

Case study summary

Global Action Plan (GAP), UK

“GAP is bringing some TLC to the NHS – Operation TLC is improving patient healthcare, and at the same time is cutting energy use. With impressive financial savings this initiative has huge potential to be rolled out across the health sector, with benefits for patients, planet and the public purse.” Ashden UK judging panel

Buildings in the UK rarely achieve their designed energy efficiency; how the building is used by its occupants is just as important as how it was designed. Many organisations try to ensure that their staff are aware of how to best use their buildings, but the challenge is in creating a permanent change in their behaviour.

GAP started its work with Barts Health NHS Trust by talking to staff and figuring out what motivated them to make changes in their working practices – patient care featured much higher than saving money or helping the environment. As a result, GAP developed actions that would benefit patients whilst also saving energy, and did this by using a range of face-to-face approaches to engage with staff and persuade them take action.

- GAP’s work at Barts Health is known as ‘Operation TLC’: Turn off equipment, switch off Lights, and Close doors.
- These actions benefit patients through reduced background noise and fewer invasions of privacy, resulting in better sleep.
- GAP has piloted Operation TLC in two of Barts Health hospitals, The Royal London and St Bartholomew’s.
- In the pilot programme, Operation TLC was taken up by 35 out of 60 wards, with 2,500 staff engaged with directly and 15,000 aware of the programme.
- Barts Health NHS Trust treats 1.4 million patients per year.
- The Operation TLC pilot programme cost £90,000 to run, and delivered annual savings of £100,000 from behaviour change and a further £200,000 from practical changes to the building.
- Electricity savings for the pilot programme are estimated at 1,088 MWh/year, and gas savings are estimated at 278 MWh/year, resulting in a CO₂ saving of 500 tonnes/year.
- Operation TLC has moved into the next phase, and is now working with all six of Barts Health hospitals, as well as Frimley Park Hospital.
- Further expansion is on the way, as GAP is partnering with Skanska to include Operation TLC in an Energy Performance Contract for Kent and Medway Partnership Trust.
- GAP was founded as a charity in 1993, and had a staff of 30 and a turnover of £1.85m in 2013/14

2014 Ashden Award for Behaviour Change



NHS statistics 2014

28million m² of floor space

2,300 hospitals

Energy bill was over £600m in 2012/13

TLC could cut this by £35m a year

Location



“What really impressed me about TLC was that they really got to the heart of what would make staff change their behaviour.”

Sonia Roschnik, Operational Director



GAP used imaginative ways to remind staff to Turn off equipment, switch off Lights and Close doors

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Case study

Global Action Plan, UK

Background

Public and commercial buildings rarely achieve their potential energy efficiency because people don't use them correctly. This applies just as much to new buildings that have been designed with energy efficiency in mind as it does to older buildings. Even when building users are educated in the correct use of their buildings, turnover of staff and communication problems mean that over time the good practices are lost. As a result, many organisations work on 'behaviour change', through which they try to make their staff aware of how to best use their buildings and encourage them to put this into practice. The challenge is in making this behaviour change permanent – motivation can fall after an initial programme is complete, and as staff come and go, awareness of the importance of energy-saving behaviour can be lost.

GAP has designed and implemented a pilot programme to save energy at Barts Health NHS Trust, using the promise of direct benefits for patients to motivate staff to take action that also saves energy

The organisation

GAP was founded in 1993 by Trewin Restorick, and it is now managed by a team of seven partners with a total staff of 30 and a turnover of £1.85m in 2013/14. GAP operates across the UK, solely on behaviour change work, and won an Ashden Award in 2008 for a project helping office staff save energy and resources. Operation TLC began in June 2012, and currently involves five of GAP's staff.

The programme

Operation TLC is a pilot programme delivered by GAP staff in co-operation with key members of staff from Barts Health, and also Skanska, which is the PFI partner for the Royal London and St Bartholomew's hospitals.

GAP started work with Barts Health by consulting staff through interviews, drop-in sessions and focus groups to determine the current awareness of energy use and how staff could be motivated to save energy. The result was Operation TLC – **T**urn off equipment, **L**ights out, **C**lose doors – which saves energy by avoiding the unnecessary use of equipment or lighting, and reducing the need for heating, cooling and ventilation.

How is energy-saving behaviour change encouraged?

