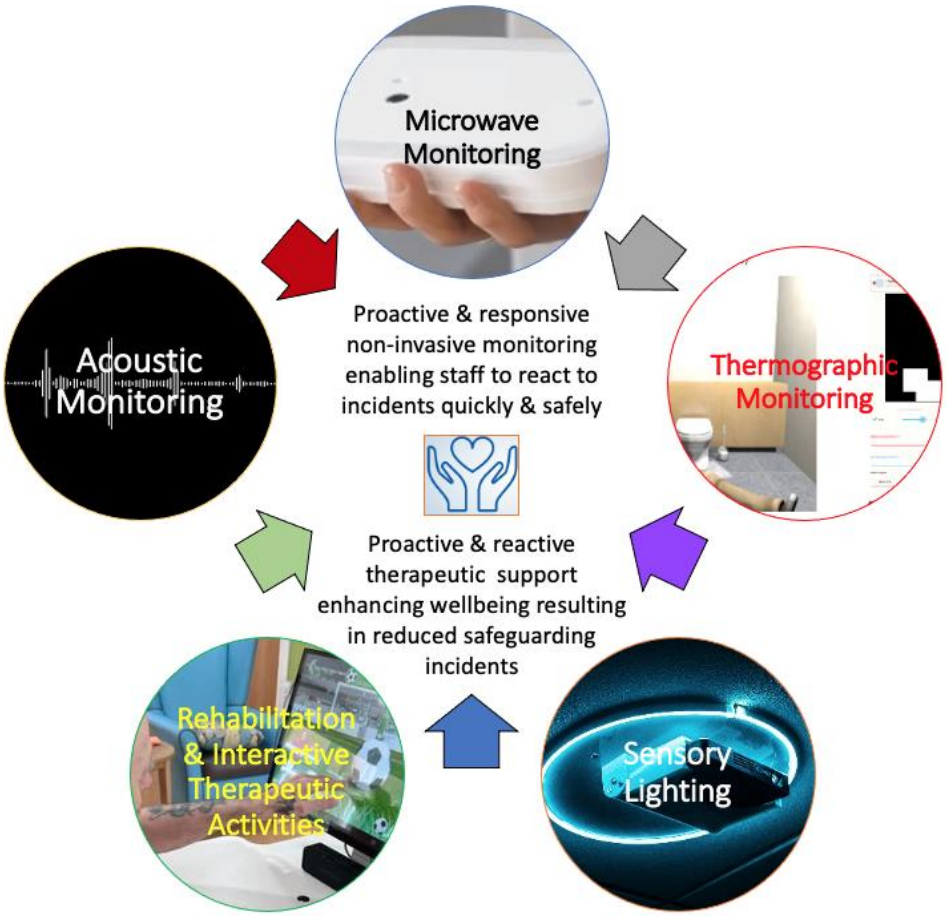
ALM at Princes Court – The Outcomes

Princes Court is an intermediate care facility offering Residential, Nursing, Dementia and Respite care. In 2022, with support from North Tyneside CCG, Princes Court were supplied with state-of-the-art Assistive Living Monitoring Technology (ALM) to further enhance care delivery. ALM is a non-invasive monitoring system promoting quality and safety whilst supporting independence.

The patented Assistive Living Monitoring (ALM) solution is the first system in the world to combine six different areas of monitoring and digital therapeutic/sensory support for service users, all reporting to one system. The ALM components deployed at Princes Court are:

- **Microwave and thermographic monitoring** to see inside a room without the need for invasive CCTV (alerting staff of any falls)
- **Acoustic monitoring** to alert staff if there is a distressed or agitated service user
- **Sensory lighting to** enhance mood and wellbeing
- **Rehabilitation and Interactive Therapeutic Activities** (RITA) Digital Touch Screens enhancing quality of life and wellbeing

A digital holistic approach to care



This document summarises the outcomes achieved at Princes Court following the implementation of the above mentioned holistic ALM solution. It highlights the significant benefits of combining two types of technology. **Preventative** = proactive wellbeing support & **Reactive** = Non-invasive monitoring and alerting support

QUANTITATIVE OUTCOMES

The following summary has been collated using feedback and statistical outcomes provided by the care facility. Comprehensive data is supplied at the end of this document.

