Oxevision – Ashby Ward Pilot

Evaluation Report

V5 15/01/2025 | [I/S]

Background

Oxevison a fixed-installation device for use within single occupancy rooms within hospitals, general care, domestic and secured environments where a framework exists which mandates periodic checks by a trained professional to ensure patient safety.

Where installed, Oxevision, can monitor:

- Vital Signs – Spot-check measurements of pulse and breathing rate.
- Alerts to early warning signs – Real-time alerts when high risk activities, for example someone getting out of bed, are detected in an occupied room.

The Oxevision system was first introduced to LPT July 2022 following completion of a full business case approval process in October 2020. The system went live on two wards (Ashby and Aston) in December 2022 however was put on pause in February 2023.

Install status

The Oxevision system was originally planned within 7 clinical priority wards identified in the original scope. The installation status on the 7 wards is as followings:

- Ashby / Aston – Installed and had a short time live on system.
- Coleman/ Watermead – Boxes fitted however still require the technology/ devices to make live.
- Mill Lodge/ The Beacon/ Clarendon – Yet to be installed.

See appendix 1 for install plan.

Procurement status

LPT is currently in the final year of a 3-year contract with OxeHealth for the Oxevision system.

The annual service fee per ward per year is [I/S] With the original plan to implement across 7 wards this would be a total fee of [I/S] subject to variation depending on CPI.

The one-off fee for install and configuration is [I/S] Plus fees from Tilbury Douglass for pre works, the cost to install on remaining wards is expected to be approximately [I/S]

The current contract term ends 1st April 2025 as per the order form however 6-month notice must have been sent to Oxevision 6 months prior to the initial term therefore notice should have been provided 1st October 2024 to terminate a 12-month renewal term. A further 12-month contract will therefore be implemented until 1st April 2026, and notice must be provided by 1st October 2025 if LPT wishes to terminate.

Ashby Ward Pilot

Governance/ Planning

It was agreed by the Directorate of Mental Health, Directorate Management Team to relaunch the Oxevision project in order to evaluate the full benefits of the system. Ashby ward was the chosen ward to complete the pilot as the devices were fully installed. Ashby Ward is a single sex (female) adult acute mental health ward located at the Bradgate Mental unit. The ward has 14 beds, 2 of which have ensuites with w/c only.

A project group was developed with members of the inpatient management team and ward management to start planning for the pilot:

- The original standard operational procedure was reviewed and updated; the final version of the SOP was signed of by DMT Q&S on 14th August 2024.
- The Data processing impact Assessment (DPIA) was developed along side the head of data privacy and input from the information commissioner's office and was approved 3rd October 2024.
- A full training plan was implemented, and staff received training online via Oxeacademy and several face-to-face sessions that covered how to use the system and discussions on the SOP.

Plan for Pilot

Considering the end of contract and allowing sufficient time to utilise the product it was agreed that the pilot would take place over an 8-week period commencing from Thursday 14th November 2024 until Friday 10th January 2025.

The model for the pilot is based on explicit consent meaning only those patients who consent following discussion with a staff member will have the system switched on. All patients must have the consent form completed and uploaded onto SystmOne. Consent will be reviewed daily and those patients wishing to withdraw their consent will have their rights respected unless they are in seclusion without capacity, and it is in their or others vital interests to undertake videoed observations.

The system can provide alerts to provide early warnings signs as well as vital sign measurements for pulse and breathing rate, the agreed use for the pilot was as follows:

During the day – Alert function utilised including:

- **In Bathroom -** A warning state (amber room tile) is triggered to indicate the patient has left the bedroom and entered the bathroom / ensuite area, this escalates to an alert (red room tile with audible and visual alert) after 3 minutes.
- **At Door -** A warning (amber room tile) is triggered after 30 seconds if a patient is loitering in the main doorway area, this escalates to an alert (red room tile with audible and visual alert) after 3 minutes.
- **Room Entry -** A warning (amber room tile) is triggered if the system detects a second person entering the room when it is already occupied by a person.

Staff must report to the location of the alert before the alert can be switched off.

During the night – Observations/ alert function.

After 2300 hrs, once a patient who has opted into using Oxevision, goes to their bedroom, level 1 and level 2 observations will be completed using Oxevision until 0730 the next morning. If at any point patients leave their

bedroom between the hours of 23:00 and 07:30 then the normal observation process will apply for those patients and so staff should remain vigilant around the patient's location.

The same alerts as the day will also be utilised and must be checked before they can be switched off.