GAP's initial research with staff indicated that environmental issues were not a significant motivator for most of them; quality of patient care came top, followed by the working environment and saving money for the Trust. To identify opportunities for saving energy, GAP surveyed staff to find out how they were using the building, carried out audits of lights left on and doors left open in a selection of wards, and talked with staff to identify typical daily activities. This initial survey work also gave a baseline against which progress could be measured. Realising they needed to come up with a simple message to

“Winning will help spread Operation TLC action across the NHS, supporting our aim to save £35m of energy annually. NHS Trusts need evidence and clear steps to introduce new practices. By recognising the successes at Barts Health NHS Trust, the Ashden Awards will help the 2000+ NHS hospitals feel confident to run Operation TLC; helping patients sleep better, making wards calmer and saving 280,000 tCO₂.”
Chris Large, Partner



Lucy Aldrich-Smith and Chris Large have developed Operation TLC at Global Action Plan



The new hospital building at Barts Health towers above the old one

engage staff, GAP settled on “Give the building TLC and it will pay back and give patients and staff TLC in return.” The motivation for each of the TLC actions is:

- **Turn off:** by turning off equipment that is not needed, the noise and temperature levels are reduced in wards, making them a more pleasant environment for patients and staff.
- **Lights out:** by turning out unnecessary lights at night, and also for a period after lunch, patients are able to get better quality sleep, and staff can use the quiet time to catch up on paperwork.
- **Close doors:** closing doors reduces both noise and accidental invasions of privacy for patients, helping them sleep and feel more comfortable during their stay.

The actions taken as part of Operation TLC saved energy as well as benefitting patients. Turning lights off is an obvious saving, as is turning off equipment that is not in use, but the energy saving resulting from closing doors is related to the design of new hospitals. Wards are kept at different temperatures as required for treatment of patients, ranging from 18 to 26C, so closing doors can reduce undesirable transfer of heated or cooled air into corridors. There are also wards kept at a slightly lower air pressure, to contain pathogens from contagious patients, and wards at higher air pressure to protect those with suppressed immune systems – keeping doors closed reduces the energy needed to maintain the required pressure difference.

Staff at Barts Health do not make wide use of electronic communications at work, so GAP knew that Operation TLC would need to rely on face-to-face communications to achieve its goals. The methods used include:

- **Walk rounds of wards at varying times**, to ensure meetings could happen with staff members working shifts. GAP also talked to non-ward staff, as some of their work areas were energy-intensive and needed the TLC actions too.
- **Rewarding and publicising existing good behaviour.** People already doing ‘TLC’ actions could win a tin of biscuits for their ward. GAP then produced leaflets using photos of these people, saying “Here are people you know doing good things. These are the people who won you the biscuits.”
- **Recruiting ward champions** to lead Operation TLC in each ward. GAP suggested actions each champion could raise at their weekly meetings, such as “Can we introduce ‘quiet time’ after lunch so patients can get some rest?”
- **Reminding people of actions** by giving nurses pens with the TLC message and having someone dressed as a light bulb accompany GAP staff, as a way of starting conversations and recruiting more champions. A TLC screensaver was also used, with a message from the medical director endorsing the project and giving ‘permission’, to counter concerns from some staff. On NHS Sustainability Day, the GAP team stood in a line by the entrance to the hospital and ‘high fived’ everyone going into work to say thank you for getting involved in Operation TLC.
- **15 minute sessions with support services**, such as domestic and security staff, to ensure they were supporting the work of the medical staff.

How much does it cost?

The first phase of Operation TLC cost about £90,000, mainly accounted for by the staff time required to deliver a face-to-face programme. This was paid by Barts Health, Skanska and GE, and funding for phase two has been secured from the Department of Health.

The NHS estate

The NHS includes 28 million m² of floor space across 2,300 hospitals, and represents the largest and most complex estate in Europe. Hospitals are among the most energy-intensive buildings in the UK, due to the requirements for heating, cooling, lighting and electrical equipment that are necessary to care for patients, so the impact of any energy inefficiencies is large. The estate includes old and new hospitals buildings, but both can benefit from behaviour change to improve patient care while cutting energy use.

The NHS energy bill was over £600m in 2012/13, and GAP believes that Operation TLC could cut this by £35 million a year if it was implemented in every hospital, as well as reducing annual CO₂ emissions by 280,000 tonnes.



Prizes, such as a box of biscuits to share, are given to wards where staff demonstrate good practice of the energy-saving TLC behaviours

Achievements

Phase one of Operation TLC ran from June 2012 to March 2013 in the two PFI hospitals within Barts Health NHS Trust, and phase two is now underway, running across all six Barts Health hospitals. Phase one gained the support of 35 out of 60 wards in the two targeted hospitals, and phase two is intended to bring the remainder on board, as well as covering the other Barts Health hospitals.

