The Community Care Excellence Awards – Team Awards acknowledge outstanding quality improvement projects and initiatives implemented in community care organisations. Specific criteria for each category include:</p>		
<p>1. <b>Clinical Quality Improvement Award:</b> This award recognises outstanding projects that improve clinical care processes, patients/clients' clinical outcome or safety. Project scope could include but is not limited to infection control, hand hygiene, falls prevention, skin care, urinary continence care, etc.</p>		
<p>2. <b>Client Experience Improvement Award:</b> This award recognises outstanding projects that improve client experience and satisfaction. Project scope could include but is not limited to wellness initiatives, recreational and social activities (music, art, creative movement and Tai Chi), gardening, family day, festival celebration, environment improvement programme, reminiscence group work, improvement on quality of food, etc.</p>		
<p>3. <b>Productivity and Innovation Award:</b> This award recognises outstanding projects that create positive productivity and innovation impact which lead to savings in operating cost or improvement in efficiency. Project scope could include but is not limited to 6S and Lean project, enhancing efficiency of discharge process, improving storage and replenishment of medication process, etc. Organisations must demonstrate how process improvement led to a significant productivity or innovative impact.</p>		
Project team members' information		
Name	Project role	Designation
Mr Ng June Ren	Project Lead	Senior OT
Mr Low Mui Lang	Project member	Executive Director
Mdm Melanie Magnaye	Project member	Assistant Nurse Manger
Mdm Juvy Subramanian	Project member	Senior Staff nurse
Miss Naw Mu Ku	Project member	Senior Enrolled Nurse
Miss Florida Gundram Santiago	Project member	Senior Nursing Aide
Miss Heng Jee Chian	Project member	Senior Care Associate
Mdm Wu Carrie	Project member	Senior Care Associate
Miss Mok Chik Keow	Project member	Senior Care Associate
Nominator's Details		
<b>Salutation</b> <i>(Please circle ONE)</i>	<input checked="" type="radio"/> Mr <input type="radio"/> Mrs / <input type="radio"/> Dr / <input type="radio"/> Ms / <input type="radio"/> Mdm	
<b>Full Name:</b> <i>As per NRIC/FIN</i> <i>Please underline surname</i>	<b>Ng June Ren</b>	
<b>Designation</b>	<b>Senior Occupational Therapist</b>	
<b>Organisation:</b>	<b>The Salvation Army Peacehaven</b>	

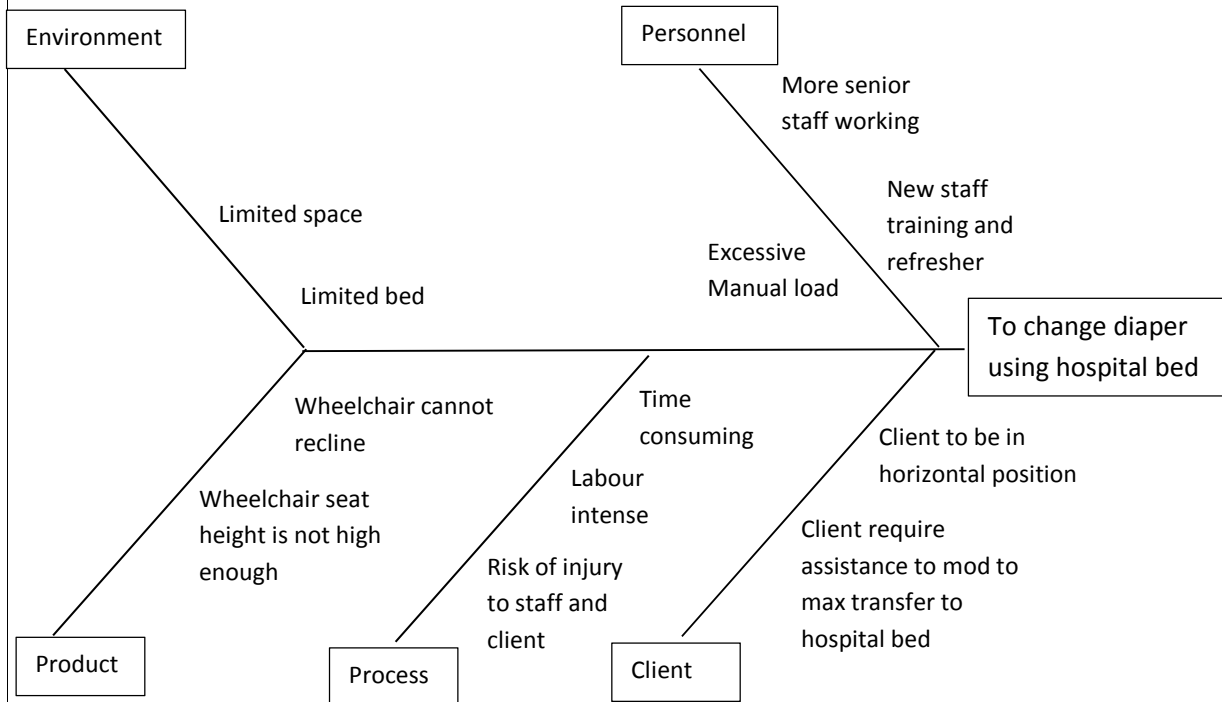
<b>Department:</b>	<b>Peacehaven Changi Day Centre, Bedok Day Centre</b>
<b>Email:</b>	<a href="mailto:ng_june_ren@smm.salvationarmy.org">ng_june_ren@smm.salvationarmy.org</a>
<b>Contact number:</b>	<b>64451630</b>

