



Case studies

User outcomes and value return with proactive
lifestyle monitoring

howz

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Case study 1

Use case

Prescription of Howz for user needs assessment of social care services.

User referred from care team within supported living property.

User status

Adult with learning disabilities.

Concern about night time behaviour.

Care team had requested waking night care support to protect the user.

Council wanted objective view of behaviour before considering the case.

Assessment requirements

Requirement to assess nighttime behaviour.

Concern that user was raiding the freezer during the night.

Howz required to validate or disprove whether user was leaving bedroom and going into the kitchen.

Howz prescription

Howz service prescribed for period of three weeks.

Howz door sensors placed to fridge and freezer doors to track opening / closing. Motion sensors / door sensor placed in user bedroom.

Howz machine learning correlated bedroom and kitchen activity.

Howz findings

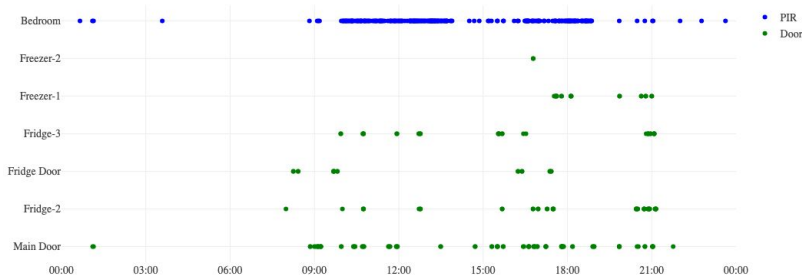


Fig. 1 Howz showing user in the bedroom during the night and while problematic freezer activity was taking place.

With evidence from the sensor prescription, it was possible to identify that:

1. The user was resting well during the night and not leaving their room
2. Fridge/freezer activity during the day was largely occurring when the user was in their room

Follow up action

With evidence gathered over a 3-week placement, the local authority social care team were able to confirm:

1. The users' stable routine, and regular good rest period
2. The actual cause of visits to the freezer

With this information, the care team were able to decide to avoid waking night care.

Service outcomes

- Maintained user independence
- Avoidance of waking night care costs

Cost avoidance: £54,600 per year

From avoidance of waking night care.

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Case study 2

Use case

Prescription of Howz for user needs assessment of social care services.

User referred from health services into independent living at home.

User status

Adult sustained brain damage after RTA and undergoing rehabilitation after discharge from hospital.

Ready to return to independent living, with social care providing ongoing support.

Council wanted objective view of behaviour before considering the case.

Assessment requirements

Assessment of nighttime and evening behaviour for going to and remaining in bed.

Assessment of bathroom visit independence.

Objective insight to determine correct package of care to support independence and recovery.

Howz prescription

Testing of users' performance over two weeks:

1. Week one with high care package including waking night checks
2. Week two less care during the day and no night visits

Howz motion sensors placed around the property. Door sensor placed on front door.

Howz findings

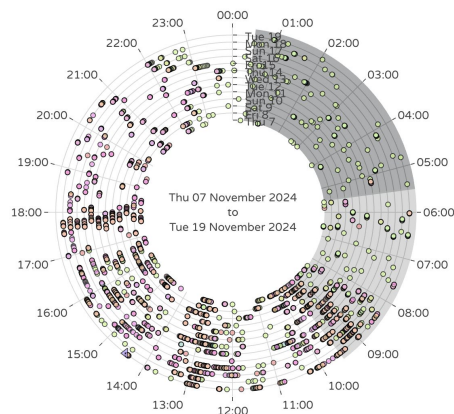


Fig. 2 Howz showing stable routine and independent bathroom visits during the night

By assessing the users' behaviour with and without night time visits, it was possible to identify that:

1. The user was visiting the bathroom independently during the night without care
2. Their nighttime activity otherwise showed good sleep patterns and consistency

Follow up action

With evidence gathered over a 2-week placement, the local authority social care team confirmed:

1. Evidence of good routine at bedtime and good levels of rest during the night
2. Evidence of independent bathroom visits at night

With this information, the care team were able to decide to avoid night visits and prescribed daytime care only.

Service outcomes

- Maintained user independence
- Avoidance of waking night care costs

Cost avoidance: £15,000 per year

From avoidance of night time care visits.

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Case study 3

Use case

Prescription of Howz for reassessment of social care need.

User living at home for two months at home rehabilitation following hospital discharge.

User status

Elderly adult discharged from hospital after a stroke.