Operation TLC has resulted in face-to-face interaction between GAP and about 2,500 Barts Health staff, with all 15,000 staff being reached by other forms of communication in use, and over 150 'champion' staff recruited to promote the programme in their wards. Barts Health NHS Trust treats 1.4 million patients each year, all of whom will be benefitting to some degree from the impact of Operation TLC.

The behavioural results of Operation TLC in the 35 active wards so far are:

- Reduction in doors left open from 48% to 30%.
- Lights left on in unoccupied rooms fell from 88% to 44%.
- Informal discussions with support staff indicated significant engagement with TLC.
- Opportunities to make one-off changes to save energy were identified, such as draught-proofing and correcting faulty automatic door settings.

Social benefits

Each of the three Operation TLC actions has benefits for patients and for staff:

- **Turning equipment off** when it is not required results in reduced noise levels and better temperature control, making the environment more comfortable for both patients and staff, and helping patients sleep better.
- **Turning lights out** when not needed enables patients to sleep better at night and also between 1pm and 3pm, when lights are dimmed and visitors only permitted in a separate room from the ward. An added benefit for staff is that the quiet periods in the afternoon allow time to catch up on administration.
- **Closing doors** helps both patients and staff by lowering background noise, reducing accidental invasions of privacy, keeping rooms at the correct temperatures, and ensuring infection control measures work as designed.

Audits of staff behaviour and surveys of patients have been used to evaluate progress, and patients have responded positively to the changes resulting from Operation TLC, for example, the proportion of patients reporting disturbed sleep was 32% in TLC wards, compared to 46% in other wards.

Environmental benefits

GAP carried out a partial audit of the extent to which staff were carrying out the TLC actions, and combined this with energy modelling and metered energy use (where available) to estimate the energy savings delivered. The results so far are:

- Audited 543 MWh electricity saved through switching off lights in staff and patient rooms.
- Estimated 233 MWh electricity saved through switching off lights and appliances in patient areas.
- Estimated 191 MWh electricity saved by switching off computers and lights in administration areas.



New buildings are designed to be energy-efficient, but how well they work in practice depends on how their occupants use them



Lights are dimmed or turned off when not needed, saving energy and helping patients get plenty of rest

- Estimated 297 MWh from one off actions like removing unused isolators.
- Small amount of heat saved by keeping doors closed.

The total estimated savings are therefore 1,088 MWh/year electricity and 278 MWh/year gas, or 6.6% and 1% saving of what the energy use would have been in a 'business as usual' scenario. This represents a CO₂ saving of over 500 tonnes/year.

Economic benefits

By reducing the Trust's energy bills, more resources can be made available for investment in hospital services and improved patient care. The annual energy saving from the behaviour change aspects of the pilot programme was about £97,000, giving a payback of under one year. On top of this, additional annual savings of £200,000 were made due to removal of redundant equipment which enabled the cancellation of a costly maintenance contract.

The future

GAP is already working with the Department of Health to roll Operation TLC out to the other hospitals in Barts Health NHS Trust as well as Frimley Park Hospital in Surrey. Furthermore, Barts Health and Skanska have included phase three of Operation TLC in an Energy Performance Contract for the three non-PFI hospitals in the Trust, with a requirement for annual savings in excess of £60,000. The contract commits them to delivering energy savings for the Trust through technical and behavioural measures, and the resulting financial savings are used to pay the financier of the work, Sustainable Development Capital Ltd. GAP and Skanska are setting up a similar contract with Kent and Medway Partnership Trust.

GAP is also developing a platform tool to embed and scale sustainability in hospitals. The platform has been designed to create an interactive community where Barts Health celebrates good news and shares ideas internally. Staff will be able to write stories, comment on blogs and keep up with what's going on around the hospitals. It's a space for positive news stories and where teams can be recognised for their successes.

The approach GAP has taken in designing Operation TLC, i.e. finding the right motivations for the organisation in which behaviour change is needed, is also applicable outside the health sector. Wider use of this approach could deliver significant energy and cost savings in many private and public organisations.

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Fiona Daly, Barts Health NHS Trust Environmental Manager, has worked closely with Global Action Plan to implement Operation TLC

“Operation TLC has delivered improved patient care at the core of our business whilst empowering our entire workforce to take action on energy usage and climate change. It has been a truly inspiring project and one I hope other NHS Trusts will be inspired to follow.”
Fiona Daly, Barts Health NHS Trust Environmental Manager