FALLS

Falls detected: 5

Response time: Increased due to alert (all below 1 minute)

ALM sensory exposure: Decreased number of falls with both 1-6- & 6-12-hour sensory usage

ALM sensory exposure removed: Increase in falls mainly in the mornings

BEHAVIOURAL

Service users were provided with the sensory aspect ALM for 1-6 hour & 6–12-hour periods, daily. Patients exposed to more than 12 hours showed significant changes in positive behaviour and zero noticeable negative changes occurred during this period.

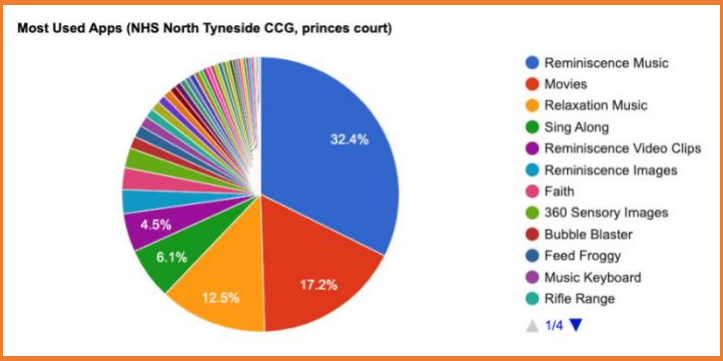
In contrast, when the sensory was removed from the service users and decreased, the incidence of behavioural increased.

Increased ALM sensory usage decreased the number of challenging behaviour incidents.

Decreased ALM sensory usage resulted in an increase in challenging behaviour incidents.

NUTRITIONAL

- 83% of service users showed gradual increase in weight following ALM exposure (5 out of 6 rooms)
- Data was compared across a 9-month period in the same year 2022
- ALM sensory & RITA has been used for a total of 129 hours

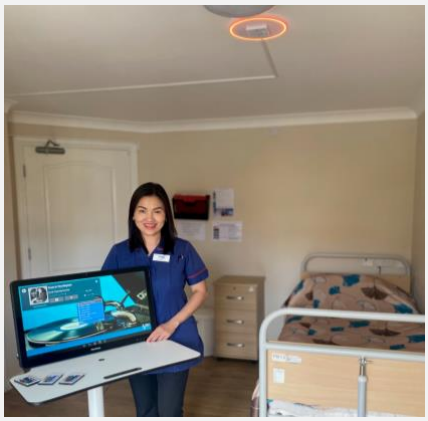


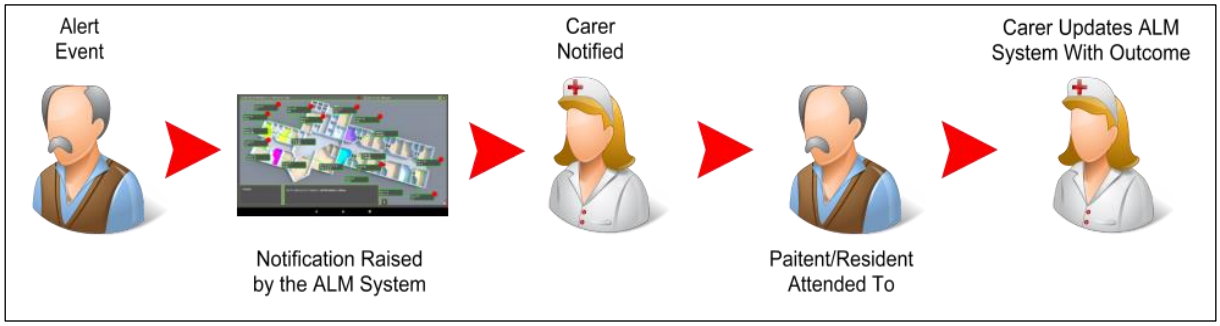
ADDITIONAL

- Service user one had consistent vomiting, challenging behaviour and weight loss. Her weight increased gradually following exposure to ALM
- Service user two displayed constant aggressive behaviour, vomiting impacted weight loss and suffered a fall and admitted back to hospital. Following introduction of ALM, no further falls or incidents in challenging behaviour whilst weight stabilised.
- Service user three showed longer sleep hours & less wakefulness during evenings
- Service user four eradicated low mood and requested to be in the lounge with ALM for calming music
- Service user five showed disorientation and confusion refusing to interact with staff. Following relaxation exposure, she increased interaction for the duration of her admittance

"In room 26 we received a falls alert in the middle of the night. Staff had actually just done a routine check on a patient who was in bed so we would not have gone back for some time. If it was not for the falls alarm system she may have been on the floor for much longer and instead was attended to within seconds."