Living with round-the-clock care at home.

Council needed to assess how the user had settled at home in the period after discharge, and how their care needs may have changed.

Assessment requirements

Assess at-home routine after two months at home after stay in hospital.

Understand readiness to step down round-the-clock care.

Howz prescription

Howz service prescribed for an initial period of four weeks which was extended due to Christmas absence from the home.

Extensive sensor pack placed across the home to establish independent movement, particularly during nighttime.

Howz findings

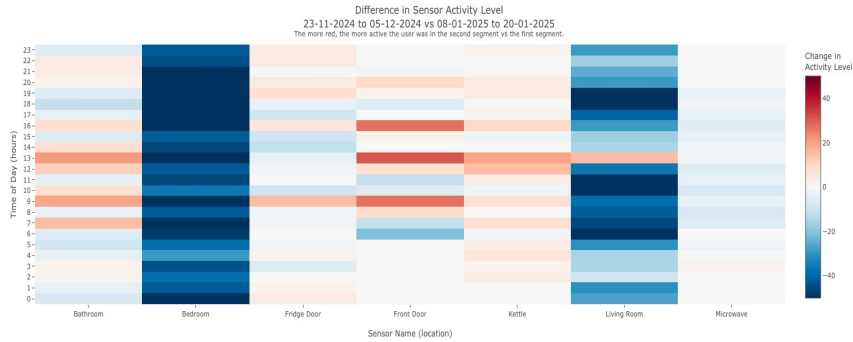


Fig. 3 Howz showing increased movement around the property over time.

With evidence from the sensor prescription, it was possible to identify that:

1. The user was moving around the home more than previously
2. Less time during the day was being spent in bedroom and more time in kitchen and common areas

Follow up action

With evidence gathered over the 8-week placement, the social care team were able confirm:

1. The users' stable routine, and regular good rest period
2. Opportunity to promote independence and step down care support

The care team were able to decide to adjust 24 hour care, to 2 hrs 15 minutes of care per day.

Service outcomes

- Increased independence and mobility at home
- Avoidance of round-the-clock care cost

Spend reduction: £80,000 per year

From reduction in weekly care costs of £1,500.

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Case study 4

Use case

Prescription of Howz to avoid care home admission at discharge from hospital.

User referred from health services into independent living at home.

User status

User admitted to hospital after UTI and fall.

Initial package of care provided of 1 hr 30 mins per day.

Council wanted objective view of long term care requirements.

Assessment requirements

Close monitoring of key wellbeing concerns after hospital discharge.

Assessment of behaviour between care visits.

Concerns about wandering and further UTI / falls.

Howz prescription

Door sensors were placed on front door and fridge, plugs on kettle and microwave and motion sensors in bedroom, bathroom, kitchen and landing.

Low activity and late wake up alerts were activated.

Technology enabled assessment carried out over 4-week period.

Howz findings

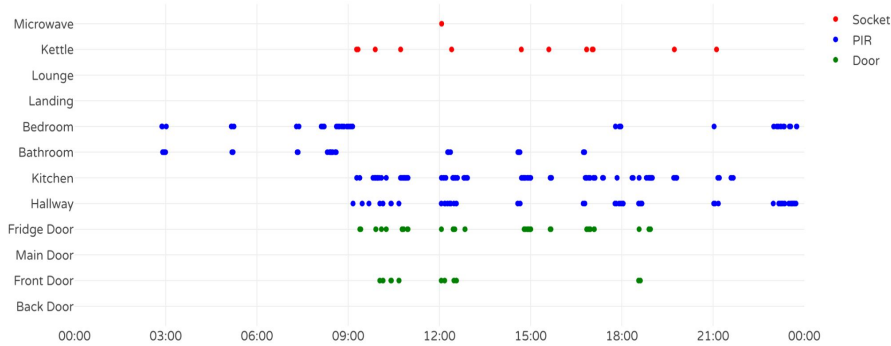


Fig. 4 Howz showing good pattern of life after hospital discharge

With evidence from the sensor prescription, it was possible to identify that:

1. The user was getting themselves to the bathroom at night, and up in the morning
2. Good signs of independence between care visits and use of kettle

Follow up action

With evidence gathered over a 4-week placement, the local authority social care team were able to confirm:

1. Discharge to home was appropriate
2. 1 hr 30 mins care visits per day could be reduced to 40 min care visit per day

With this information, the care team were able to decide to reduce care visits.