Pilot outputs

The planed outputs of the pilot were as follows:

	How	When	Output
Staff feedback	Staff survey	Week 1 and week 8	- Increase in staff confidence in using the system. - Staff report that they have seen an improvement in patients sleep. - Staff report whether they think the system is a useful addition.
	Case study 1 Qualified member of staff	Week 8	- Scenario where Oxevision has helped with care. - Positives - Negatives
Patient feedback	Patient sleep survey	Duration of pilot	- Patient feedback on how they are disturbed during the night due to observations. - For patients who have consented to Oxevision - if their sleep has improved.
	Consent	Duration of pilot	- The percentage of patients consented during the pilot. - The Mental health Act status of those contested / not consented. - Age range of those consented / not consented
	Community meetings	Nov & Dec	- Feedback from patients in a group setting.
Incidents	Incident report	June – Dec	- To review any change in incidents reported.
	Oxevision incidents	Duration of pilot	- Any incidents reported during the pilot

Staff feedback

Case study by qualified member of staff

<u>Avoidance of potential self-harming behaviours</u>

Patient A had previously consented to Oxevision and had capacity to make this decision. During a night shift, staff noticed via Oxevision that patient A appeared distressed in their bed area. The staff member completing the observations alerted the nurse in charge, who offered patient A a 1-1 to discuss their thoughts. Patient A accepted reassurances and PRN medication and was able to return to sleep. Patient A had previously engaged in significant self-harming behaviours and has found it difficult to seek staff support before. By utilising Oxevision to identify a need in therapeutic intervention, it has possibly reduced the risk of patient A engaging in self-harming behaviours.

Positives of Oxevision

Since utilising Oxevision on Ashby Ward, there have been a number of positives that have been highlighted. It has been clear that for patients who have consented to Oxevision that their sleep has improved due to less disturbances in the night. This has been handed over from patients to staff. The avoidance of potential self-harming behaviours is another benefit highlighted from using Oxevision.

Trust issues with staff

A difficulty with Oxevision that has been raised during the trial run has been that staff have not trusted the information given to them. Staff members have raised concerns when they have attempted to access vital signs and have only been given the breathing rate and not heart rate. Due to this they have entered the patients' bed are to check on them and have potentially disrupted their sleep. Staff have reported that they feel they would need more training on Oxevision in order to feel more comfortable with using it. Permanent members of staff have reported feeling more confident to use it due to the access to training and the experience of using it.

Staff feedback forms

Staff were asked to complete a survey on weeks 1 and 8 of the pilot.

6 staff members completed the survey on week 1 and 5 on week 8.

Week 1 + 8 Summary

6 staff members completed the survey (x4 qualified x2 healthcare)

Half of those who did the survey said they would recommend Oxevision to be used on mental health wards on week 1:

Week 1	Yes	No	Not Sure
Were you working on the ward **before** Oxevision was installed?	6		
Would you recommend Oxevision be used on other mental health wards?	3	1	2
Do you find Oxevision easy to use?	5	1	
Do you feel confident explaining how Oxevision works to patients and carers?	5		1

By week 8 all those who completed the survey would recommend Oxevision to be used on mental health wards:

Week 8	Yes	No	Not Sure
Were you working on the ward **before** Oxevision was installed?	3	2	
Would you recommend Oxevision be used on other mental health wards?	5		
Do you find Oxevision easy to use?	5		
Do you feel confident explaining how Oxevision works to patients and carers?	5		

On week 1 there were mixed viewed on the benefits of the system:

Week 1	Yes	No	Not Sure
Identify incidents you may otherwise not have known about	2	1	2
Prevent assaults (including patient-staff, patient-patient and patient-visitor assaults)	1	1	3
Prevent self-harm	1	1	3
Prevent physical health deterioration	2	1	2
Learn from incidents to provide better care in the future	1	1	3
Take a patient's vital signs	2	1	2

By week 8 staff were reporting that that were clearer on what the benefits were with the majority saying they feel it helps learn from incidents to provide better care in the future:

Week 8	Yes	No	Not Sure
Identify incidents you may otherwise not have known about		1	4
Prevent assaults (including patient-staff, patient-patient and patient-visitor assaults)		4	1
Prevent self-harm	1	3	1
Prevent physical health deterioration	3		2
Learn from incidents to provide better care in the future	5		
Take a patient's vital signs	2		3

Week 1 staff were feeding back a neutral response, although the majority did report that they were able to patient risk slightly better and peace of mind that patients on the ward were safe had improved.