Since the deployment of the technology and subsequent onboarding of staff, the following positive feedback has been received:

How much reassurance do you get from having ALM in place? 	For staff, the ALM system is very reassuring, knowing that if a patient has a fall and cannot reach the call buzzer, we will be alerted promptly to assist them. It is also reassuring to patient's friends and family. I have explained numerous times to family members of not only the importance of this system for assisting high falls risk patients but of the added reassurance they can have that their family member is receiving the best care and attention. It helps the staff to engage and act on the needs of the resident efficiently.



CASE STUDY: COMPLEX INDIVIDUAL

This service user elucidates verbal aggression accompanied with decreased oral intake and is closely monitored by the nursing, medical and health staff regarding his declining condition. There had been a significant decrease in his weight and an increase in episodes of distress. He was emotionally loud, especially during the evenings, where police had been called by the neighbour.

The staff made a Community Psychiatric Nurse referral to ensure continuity of care. ALM sensory was introduced in August where his mood immediately started to shift. He began to eat with minimal assistance, sang happily and became more engaging with family and staff. In mid-August, he showed signs of changing mood; shouting, distress and not eating when staff noticed that ALM sensory had been turned off. Upon re-engagement, he began to sleep more soundly, became more sociable and ate independently with minimal or no assistance. He started to present positive emotions such as singing, humming and having a pleasant mood. By mid-September, his weight has also increased.

"The night staff were going about their normal routine, when the ALM system on the main screen alarmed, triggered by one of the Fall Alert Sensors. She took a look at which room it was and went to investigate. She found the resident on the floor and immediately assisted. Response time to the fall was under a minute."

What do you perceive to be the main benefits of the ALM system?	I perceive that the main benefits of the system to be the added eyes and ears (metaphorically speaking) for rooms with high falls risk patients. Staff can often be busy with other patients or performing other tasks. The alerts we receive ensures that patients in the rooms fitted with this system can rest assured that staff will be alerted to any safety issue that might occur. It is also great because it records and analyses data, which is helpful if and when you wish to see what has happened in more detail in a given situation. It provides information about the focused activities of the patient such sensory light, it detects falls and helps the staff act quickly and effectively.
What impact has the ALM system had on your service so far? 	So far, I would say that ALM has helped the service by ensuring that our patients who we consider high fall risks have an extra layer of care. This helps the staff also as it can sometimes feel like you need eyes in the back of your head and the ALM system eliminates that worry somewhat. We now know that the rooms equipped with this system can allow us to assist patients better by giving us an added alert system should any incident happen. It brings new ideas and promote additional guidance. ALM serves as another tool to help navigate and prompt staff during at the time of needs. Additionally, with RITA, it promotes other avenue to kill boredom and promote curiosity. Lastly, sensory has provided the patient to feel relaxed and settle most specially during troubled times
What impact has the ALM system had on your staff so far?	At first, the system seemed a bit daunting but after being trained it has helped elevate our abilities to respond to situations quickly and effectively.

Martin Holmes, Regional Manager for Akari Care comments:

"Princes Court is a home that seeks to embrace new ways of working for the benefit of residents, so welcomed the chance to implement ALM. Of course, any new system takes time to implement and embed, however, I am massively grateful for the support of North Tyneside CCG and colleagues from the MyQoL team. This support has ensured that colleagues have developed their confidence in using the system which has already positively impacted on the well-being of people in our care."

What impact has the ALM system had on your patients so far?	Our patients find great relief in knowing that not only are they in a great ward, with great facilities and staff, they are also pleased to know that they can feel safer, knowing that even when staff are not with them, we are alerted, aware and able to help should a fall or incident happen. This has noticeably reduced anxiety with certain patients which improves their ability to focus on their physiotherapy and rehabilitation. It serves as another tool to help them when they are alone and may need immediate help. Lastly, it helps the patient engage and interact with staff and family members and promotes relationships that are essential for their healing journey.
The ALM system offers a safer and calmer environment for our residents.	Strongly agree – The system once explained to patients reduces their worry about being in a new place, that they are being cared for correctly and that they can rest assured that they are in a safe place.
How does the ALM system support any workforce constraints (ie staff shortages and/or staff time management/efficiency etc?)	This system helps support staff by ensuring that we can continue to care for lower fall risk patients whilst knowing that by doing so high fall risk patients are not in increased danger as we will always be alerted if a situation arises. ALM assisted us to ensure that concerns will be addressed promptly and effectively. It has an easy to press button to reset the alarm when attended as well.
Have you received any feedback from third parties such as family members, commissioners and CQC etc?	I personally have received positive feedback from family members and friends of patients during visiting times when I have explained the purpose of the system. CQC were highly impressed on their inspection.
How does the ALM system contribute to your safety, quality and governance procedures and compliance?	The ALM system contributes by allowing staff to work efficiently and effectively whilst having the system working in the background. The system is not intrusive and is great as it ensures privacy and dignity with its patients as it does not record conversations or film patients.
Are there any instances that you are aware of where the ALM system supported staff in responding to an incident in a timely fashion and helped to avoid harm?	Not personally whilst on duty, but on a couple of occasions on hand over in the morning I had been notified that a patient had had a fall and staff were alerted by ALM and responded quickly.