Summary of Project	
<b>Category:</b> <i>(Please choose one only)</i>	<input type="checkbox"/> <b>Clinical Quality Improvement Award</b> <input type="checkbox"/> <b>Client Experience Improvement Award</b> <input checked="" type="checkbox"/> <b>Productivity and Innovation Award</b>
<b>Title of project</b>	<i>Reduction of manual transfer of clients using Kee Low Device (KLD)</i>
<b>Start date of project</b>	April 2016
<b>Completion date of project</b> <small>*indicate as ongoing if the project is not complete yet.</small>	May 2017
<b>Background and Objective</b>	
<p><i>For example:</i></p> <ul style="list-style-type: none"> <li>➤ <i>Why do you need to work on this?</i></li> <li>➤ <i>What is the desired outcome of the project (please include quantitative target if there is any, for example, to reduce hospital re-admission by 25%)?</i></li> </ul>	
<p>In 2015, The Salvation Army Peacehaven's two day centre: Changi and Bedok. Started SPICE programme and later embarked on IHDC (Integrated Home Day Centre) programme where we receive clients who are wheelchair bound, including those who require higher level of care.</p> <p>1st KLD had been operational since April 2016, 2<sup>nd</sup> KLD has been in operational since March 2017 and this project was concluded in May 2017.</p> <p>The team consist of our Executive Director, therapist, nurses and senior care associate, striving to provide safe and comfortable care to the clients.</p> <p>The targeted clients are those who have needs of having their diapers changed in a horizontal position.</p> <p>The process requires staff to manually transfer clients from their wheelchair to the hospital bed and vice versa.</p> <p>The frequency of transfers increase the risk of injury to staff who are performing the manual transfers. In an aging workforce, we have employed 50% of the staff who are above 55 to ensure a local workforce. Hence, finding solutions to support them is very critical. Moreover, increase number of manual handling to each client can contribute to their discomfort and sustain injury. Staff is at high risk of injury to themselves.</p> <p>Therefore, having identified this area of concern, we decided to review it and derive a process or device(s) that can benefit both staff and clients and to increase the productivity of the staff in the area of direct care.</p> <p>Desired Outcome:</p> <ol style="list-style-type: none"> <li>1. Reduce discomfort and risk of sustaining injury of client by reducing frequency of transfer</li> <li>2. Reduce risk of injury to the staff</li> <li>3. Streamline process and manpower time saved</li> </ol>	

## Implementation Details

For example:

- How do you identify the root causes? (RCA or fishbone diagram)
- What are the interventions, procedures and observations to address the root causes? (to include who, what and when)



Since Nov 2015, extensive searching for the most comfortable reclining wheelchair and can also serve as a flat resting space.

Jan 2016, we acquired 8 fully padded reclining wheelchairs that can replace the function of a hospital bed.