Week 1	Worse (1)	Slightly worse (2)	No difference (3)	Slightly better (4)	Better (5)	Not Sure
Patient safety on the ward/unit		1	2	4		
Your ability to manage patient risk			1	5		
Your own safety on the ward			4	2		
The physical health monitoring of patients			1	3	2	
The information you have to support care/clinical decisions			2	3		1
The care provided to patients			2	3		1
Supporting more effective team meetings, handovers or safety huddles			2	2		2
Your ability to spend more meaningful time with patients			3	2		1
Your ability to manage your workload			3	3		
Your stress levels at work			2	3		1
Your peace of mind that patients on the ward are safe			1	5		
	Slower (1)	**Slightly slower (2)**	**No change (3)**	**Slightly faster (4)**	**Faster (5)**	**Not Sure**
The speed at which you can respond to incidents			2	1	1	1
The speed at which you can complete your observation rounds			1	2	1	1
	Less (1)	**Slightly less (2)**	**No change (3)**	**Slightly more (4)**	**More (5)**	**Not Sure**
Your enjoyment in your work			3	2		
How do you find managing the tablet alongside the observation folder at night?	*difficult	2			2	2
The amount of privacy patients experience		2		2	1	
The amount of sleep disturbance patients experience				1	2 *less disturbance	2

By week 8 feedback had improved as staff confidence in using the system increased, all staff that completed the feedback said there were improvements for patient safety on the ward, the care provided to patients and the system supporting more effective team meetings. The majority also reported that they felt patients were experiencing less disturbance at night.

Week 8	Worse (1)	Slightly worse (2)	No difference (3)	Slightly better (4)	Better (5)	Not Sure
Patient safety on the ward/unit				4	1	
Your ability to manage patient risk			2	2	1	
Your own safety on the ward			3	1	1	
The physical health monitoring of patients			2	3		
The information you have to support care/clinical decisions			1	2	2	
The care provided to patients				5		
Supporting more effective team meetings, handovers or safety huddles				4	1	
Your ability to spend more meaningful time with patients			4	1		
Your ability to manage your workload			2	2	1	
Your stress levels at work			3	2		
Your peace of mind that patients on the ward are safe			2	2	1	
	Slower (1)	**Slightly slower (2)**	**No change (3)**	**Slightly faster (4)**	**Faster (5)**	**Not Sure**
The speed at which you can respond to incidents			1	3	1	
The speed at which you can complete your observation rounds			1	2	2	
	Less (1)	**Slightly less (2)**	**No change (3)**	**Slightly more (4)**	**More (5)**	**Not Sure**
Your enjoyment in your work			3	2		
How do you find managing the tablet alongside the observation folder at night?	1 *Difficult	1	1	1	1	
The amount of privacy patients experience			1	2	2	
The amount of sleep disturbance patients experience			1	1	3 *less disturbance	

Staff were asked if they had examples of how Oxevision has impacted their work/ and if they had anything they would like to share:

Positive feedback	Area's not working so well
- Ensuring staff are not disturbing patients sleep, allowing care and safety in least restrictive way. - Staff can assess even there if there is no light on the bedroom. - Can check at least pulse & resp of patients who disagrees to do it manually. - Discussion helps in managing patients' risk of harm knowing what the patient is doing at the moment, if they are safe. It helps in monitoring physical health to know if having physical problems making it faster to check if patient needs urgent attention. - Better sleep for patients - which will improve their stay. - I have noticed Oxevision has improved patients sleeping and this improvement in the their mental health noticeably. - The only 2 benefits I could find with Oxevision are helping staff during nights or even the patients for not disturbing them. And the other one is able to keep another eye on the patients to ensure they are safe.	- Oxevision is not consistent in detecting individuals heart rate and there are times where staff had to access individual's bedroom to check signs of self-harm, ligatures and breathing. - Some staff members did not have formal training on how to use Oxevision and were not comfortable using it particularly during the night shift. This then caused patients to complain about sleep disturbance. - Sometimes while taking vital signs there is only one blob touching the patient (visibly) it will either give pulse or respiratory not which is difficult. - Sometimes vital signs are not recorded - Sometimes while taking vital signs there is only one blob touching the patient (visibly) it will either give pulse of respiratory not both, which is difficult. - Sometimes while taking vital signs there is only one blob touching the patient (visibly) it will either give pulse of respiratory not both which is difficult