"Patients feel safer, knowing that even when staff are not with them, we are alerted, aware and able to help should a fall or incident happen. This has noticeably reduced anxiety with certain patients which improves their ability to focus on their physiotherapy and rehabilitation."

Operational Staff Feedback

*"The system has detected **five** falls. Two of these were in the middle of where we have less staff. Nurses immediately attended to the patients and they were indeed both on the floor from a fall. It allows us to provide a rapid response to falls which we previously could not. This also leads to anxiety reduction for patients"*

"In room 26 we received a falls alert in the middle of the night. Staff had actually just done a routine check on a patient who was in bed so we would not have gone back for some time. If it was not for the falls alarm system she may have been on the floor for much longer and instead was attended to within seconds"

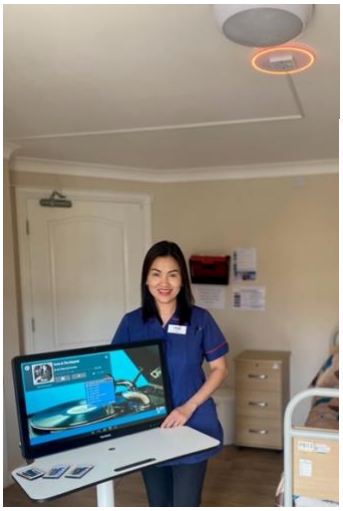
"Family members have been very impressed and felt reassured knowing it is in place"

"It allows us to monitor night-time activity better making it much easier to plan care packages"

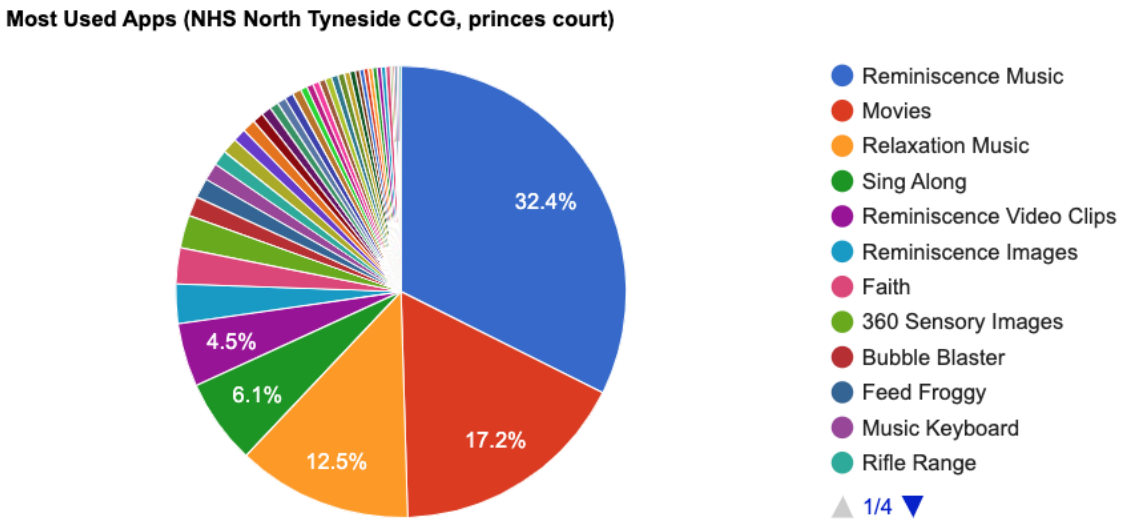
"The sensory lighting and choice of colours at night-time definitely helps them sleep. It has been very popular to create a safe and calming environment and we have noticed that the blue lighting particularly helps them sleep."

"ALM has detected five falls, two being in the middle of the night where we are understaffed. Nurses immediately attended to the patients and they were indeed both on the floor from a fall. We can now provide a rapid response to falls which we previously could not."

