

Benchmarks & Best Practice Flow Rates

Water Efficiency - Best practice guides for Irish Healthcare Facilities



The importance of Benchmarks

Most people assume that once water is flowing from the taps in a hospital that all is well in terms of water supply. However, until you benchmark against other hospitals of a similar type (in terms of size and services provided) you won't know for sure.

The amount of water used by hospitals depends on the services provided, the number of overnight patients and the number of day consultations and visitors, etc. While every hospital is different, the most effective way of comparing how efficiently different hospitals use water is to calculate how much is used per patient bed-day. The Green Healthcare programme gathers water use data from Irish hospitals every year and, based on these, the national best practice benchmarks are estimated and updated.



It is important to note that while patient bed-days is a relatively consistent indicator to base benchmarks on, due to the variety of services that are offered in hospitals, direct comparisons may not always be possible. However, for the purposes of national best practice values, patient bed-days is the indicator used.



Calculating internal water use indicators on a regular basis is an excellent method of monitoring how well a hospital is performing, internally, relative to how busy it is. Instead of just patient bed-days a hospital may wish to base its internal indicator on patient interactions. This could include any or all of the following: patient bed-days, births, A&E attendances or outpatient attendances, etc.

Regardless of how a hospital determines its internal benchmark, it is important to remember that there will always be variability. Therefore, as long as a consistent method is used it can effectively track and monitor water use.

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Best practice flow rates

The water used by fixtures and fittings across Irish hospitals varies considerably. The pressure of water supplied, the types of taps or shower heads used, the frequency of use – all of these will impact on the overall quantity of water consumed, and to the annual cost of water to the hospital.

While taps, showers and toilets are used more frequently in the healthcare sector than in most other businesses, it is difficult to accurately determine how much water is used by any individual tap or toilet. Without this information it is difficult to quantify the potential savings associated with upgrades.

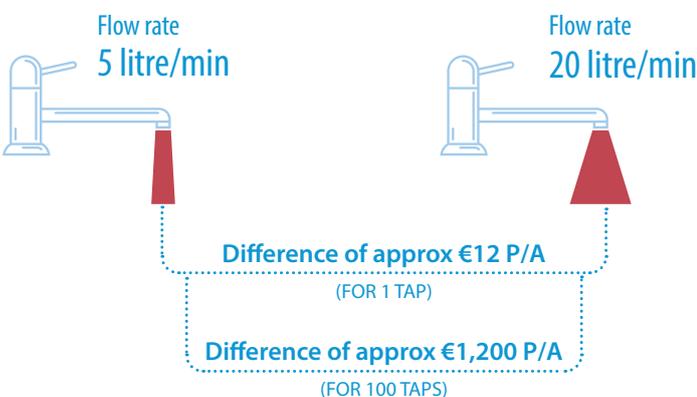
A recent study of water use by hot and cold taps at one Irish hospital estimated that the amount of water used per patient bed day is approximately 180 litres and 125 litres respectively. It was also found that 105 litres was used for toilet flushing per patient bed day. This type of information makes it possible to quantify savings but gathering such information is a difficult task.

Best practice values for the main fixtures and fittings are presented here. By comparing these to the flow rates or volumes used in your facility it is possible for a hospital to identify where improvements are needed.

The cost benefit

The diagram below shows the cost difference between 2 hot water taps that are flushed once a week, for 3 minutes, as part of a legionella prevention flushing schedule. For more on legionella flushing, refer to the Health Protection Surveillance Centre Guidelines for the Prevention and Control of Infection from Water Systems in Healthcare Facilities (2015).

The cost difference annually between a 5 litre/min and 20 litre/min hot water tap is approx €12. Scaled up for 100 taps this is almost €1,200 a year.



TAPS

Washrooms & public toilets

Best practice flow rate: 2 - 4 litres per minute



Toilets

• Best practice flow rate: 4 - 6 litres per minute

Kitchens & canteens

• Best practice flow rate: 6 - 8 litres per minute

SHOWERS

Healthcare shower facilities

Best practice flow rate: 6-8 litres per minute



TOILETS

Older, single flush toilets

• Best practice flow rate: 9 litres per flush

Single Flush Toilets

• Best practice flow rate: 6 litres

Dual flush

• Best practice flow rate: 4.5 litres (Full)

• Best practice flow rate: 2.5 litres (Half)



URINALS

Uncontrolled continuous systems

• Best practice flow rate: < 7.5 litres per hour, per bowl

Controlled Systems

• Best practice flow rate: 1 litres per flush