In April 2016, we customised and purchased a fixed height ramp with platform and installed it in Changi Day Centre.

Staff nurse identified which clients will benefit this new process and informed them about the changes.



Staff started to push each client onto the raised platform to change diaper while on the new reclining wheelchair and started collecting data for the next 3 months.

During weekly roll call, staff are prompted to give feedback on the usage of the raised ramp. Identified clients also provide feedback periodically on how to improve this new process.

Through review process, we identified that due to the platform ramp built at fixed height, it does not cater to different heights of the staff and requires much strength to push the reclining wheelchair with client up the ramp.



May 2016, we explored suitable automatic ramp to enhance the system and engaged an engineering company to provide customisation for our needs.

October 2016, we acquired 15 fully padded reclining wheelchair that can replace the function of a hospital bed and geriatric chair in Bedok Day centre.

March 2017, a customised automated hydraulic platform with a ramp attached was commissioned and we proceed with the trial process in Bedok Day Centre.

End June 2017, conclusion of the trial process.



## Benefits and results

For example:

- How do the data and results show the improvement on care outcome, client experience, satisfaction level or productivity?
- How does the project outcome meet the objective?
- Include charts/graphs showing results/improvements
- For a project that is ongoing, please indicate the interim project outcome report if there is any.

After identifying suitable clients, staff started to map out each client's workflow.

### Changi Day centre:

Prior commencement of using the ramp, staff indicated the average frequency of the manual transfer of 15 identified clients who can benefit from this new process.

After the new process was in place, staff indicated the average frequency of the manual transfer of the identified 15 clients who benefited from this new process.

Prior process						New process			
SN	Name	No. of manual transfer from own w/c to Geriatric chair and vice verse	Freq for changing diaper	No. of manual transfer from w/c to bed and vice verse for diaper changing	Pre Process Total Freq of manual transfer	No. of manual transfer from own w/c to reclining w/c	Freq for changing diaper	No. of manual transfer from w/c to bed and vice verse for diaper changing	Post Process Total Freq of manual transfer
1	Client 1	2	2	4	6	2	2	0	2
2	Client 2	2	1	2	4	2	1	0	2
3	Client 3	2	1	2	4	2	1	0	2
4	Client 4	2	1	2	4	2	1	0	2
5	Client 5	2	2	4	6	2	2	0	2
6	Client 6	2	1	2	4	2	1	0	2
7	Client 7	2	3	6	8	2	3	2	7
8	Client 8	2	3	6	8	2	3	0	2
9	Client 9	2	2	4	6	2	2	0	2
10	Client 10	2	2	4	6	2	2	0	2
11	Client 11	2	2	4	6	2	2	0	2
12	Client 12	2	1	2	4	2	1	0	2
13	Client 13	0	2	4	4	2	2	0	2
14	Client 14	2	2	4	6	2	2	0	2
15	Client 15	2	3	6	8	2	3	0	2

\*Data collection for 3 month for Changi Day Centre

### Bedok Day centre

Prior commencement of using the ramp, staff indicated the average frequency of the manual transfer of 15 identified clients who can benefit from this new process.

After the new process is in place, staff indicated the average frequency of the manual transfer of the identified 10 clients who benefited from this new process.



Prior process						New process			
SN	Name	No. of manual transfer from own w/c to Geriatric chair and vice verse	Freq for changing diaper	No. of manual transfer from w/c to bed and vice verse for diaper changing	Pre Process Total Freq of manual transfer	No. of manual transfer from own w/c to reclining w/c	Freq for changing diaper	No. of manual transfer from w/c to bed and vice verse for diaper changing	Post Process Total Freq of manual transfer
1	Client 1	4	2	4	8	2	2	0	2
2	Client 2	2	2	4	6	2	2	0	2
3	Client 3	2	2	4	6	2	2	0	2
4	Client 4	2	2	4	6	2	2	0	2
5	Client 5	2	2	4	6	2	2	0	2
6	Client 6	2	2	4	6	2	2	0	2
7	Client 7	4	3	6	10	2	3	0	2
8	Client 8	2	2	4	6	2	2	0	2
9	Client 9	2	2	4	6	2	2	0	2
10	Client 10	2	2	4	6	2	2	0	2