Rehabilitation & Interactive Therapy Activities



Both RITA and the Sensory Lighting has been used for 129 hours over just a three-month period. Favourite content include Reminiscence Music, Images and Video clips, Movies, Relaxation Music/sensory, Singalong and the faith section.



"A patient was distressed showing challenging behaviour, constantly screaming out of his window. The staff tried to calm him but were unable to. The neighbours over the road from the facility reported this to the police as it was disturbing local residents. During one of his outbursts, one of the staff turned on the sensory package incorporating mood lighting and the interactive ALM screen. The patient immediately stopped shouting and interacted with the sensory. This is now the first port of call to calm the patient when he has challenging behaviour episodes. The mood lighting is so calming for patients."

"This is now the first port of call to calm the patient when he has challenging behaviour episodes. The mood lighting is so calming for patients."

From January 2022 to September 27, 2022, an audit was done on the entire Princes Court Nursing Home (PC). PC is a 75 bedded nursing home that accommodates different areas of elderly needs. Princes Court caters to residential, nursing, dementia, palliative and rehabilitation intermediate care. The data above has been stratified and selected residents with RITA experience and rooms with the ALM system. Table 1 and 2 audits showed all admission, discharge, and archived subjects that experienced RITA and resided in the ALM rooms. Lastly, table 1 shows the number of incidents wherein unacceptable behaviour occurred, and table 2 shows the number of documented falls and rooms with the ALM system.

Table 1 shows decreased behavioural changes in residents with RITA experience from 1-6 hours and 6-12 hours daily. Moreover, residents with RITA experience for more than 12 hours showed significant changes in their behaviour, and no noticeable behavioural changes occurred over time. Secondly, some residents did not show unacceptable behavioural changes and maintained positive behaviours when exposed to RITA, namely 9-A, 16-A, 21-A, 42-A, 3-W, 15-W, 19-W, and 16-W. On the other hand, a decreased exposure to RITA increases the incidence of behavioural changes on 25-W in September 2022.

Table 2 showed a decreased number of falls during RITA experience between 1-6 hours and 6-12 hours. However, when the RITA experience stops, an increased incidence of falls is noted mainly in the evenings and early mornings. Moreover, a decreased RITA experience has been noticed to 25-W as she walks around PC and showed an increased incidence of falls. Lastly, the ALM system detected five incidents of falls, mainly during the evenings; there was one scenario wherein ALM was not detected, and another incident had no documentation about ALM activation.

Legend:	**NOT detected by ALM**	**NO documentation from staff**	**Falls Detected by ALM**	**SIX rooms that have ALM at RQ 22, 26, 30, 32, 39, 40**
EXPOSURE TIME WITH RITA	**1-6 hours**	**6-12 hours**	**>12 hours**	***Updated: 27/09/2022***

TABLE 1: BEHAVIOURAL CHANGES REPORT OF PRINCES COURT 2022

PATIENT	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT
12-W			19/03/2022 09:00	02/04/2022 09:30 03/04/2022 17:58 09/04/2022 10:01 09/04/2022 14:00 13/04/2022 14:16 14/04/2022 13:28 16/04/2022 14:00 23/04/2022 14:58 24/04/2022 10:47 29/04/2022 14:00 30/04/2022 13:00	03/05/2022 13:03 08/05/2022 21:05 13/05/2022 17:30	11/06/2022 12:00 25/06/2022 18:55 28/06/2022 10:00	19/07/2022 04:29		13/09/2022 09:00 19/09/2022 01:04 25/09/2022 11:00
20-W	01/01/2022 17:15		28/03/2022 12:07	13/04/2022 14:00 19/04/2022 20:19 23/04/2022 11:00 25/04/2022 17:00	01/05/2022 01:05 25/05/2022 13:13		10/07/2022 18:32 24/07/2022 23:40		