Consent

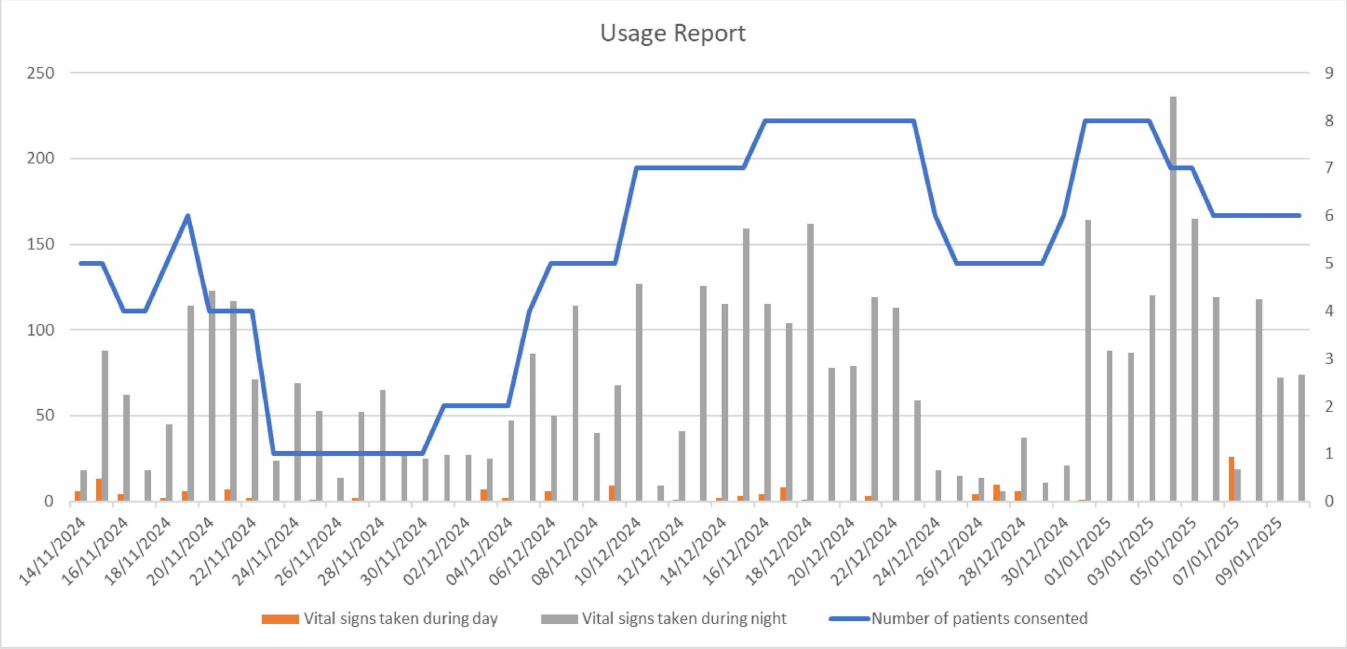
As part of the admission check list, all patients are shown Oxevision and asked if they consent for it to be used. A consent form is completed for all patients and the outcome recorded in the patients care plan on SystmOne.

During the 8-week pilot 38 patients have been a patient on Ashby ward 16 of which consented to Oxevision being used and 3 had it turned on in their best interest. Half the patient during the period therefore utilised Oxevision. During the pilot 2 patients changed their consent from not consented to consented and 3 patients withdrew their consent.

See below demographics of the patients:

Consent Status	Patient Count	MHA Status		Age			
		Formal	Informal	18-24	25-35	36 - 55	56+
Consented	16	8	8	2	2	6	6
Not Consented	19	11	3	4	4	6	5
Best Interest	3	2	1			3	

The below graph demonstrates the number of patients who had Oxevision switched on each day, for the majority of the pilot 42% of patients were utilising Oxevision. The usage graph also displays the number of occasions Oxevision was utilised to take a patient's vital signs. The drop in usage relates to staff confidence in utilising the system and when bank members of staff have been on shift.