Service outcomes

- Extended user independence
- Removal of 50 minutes social care per day

Spend reduction: £7,300 per year

From removal of one £20 care visit per day.



Salford

Integrated Care Partnership



Case study 5

Use case

Prescription of TEC at discharge from hospital to assess wellbeing within the home.

User referred from health services into independent living with support of family using the Howz app.

User status

86 year old discharged from ICU after admission for a fall.

User returned home with starting care package of four visits per day.

Son visiting daily and checking status on the app.

Assessment requirements

Care organisation wished to assess independence on return to home.

Close monitoring of key wellbeing concerns after hospital discharge.

Assessment of behaviour between care visits.

Howz prescription

Assessment of lifestyle around the home including kettle, doors and motion sensors.

Family app provided real-time view and low activity alerts.

Technology enabled assessment carried out over 2-month period.

Howz findings

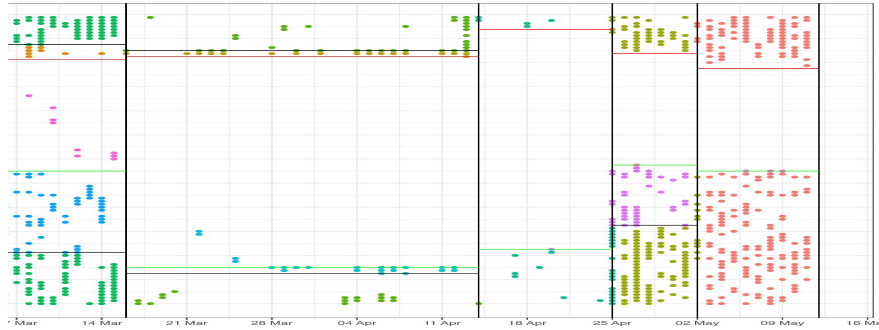


Fig. 5 Howz showing sudden decrease in movement after emergence of health issue

There were two stages to Howz findings for this user:

1. After two weeks, Howz identified behavioural change due to a gastric issue with a low activity alert prompting medical intervention
2. After recovery from the health issue, pattern of life settled and four visits pd were reduced to one

Follow up action

1. Identification of health issue and intervention to avoid escalation
2. Subsequent assessment of stability on return to home
3. Confidence for reduction from four visits per day to one

Service outcomes

- Identification of emerging health issue and alert to avoid escalation
- Removal of 3 care visits per day

Spend reduction: £22,000 per year

From removal of three care visits per day.

Potential cost avoidance: £2,500

From avoidance of ambulance callout and emergency admission.

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Case study 6

Use case

Prescription of Howz to support user with increased levels of dementia.

Technology to support prolonged independent living, with support from daughter with family app.

User status

User with mixed dementia wishing to remain in family home of 18 years.

Daughter visiting daily and under strain of supporting mother.

Daughter provided with Howz app.

Assessment requirements

Long term monitoring of ability to live independently.

Concerns about:

- Medication management
- Food / drink preparation
- Unsafe behaviours

Howz prescription

Enhanced sensor prescription put in place to track safety and pattern of life around the home.

5 x motion sensors, 2 x smart plug and 2 x door sensors in use.

Daughter with family app. Daughter also had use of footprint GPS tracker.

Howz findings

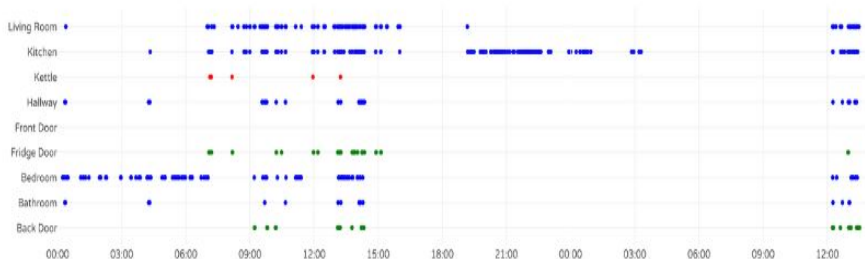


Fig. 6 Howz showing user in kitchen overnight until reached by the daughter

Intervention

1. Howz identified a long-lie caused by a fall due to UTI
2. Howz app notified daughter of low activity, who visited the property and found mother naked on floor of kitchen and very cold

Follow up action

1. Identification of fall due to UTI
2. Subsequent admission to hospital
3. Howz used for step-down care at hospital discharge

Service outcomes

- Serious safety issue identified preventing potential loss of life

“I had told my mum I was not going to visit and thought I would check her movements on the app. I noticed she had not moved so went round to check on her. My mum was lay on the floor naked. I called an ambulance and she was admitted into hospital for a week with a UTI. I have no reason to believe she would be alive today and can not say enough hōw brilliant it has been.