				28/04/2022 20:15 29/04/2022 11:00					
27-W	23/01/2022 11:20 27/03/2022 10:30		29/03/2022 10:01 29/03/2022 19:45	02/04/2022 19:19 03/04/2022 17:00 03/04/2022 18:00 10/04/2022 10:35 11/04/2022 08:30 11/04/2022 14:45 17/04/2022 18:53	01/05/2022 09:45 27/05/2022 06:20 01/06/2022 10:30		08/07/2022 19:23 21/07/2022 18:40	14/08/2022 21:59	11/09/2022 02:10
24-W				03/04/2022 08:30			03/07/2022 12:30 29/07/2022 21:20	28/08/2022 19:15	
9-A									
16-A									
19-W									
02-A		11/02/2022 07:35				20/06/2022 14:15 23/06/2022 14:00			
8-A				24/04/2022 14:00	16/05/2022 22:18	16/06/2022 02:13			
23-W		12/02/2022 02:27 23/02/2022 22:00	11/03/2022 00:21 30/03/2022 07:00	02/04/2022 10:35 11/04/2022 10:30 15/04/2022 10:50 24/04/2022 11:23 24/04/2022 11:38 27/04/2022 22:12 29/04/2022 20:25	17/05/2022 07:22 18/05/2022 22:30 25/05/2022 05:15 27/05/2022 15:30	27/06/2022 03:31		28/08/2022 20:15	07/09/2022 10:30
25-W					07/05/2022 19:30 23/05/2022 21:30 27/05/2022 10:25	05/06/2022 10:30 05/06/2022 18:25 15/06/2022 13:50 20/06/2022 14:00 23/06/2022 11:25 25/06/2022 19:30	30/07/2022 02:27 29/07/2022 23:10 31/07/2022 22:33 31/07/2022 21:44	07/08/2022 02:35 24/08/2022 18:26	11/09/2022 02:30 12/09/2022 11:31 16/09/2022 07:00 21/09/2022 06:30
1-W				03/04/2022 14:33 22/04/2022 10:30					
16-W									
4-W	28/01/2022 14:28							30/08/2022 08:24	
45-A			21/03/2022 10:30					20/08/2022 19:10	
10-W							19/07/2022 18:01 19/07/2022 10:30	02/08/2022 16:29	
15-W								02/08/2022 11:39 16/08/2022 15:38	
3-W									
21-A									
42-A									

TABLE 2: FALLS AUDIT PRINCES COURT 2022									
PATIENT	**JANUARY**	**FEBRUARY**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**
8-A						14/06/2022 04:15			
21-A						22/06/2022 11:56			
10-A									18/09/2022 03:50
44-A									19/09/2022 14:35
12-W			19/03/2022 18:20 20/03/2022 05:58		13/05/2022 22:10	06/06/2022 18:00 06/06/2022 19:50		24/08/2022 09:30	
19-W					31/05/2022 15:01	07/06/2022 21:20 22/06/2022 13:40	09/07/2022 01:36		
21-W					09/05/2022 15:45				
7-W								13/08/2022 11:30	01/09/2022 13:45 10/09/2022 06:20
27-W								01/08/2022 15:30	
28-W							04/07/2022 17:00	27/08/2022 06:47	
20-W							09/07/2022 16:45		
23-W	11/01/2022 06:14 27/01/2022 22:20	02/02/2022 01:30 11/02/2022 13:45	01/03/2022 10:43 10/03/2022 07:00 27/03/2022 22:35	08/04/2022 23:30 20/04/2022 10:15 11/05/2022 07:55 30/04/2022 20:30	01/05/2022 20:20	22/06/2022 07:05 23/06/2022 02:05	21/07/2022 18:19 22/07/2022 03:35	07/08/2022 13:20	13/09/2022 03:35 22/09/2022 21:45
02-W					23/05/2022 21:30				
25-W			09/03/2022 06:07	10/04/2022 10:40	18/05/2022 15:31	14/06/2022 06:15 14/06/2022 18:15	06/07/2022 17:20	31/08/2022 00:55	05/09/2022 13:20 06/09/2022 11:15 16/09/2022 15:45
26-W				04/04/2022 16:55	11/05/2022 09:10			19/08/2022 16:50	05/09/2022 21:25
1-W								20/08/2022 07:19	13/09/2022 03:30 24/09/2022 01:15
30-RQ			25/03/2022 14:30						
26-RQ						12/06/2022 03:00			
32-RQ1				24/04/2022 12:40					
40-RQ1							06/07/2022 17:15		
40-RQ2								22/08/2022 06:20	
32-RQ2									13/09/2022 03:45
40-RQ3									22/09/2022 17:00
Legend:	**NOT detected by ALM**	**NO documentation from staff**	**Detected by ALM**	**SIX rooms that have ALM at RQ 22, 26, 30, 32, 39, 40**					
EXPOSURE TIME WITH RITA	**1-6 hours**	**6-12 hours**	**>12 hours**	***Updated: 27/09/2022***					

Table 3 will show the resident's weights from admission to September 2022. Also, it highlighted the number of hours experiencing RITA. Please see the legend.

