



CASE STUDY Connolly Hospital, Blanchardstown

Water data logging saves Connolly Hospital €183,000 per year



Introduction

Connolly Hospital, a 270 bed acute hospital in Blanchardstown, Dublin, is situated on a large 23-hectare campus. With numerous buildings it is a site that has evolved and expanded over the years since opening in the 1950s.

Like many Irish hospitals Connolly is billed quarterly for water use and, for many years, the bills were paid without analysing how much water was being used. However, as water use (and costs) started to increase the staff in Connolly decided to investigate. They were unsure whether the growing water use was related to the increased capacity of the hospital or due to leaks. In order to fully understand the levels of water use the hospital's Estates department decided to put a data logger on the main Council water meter entering the site. A data logger is an electronic device that sits on the meter and sends regular readings from the meter, which can then be viewed on a computer.

A data logger is an electronic device that sits on the meter and sends regular readings from the meter, which can then be viewed on a computer.

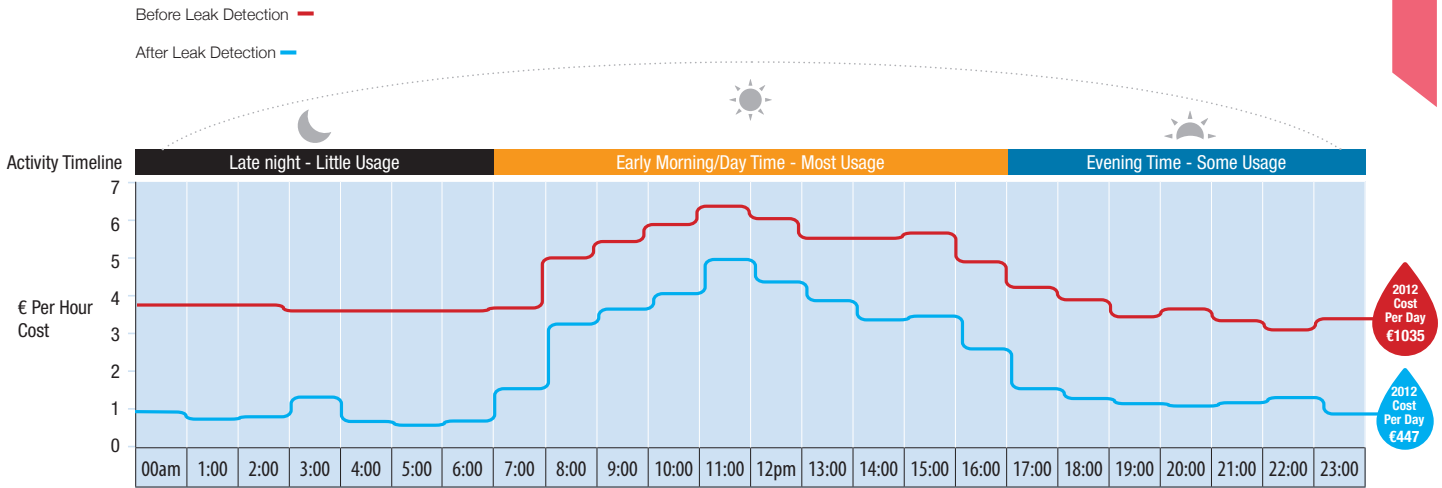
With the data logger in place the hospital's Estates staff could now see how much water was being used and, more importantly, when it was being used. Unlike other businesses, acute hospitals will use water constantly throughout the day and night. However, water use at night should be relatively low, particularly between 1 a.m. and 4 a.m.

Staff could now see how much water was being used and, more importantly, when it was being used.

The first thing noted when looking at the online data from Connolly hospital was how much water was being used during these night-time hours – it was as much as 2 litres per second! This equates to 7m³ an hour costing almost €16 per hour. In fact, it was estimated that this constant back-ground water use represented almost 50% of the total water use, i.e. the campus was leaking as much as it was consuming.



Title of graph goes here



By having this information, the hospital staff were able to estimate the quantity and, more importantly, the cost of water it was losing through leaks. This was important as it provided a cost benefit incentive to address the leaking water and, based on this, hospital management allocated the necessary funds.

Results

In 2012/3 a comprehensive leak detection programme was conducted. This found 5-6 major underground leaks. Once the leaks were identified the repair work was quite straightforward and cost a total of €10,000. Since the peak of 2012, water use has dropped by over 50%, even though services on the campus continue to expand. Night time flow rates are down to 0.5m3 per hour and the annual savings, in terms of water, are 97,000,000 litres with associated cost savings estimated at €183,000!

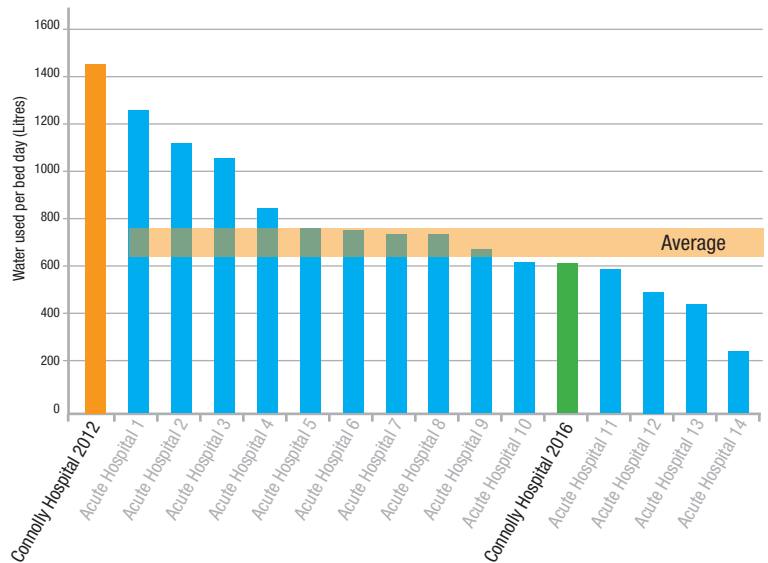


Conclusion

Even though so much has been saved in terms of wasted water, the Estates department continue to check the data logger daily. This ensures that water use is as expected and, if leaks do occur, they are now identified very quickly. The hospital's Estates department now also has control of the payment of water bills which helps track costs associated with water used on site.

When comparing Connolly Hospital's water use (in terms of litres of water used per patient bed-day) with national benchmarks it is clear to see the significant improvement their leak detection programme has made. While their highest use prior to the leak detection programme was in 2012 they are now better than the national average for the acute hospitals that have been benchmarked to date.

Connolly's progress against the average benchmark



NOTE: These national benchmarks for water use in Irish acute hospitals are being collated by Green Healthcare and currently data from 16 hospitals have been gathered. As more data is obtained these benchmarks will be further refined. Also, Connolly Hospital's previous benchmark is from 2012 and all other data points refer to 2014 data.