Community meetings

Patients were asked in community meetings what their thoughts on Oxevision was, below is the feedback noted in the community meeting notes:

Date	Number of patients	Positive feedback	Comments
21/11/2024	7	1 patient decided to consent after receiving further information today. Patient who had consented said that they felt it would enable them to get a good night sleep.	Those patients who had consented reported that staff were still entering rooms. Lorvisa apologised and explained that as this is a trial, and that patient feedback is vital. Staff still need to increase confidence in the change of practice. All patient agreed it would be useful, but some said they felt the camera system was an invasion of privacy.
12/12/2024	5	1 patient decided to consent after receiving further information today.	Those patients who had consented reported that staff were still entering rooms. Lorvisa apologised and explained that sometimes if both pulse and breathing rate can't be obtained staff will still have to enter the patient's room

Sleep feedback

During the pilot, patients have been completed sleep feedback forms to understand how observations at night impact on their stay and for those who have consented to Oxevision has improved sleep.

Those did not consent to Oxevision had mixed feedback on how they slept at night, with half stating that their sleep was not disturbed by observations, some did comment on being woken up at night.

Not consented									
How have you found sleep during your stay? (1 Not Good – 10 Great)									
1	2	3	4	5	6	7	8	9	10
4			2	5	1	2	5	3	4
4			10				12		
15%			38%				46%		

Do the night time observations distrub you whilst you are asleep?		
Yes	No	Not too Bad
7	10	7

If yes, do you feel your sleep at night is impacting on your stay?
Bed could be more comfortable
Yes harder to sleep here
Not really
Yes, wakes me up especially when flashing a torch and opening the door
Makes me poorly
Yes it does
Because of other patients behaviour
Yes, the more I stay awake at night the more tired I am
Always slamming doors
Makes me more irritable and tired
Yes because of conflicts that wakes me up
People are coming in quietley
The checks keep me awake
Awake at night due to working night shifts

Those who had consented to Oxevision did suggest that nighttime observations did disturb them during the night and that it was impacting on their sleep. Most of these patients subsequently reported that Oxevision had improved their sleeo as no lights are flashing in their room and they are not getting disturbed.

Consented									
How have you found sleep during your stay? (1 Not Good – 10 Great)									
1	2	3	4	5	6	7	8	9	10
1		1	1	2	1	4	2	2	4
2			8				8		
11%			44%				44%		

Do the night time observations ditrub you whilst you are asleep?		
Yes	No	Not too Bad
8	4	4

If yes, do you feel your sleep at night is impacting on your stay?
Makes me grouchy in the mornings
Waking me up with a flash light
Suffer with isomia so struggle with sleep but feels a little better here
Patients are loud at times
I get the same sleep as I do at home
It doesn't help when I don't sleep
Yes it has because no one knocking on door
But once asleep fine - some staff turn light on
Waking up during observations
No
It would wake me up and I couldn't get back to sleep
Frightened staff enter the room at night
Not sure but not getting disturbed
When it was every 10 minutes

Do you feel Oxevision has improved your sleep
I feel that its useful, it helped me get more sleep as people don't have to come in
Stops getting disturbed at night
Not really as the staff have still been checking on me so will see if it improves
My sleep has improved since oxevision has been used
I have not be disturbed by staff, sleep was so good I slept through until breakfast on a couple of occassions
Constented for 3 days, not sure if it helped my sleep
Just turned on
Yes it has because no one is knocking door
Feel like people are still physically checking
Yes I do
Not had on long enough yet but would like to see if it does
Yes because people not opening door - no disturbances
I am sleeping better as I am not being disturbed
Yes definitley, people are not flashing lights in my room
Not sure but not getting disturbed

Incidents reported during pilot that involved Oxevision

Only 1 incident involving Oxevision was reporting during the pilot:

Incident number 370339

Patient A charged towards staff on observations saying staff is using phone during shift, when staff was using the Oxyvision tablet. Patient A started verbally aggressive towards staff and tried forcefully to grab the tablet from staff. however, staff on the ward manage to redirect the situation.

Lessons learned during the pilot

- Already have safe hinge door therefore unsure on how helpful the at door alerts are.
- Only X2 ensuites with WC only therefore the benefit of the bathroom alerts has not be fully utilised.
- Staff struggling to get 2 readings (Pulse and Respiratory) – even when skin exposed still struggling
- Bank / agency not all trained and impacted on usage.
- Consent process – to be more streamlined – takes a while for full process
- Patient slept in interview room as refused to stay in room with Oxevision– did originally consent however MH declined and withdrew consent although still worried about the box in room – patient was pregnant and did not have a bed to sleep in until a bed was located on another ward.
  Attempts were made to take patients obs however patient would not go into room and wouldn't stay in right position.
- Based on the experience of a patient refusing to sleep in a room with a Oxevision device, Ward staff feel they would need a room(s) without a device if they were to safely continue to use Oxevision on the ward.