In the light brown highlight, 10A showed signs of vomiting and challenging behaviour with the staff, most evidently during the afternoons. With this, staff are encouraged to use sensory light and RITA to help alleviate the symptoms. Eventually, 10A showed signs of being settled with the help of pharmacological interventions, and 10A's weight had shown to be increasing. Additionally, 12W has shown signs of increasing weight in August, and the staff encourage RITA experiences. Moreover, 12W experiences longer sleep and lesser wakefulness during the evenings. However, her usual character of being vocal if not addressing her needs swiftly has not shifted throughout the assessment. Meanwhile, regardless of the time of RITA experience, 27W, 8A, 1W, 3W, and 4W showed stable weights and gradually increased throughout their stay at PC, respectively. Based on these findings, 27W, 8A, 1W, 3W, and 4W have significant exposure to RITA experience during their stay at PC.

Additionally, 7W (###) is experiencing waves of emotion that can lead her to tears. 7W is one of the new residents being assessed and further investigated by the GP to ensure that her mood will become stable and that she can manage her daily activities. Lastly, 19W (####) showed signs of disorientation and confusion during the end of August and provided RITA for relaxation and other risk-reducing modalities. 19W started becoming sociable with other residents and interacting with the staff. However, during early September, 19W experienced problems with his catheter and fluctuating capacity level. 19W eventually went to the hospital for further assessment and investigation concerning his catheter issues. Lastly, 24W (##) experienced less or little sleep though out the evenings and had fallen twice in September. Staff also noticed that 24W's incidents were during night-time.

In medium highlight, 23W (+) showed signs of deterioration in July. 23W has been active with RITA and has become part of her usual activities. Despite her deterioration, we can see that 23W showed increasing weight in September. Additionally, 25W (++) showed that in August, 23W presented signs of confusion and challenging behaviour towards the staff, especially during the evenings. Staff noticed that 25W showed more behaviours of relaxed mood during the RITA experience in the lounge. During the end of August and the beginning of September, 25W had an episode of falls, and she eventually needed to go to the nearest hospital for scans. When she returned to PC, 25W showed more interest in staying in the lounge with other residents and where the RITA is located. 25W showed signs of being more settled in the lounge, and at the end of September, it showed that 25W's weight was starting to increase. Lastly, In September, 28W (+++) seems to be settled in the lounge where she experiences RITA. However, during mid-September, 28W showed signs of being more sleepy than usual and not interested in interacting with a family member or staff. With this, 28W continued experiencing RITA while being monitored by the staff and family members and eventually regained her usual self despite decreasing weight. Eventually, staff noticed that she had been struggling with swallowing and thus referred her to a specialist team.

In the dark highlight, 45A (*) showed signs of aggressive behaviour but eventually calmed with the help of RITA music in July. Over time, 45A showed signs and symptoms of vomiting that could impact 45A's weight loss. Despite a positive mood and increasing appetite up to August, 45A's weight seemed to decrease gradually at a turtle pace. Further analysis showed that 20W (#) revealed signs of agitation and had a fall in July that led 20W to attend hospitalization. When 20W came back, RITA activities supported him. In September, 20W's weight started to gain, and no recorded falls have been observed.

Lastly, in June, 10W showed evident signs of unsettledness during his stay at PC. Also, 10W elucidates verbal aggression, especially in the evening. Moreover, 10W showed signs of decreased oral intake. The staff provided pharmacological intervention to help alleviate the symptoms and explore other issues such as his catheter and bed sore. 10W is now closely monitored by the nursing, medical and allied health staff regarding his declining condition. The family was also made aware. There was also a significant decrease in his weight while staying at PC. Also, the family was updated regarding his condition and progress. He started to improve, but on July 10W started to have an episode of distress and was emotionally loud, especially during the evening. According to the staff, police have been called by the neighbour to check his welfare. The staff made a Community Psychiatric Nurse referral to ensure continuity of care and address the concern in a timely fashion.

10W showed signs of low mood evident in the evening, and RITA was introduced in August, and his mood started to shift. 10W started to eat with minimal assistance, singing happily, and being more engaging with family and staff. However, during mid-August, 10W showed signs of changing mood, such as shouting, distress and not eating; staff noticed that the RITA was turned off during that episode. On a positive note, the night shift observed that 10W tended to sleep more soundly when RITA was turned on in the evening with RITA playing in the background. With ample RITA experience, 10W started to be more sociable and eat more independently with minimal or no assistance. He started to present positive emotions such as singing, humming and having a pleasant mood. During September 10W seems to be settling well at PC, and staff has observed that his weight started to increase.