User's daughter after Howz intervention

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Case study 7

Use case

Prescription of Howz for user needs assessment of social care services.

User referred from care team within extra housing property.

User status

Elderly adult with dementia.

Concern about night time behaviour, specifically leaving the property.

Extra care housing staff voiced concerns and recommended night time care to ensure user safety.

Assessment requirements

Requirement to assess nighttime behaviour, specifically leaving the home between 5pm and 9am.

Whether the user was leaving the home for more than 20 minutes at a time.

Assess general pattern of life for independence.

Howz prescription

Howz service prescribed for period of three weeks.

Enhanced care package used to establish pattern of life.

Howz machine learning used to determine occupancy.

Howz findings

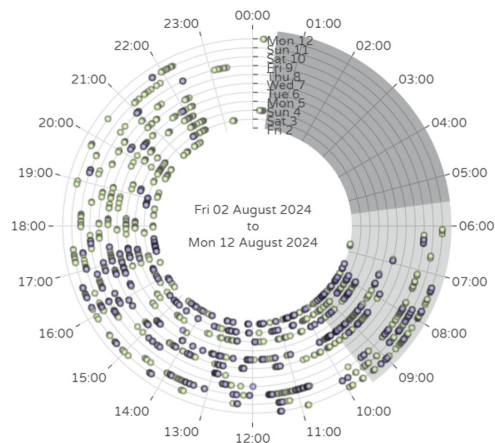


Fig. 7 Howz showing user not leaving the property during the nighttime period,

With evidence from the sensor prescription, it was possible to identify that:

1. The user was not leaving the home during the night
2. No evidence of user having left the home for more than 20 minutes at a time

Follow up action

With evidence gathered over a 3-week placement, the local authority social care team were able to confirm:

1. The user did not exhibit any concerning behaviours during the assessment
2. The users' pattern of life seemed stable

With this information, the care team were able to decide to avoid night time care visits.

Service outcomes

- Maintained user independence
- Avoidance of night care costs

Cost avoidance: £54,600 per year

From avoidance of waking night care.

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Case study 8

Use case

Prescription of Howz to avoid care home admission at discharge from hospital.

User referred from health services to home ahead of end of life.

User status

User at end of life, returning to live at home for as long as possible.

Howz prescribed to prolong time at home and identify when necessary to move to care home.

Assessment requirements

Close monitoring of key wellbeing concerns after hospital discharge.

Assessment of behaviour between care visits.

Track reduction of movement ahead of end of life care.

Howz prescription

Door sensors were placed on front door and fridge, plugs on kettle and microwave and motion sensors in bedroom, bathroom, toilet, kitchen and hallway.

Low activity and late wake up alerts were activated.

Technology enabled assessment carried out over 3-month period.

Howz findings

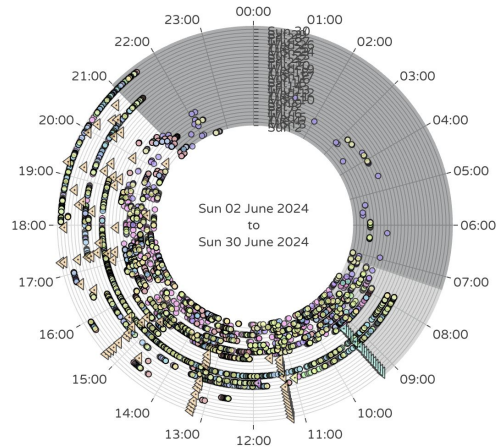


Fig. 8 Howz showing movement around the property after discharge, reducing over 2.5 months,

With evidence from the sensor prescription, it was possible to identify that:

1. The user was initially able to cope independently
2. Over time, mobility deteriorated leading to care home admission

Follow up action

With Howz, the council were able to offer the user an initial route home ahead of nursing home.

The user was supported at home for 2.5 months longer than would otherwise have been possible.

Service outcomes

- Extra 2.5 months at home for user at end of life
- Avoidance of 2.5 months cost of care home for council

Cost avoidance: £28,000

From removal 2.5 months cost from care home admission.