\*Data collection for 3 month for Bedok Day Centre

With the above result shown:

- Overall frequency of manual transferring have decreased close to 50% to 75% for all clients.
- Time trial in comparison with pre and post process for 1 subject
  - Time saved per process is 6 minutes.
- On a daily basis, Changi and Bedok day centre staff save up to 162 minutes and 138 minutes man hours respectively.
- Therefore, in a month:
  - Changi day centre can save 59hrs 24min man hours, saving of 34% of 1 manpower hours per month
  - Bedok day centre staff can save 50hrs 36min man hours, saving of 29% of 1 manpower hours per month

Staff, especially the older staff, had reported that with this new process introduced:

- They used lesser physical strength throughout the day.
- The staff perceive that they feel healthier as they were not as physical worn out at the end of the day
- Currently, older staff were more forthcoming in assist handling the diaper changing of the clients.
- With the time saved from diaper changing, older staff were able to engage in other direct care with the clients (eg. Clients' personal grooming needs, personal interaction) more frequently.

Clients who benefited from the new process reported that they were happy with lesser physically handling of them on a daily basis.

In the area of risk management;

Pre –process period, it is rated as Medium Risk with a score of 9.

After implementation, it is revised as Low Risk with a score of 4.

Therefore, we can conclude another area that we are improving our work process and providing better working environment for the older staff.

**Follow-up**

*For example:*

- *What are the actions to standardize the work flow and spread/diffuse learning points?*
- *How will the results be sustained?*
- *For a project that is ongoing, please indicate future plans to spread the learning points and maintain the sustainability.*

One lesson we learnt is that in finding solution(s), sometimes we need to explore outside our industry where others may have the suitable solution to our needs.

Another lesson learnt is that critical thinking and identifying the specific problem is the key to finding the exact solution.

Multiple disciplinary staff contribution to improve on the solution is important. Hearing from the direct staff issue proved to be critical in the workflow.

We will explore further to expand this device to replace the 1<sup>st</sup> prototype and further more into our nursing home.

We hope that this new system can positively impact the ILTC as a whole, from Nursing Home, community hospital, day care; change dimension of care, and improve Quality of Life for clients, and encourage the older population to join the healthcare sector as direct care staff.

**Other information**

- *Please state if this project was submitted for any competition/award or presented at any local/overseas conference.*
- *Please fill in "NIL" if the project was not submitted or presented at any award or conference.*

Name of competition/award/conference.	Year of submission/participation/presentation
National Healthcare innovation and Productivity Medals	2017 Poster Presentation
6th Asia Pacific Eldercare Innovation Awards	2018 Ongoing

## Declaration by nominator

I, Ng June Ren (name of nominator) declare that:

1. The information stated in this nomination form and the attachments are true and correct to the best of my knowledge, and that I have not wilfully suppressed any material fact.
2. I give my consent for Community Care Excellence Awards secretariat to obtain and verify the information provided by me in respect of this nomination form.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

*\* The submission will be evaluated on a case-by-case basis and to award deserving exemplary nominees for the award based on the supporting information provided by the nominating organisation. The Community Care Excellence Awards secretariat and selection panel reserves the right to conduct random audit on submitted information and request for additional supporting documents.*

## Instructions for Submission

Please Scan and submit a soft copy of this nomination form together with the original endorsement form and all supporting documents to [excellence.awards@aic.sg](mailto:excellence.awards@aic.sg)

All award nomination forms must be completed and signed by the nominator before submission. All submissions must be endorsed by the CEO or equivalent by completing the organisation endorsement form (only ONE endorsement form per organisation). Any incomplete or late submission will be disqualified for the award.

All projects supporting documents should include the soft copy of supporting documents. For example, project A3 posters, data tracking sheets/graphs, activities / event pictures, clients' positive feedback about the projects, etc.

For enquiries and more information on the Community Care Excellence Awards, please feel free to contact the Community Care Excellence Awards secretariat at [excellence.awards@aic.sg](mailto:excellence.awards@aic.sg) or 6603 6800.

You may also visit <https://www.aic.sg/for-community-care-partners/excellence-awards> for more details.