NUMERICAL VALUE	**Kilograms**								
EXPOSURE TIME WITH RITA	**1-6 hours**	**6-12 hours**	**>12 hours**	***Updated: 28/09/2022***					

TABLE 3 NUTRITIONAL AUDIT on PRINCES COURT in Kilograms									
PATIENT	**JANUARY**	**FEBRUARY**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**
9-A				30.35	30.90	30.45 30.95	31.60 30.85	31.95 31.8 32.5	
16-A									
21-A	69.6 66.2			64.5		61			
10-A					58.45 57	58.9	58.9 58.9	60.5	58.75 59.4

44-A									
12-W			50	48.90	52.05	48.5 41.4	48 48	49.8	49.75
20-W	70.65 71		65.10 69.5	69.50	67.80 68.2	67.8 66.8 #	66.8 #	66.8 #	66.8 67.2
27-W	50.10 48.80	48.48 47.40	45.40 46 48.40	48.40	48.50 47.50	48.10 46.80	47.40 47.20 47.40	47.75 47.85	48.8 48.3 50.45 49.8 49.8
24-W	39.40 40.80 41.05	40.85 41.50	38.50 40.60	40.20 40.40	40.80 40.20	39.80 39.60 39.90	39.40	40.85 40.85 40.85 39.55	39.55 38.75 37.7 ##
7-W							70.25 69.7	68	67.1 ###
19-W					68.80	68.80	68.25 68.2 68.3	68.3 69	66 #### 66
8-A	89.50	89.50	90.95	90.95	93.10	93.1 94.6	94.7 94.7	94.2	96.3
21-W	48.55 50.55	52.70 56.45 57.05	55.06 55.80 55.60	57	57 57.3	55.9	56	56	56
02-W	60.40	60.35	60.07	60.40 61	61.85	61.15 61.55 62	62.10 63.60 63.90 64.50	64.8 65 64.1	64 65.65 65.65 65.65 65.05
23-W	39.30 37.60	39.50 40.35	41	39.50	41.10 41.50	38.80 39.40	40.80 40.50	35.36 + 35.36	36.35 + 36.6

	40.55				41.60		39.25	35.3 35.9	36.6
25-W			46.10 46.80	43.20 43.20	47 47.60 46.35	45.60 45.25 44.70	45.40 45.95 44.55 44.30	45.35 ++ 45.35 45.1	44.1 ++ 45.5 49
28-W	51.20 49.60 52.70	50.85 51.60 51.65	51.01 49.80 51.95	44.95 45.40 44.30	42.40 +++ 43.70	43.80 +++ 44 44.20 44.40	44.70 +++	44.9 44.9 42.75	44.75 +++ 45.35 43.65
1-W	96.10 95.70	96.40	95.90 95.56	95.54 97.50	96.90	96.40 95.85 96.30	96.30 96.40 95.65 95.65 96.45 96.55 95.40	95.40 95.70 95.70 96.55 96.55 96.85 96.70	97.15 97.60 96.15
26-W	39.75 38.15 40.50 39.25	39.05 40.60 39.25	40.04 40.50 40.65	39.35 40.50 39.95	40.10 39.80 39.60 39.50	39.85 39.70 39.95	40.45 40.10 40.50 39.80	40 40.45 40.60	40.15 41.30 41.15
16-W	53	53	52.25 51.60		52.20	53	53	52.10	52.10
21-A									
42-A									
45-A	61.40	64.20 63.15 61.90	61.90 61.90 61.20	61.20 59.80		56.80 56.80 57.50	57.5 55.7	54.55 *	
4-W	99	100.80	99.20	100	100	99.10	99 99.60	99.70	99.20
10-W						70.60 62.40	62.20 60.40 61.80	62	68.80

							62		
15-W							46.80 47.30 46.90	47.30	47.30
3-W	90.40 88.25 90.50	87.10 88.20 88.75 88.90	87.10 86	89.90 88.10 86.15	86.60 90.25 89.80 91.20	91.15 89.45	91.25 91.45 87.20 88.40	90.45 92.30	90.95 92.30 92.80
DEPARTMENT	**JANUARY**	**FEBRUARY**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**
NUMERICAL VALUE	**Kilograms**								
EXPOSURE TIME WITH RITA	**1-6 hours**	**6-12 hours**	**>12 hours**	***Updated: 28/09/2022***					