Overall Evaluation

Staff feedback improved throughout the pilot as confidence in using increased, staff did feel that Oxevision made some improvements on the ward however did feedback that it was difficulty to get two readings when taking vital signs and this would need to be explored with Oxevision. Bank staff members also require additional training if Oxevision was to continue to ensure all staff on shift are able to utilise the system and provide consistency to patients who had consented.

By week 8, no staff were reporting that Oxevison was impacted on their job in a negative way or taking them away from caring for patients.

The number of patients who consented was positive throughout the pilot with nearly half the ward usilising Oxevision throughout the pilot. Patients fedback that Oxevision did help their sleep, and it was preventing them being woken up at night.

If Oxevision was to continue it would be essential for some rooms to not have the devices to support patients and staff when a patient is reluctant to stay in a room with the devices installed.

Proposed future state

- **Recommendation 1-** Stop using Oxevision and pay for the devices to removed – this will cost in estate works and a 12-month licence fee to Oxevision will still need to be paid.

- **Recommendation 2-** Continue to utilise Oxevision on Ashby ward and roll out on Aston Ward and pilot on 2 wards until August 2025 where a further evaluation can be completed and a decision on the future of Oxevision to be agreed. – Remove 2 devices per ward (estates cost)

- **Recommendation 3** – Negotiate contract with Oxevision asking for support (capital) to install on the remaining wards.

Proposed next steps:

- Agree sign off process for evaluation for final outcome of the pilot at FPP
- Discuss with Heads of Nursing within all 3 directorates
- Contract meeting with Oxevision/ procurement and service reps on next steps

Appendix 1 – Install Status of original plan

	Containment in roof space	LV power cabling in roof space	Data Wiring in roof space	Boxes delivered to site	Boxes fitted to walls in bedrooms	Ready for Oxehealth	Document submission on Sypro
Aston	Complete	Complete	Complete	Complete	Complete	Yes	P22036 - Stage 2 GMP Rev 01 (03.11.2022)
Ashby	Complete	Complete	Complete	Complete	Complete	Yes	n/a part of Dorms - costs elsewhere
Coleman	Complete	Complete	Complete	Complete	Complete	Yes	CE001 Coleman ward
Clarendon	Complete	Complete	Complete	Stored within Wakerley Ward Comms Room (arrangements made to collect)	No	No	CE003 Clarendon
Watermead	Complete	Complete	Complete	Stored in storage container (arrangements made to collect)	No	No	CE005 Watermead
The Beacon	Complete	Complete	No	No	No	No	CE002 Beacon
Mill Lodge	Complete	Part - cab for power supplies still to fit in roof space	Complete	No	No	No	CE004 Mill Lodge

Appendix 2 – Financial Status

The below table demonstrates the financial status of the project, the remaining capital allocated for the project has been re-utilised for other schemes and therefore consideration of the future implementation needs to be considered:

GMP / CE's			Total EXCL VAT	Total INCL VAT
Stage 1 GMP	Fee	£ [I/S]		
Stage 2 GMP	Ashby	£		
CE-001	Coleman	£		
CE-002	The Beacon	£		
CE-003	Clarendon	£		
CE-004	Mill Lodge	£		
CE-005	Watermead	£		
		Total GMP & CE's	**£** [I/S]	**£** [I/S]

Work done and invoiced to date				
22090064	Aug-22	£ [I/S]		
22120101	Nov-22	£		
22120102	Nov-22	£		
23010153	Dec-22	£		
23020117	Jan-23	£		
23030172	Feb-23	£		
		Total spend 22/23	**£** [I/S]	**£** [I/S]
		Zero spend 23/24 (scheme on hold)	**£** -	**£** -

Work to do and invoice 23/24 if task resumes			£ [I/S]	£ [I/S]
	Approx Comp	**Left to do and invoice**		
The Beacon	31%	£ [I/S]		
Clarendon	55%	£		
Mill Lodge	50%	£		
Watermead	42%	£		
			£ [I/S]	**£** [I/S]

Expenditure to date on P22036

- [I/S] spent in 22/23.
- Zero spend so far in 23/24 due to scheme being on hold.

Expenditure on the two Bradgate comms rooms (these were to support the system)

- This was CE19 on the Bradgate Dorms scheme as was in effect a final account of [I/S] expended as no risk pot sums used.

Cost left to complete the install.

- [I/S] left to do and invoice if the scheme was to resume (as attached emails)