The Law of Unintended Consequences / The Hawthorne Effect

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The law of unintended consequences, often cited but rarely defined, is that actions of people—and especially of government—always have effects that are unanticipated or unintended. Economists and other social scientists have heeded its power for centuries; for just as long, politicians and popular opinion have largely ignored it, by Rob Norton.
From Wikipedia, the free encyclopedia:

In the social sciences, unintended consequences (sometimes unanticipated consequences or unforeseen consequences) are outcomes that are not the ones foreseen and intended by a purposeful action. The term was popularized in the twentieth century by American sociologist Robert K. Merton

Unintended consequences can be grouped into three types:

- Unexpected benefit: A positive, unexpected benefit (also referred to as luck, serendipity or a windfall).

- Unexpected drawback: A negative, unexpected detriment occurring in addition to the desired effect of the policy (e.g., while irrigation schemes provide people with water for agriculture, they can increase waterborne diseases that have devastating health effects, such as schistosomiasis).

- *Perverse result: A perverse effect contrary to what was originally intended (when an intended solution makes a problem worse). This is sometimes referred to as 'backfire'.*

During a recent Leadership Team meeting one of the speakers mentioned the Hawthorne Effect. Having heard the term, but not being familiar with it I googled it and one of the hits was from the The Economist Newspaper Limited Titled simply: The Hawthorne effect, Nov 3rd 2008.

The Hawthorne effect is named after what was one of the most famous experiments (or, more accurately, series of experiments) in industrial history. It marked a sea change in thinking about work and productivity. Previous studies, in particular Frederick Taylor's influential ideas, had focused on the individual and on ways in which an individual's performance could be improved. Hawthorne set the individual in a social context, establishing that the performance of employees is influenced by their surroundings and by the people that they are working with as much as by their own innate abilities.

The experiments took place at Western Electric's factory at Hawthorne, a suburb of Chicago, in the late 1920s and early 1930s. They were conducted for the most part under the supervision of Elton Mayo, an Australian-born sociologist who eventually became a professor of industrial research at Harvard.

The original purpose of the experiments was to study the effects of physical conditions on productivity. Two groups of workers in the Hawthorne factory were used as guinea pigs. One day the lighting in the work area for one group was improved dramatically while the other group's lighting remained unchanged. The researchers were surprised to find that the productivity of the more highly illuminated workers increased much more than that of the control group.

The employees' working conditions were changed in other ways too (their working hours, rest breaks and so on), and in all cases their productivity improved when a change was made. Indeed, their productivity even improved when the lights were dimmed again. By the time everything had been returned to the way it was before the changes had begun, productivity at the factory was at its highest level. Absenteeism had plummeted.
The experimenters concluded that it was not the changes in physical conditions that were affecting the workers' productivity. Rather, it was the fact that someone was actually concerned about their workplace, and the opportunities this gave them to discuss changes before they took place.

A crucial element in Mayo's findings was the effect that working in groups had on the individual. At one time he wrote:

The desire to stand well with one's fellows, the so-called human instinct of association, easily outweighs the merely individual interest and the logic of reasoning upon which so many spurious principles of management are based."

An "Aha Moment" occurred! Some back ground: Our EVS department was responsible for cleaning and maintaining over 363,000 square feet of cleanable space. The department operates with 60 employees with a total of 51.15 FTE's. As of January 2013 EVS would be responsible to clean and maintain an additional 130,000 square feet while maintaining staff expense. It was necessary to develop a streamlined, effective and efficient job and systems design to accomplish this goal. Salary Expenses are not to increase due to the relocation of patient care areas from their current locations to the new wing.

EVS worked to increase our operational efficiency. Operational goals were established for EVS and it was determined that EVS would not increase current staffing levels with the opening of the Garrison Wing. We accomplished our operational goals, by starting from scratch and redesigning our processes by utilizing the tools that were in our Operations Excellence / Lean Six Sigma tool box. The opening of the Garrison Wing added an additional 130,000 sq. ft. to EVS work load. Implementation of GW Systems Design saved the facility real dollars by increasing staff productivity and avoiding increasing staff without negative effect to patient experience.

When we first began our OE journey our administration stated that they understood that our taking on the cleaning of the new wing without the addition of staff would strain our abilities and mostly have a negative effect on our Press-Ganey scores and possibly affect staff morale. There were concerns about employee turnover. Overall, staff's commitment to quality and their dedication to providing a superior patient experience are reflected in our Press-Ganey scores increasing as we opened the Garrison Wing through the two quarter of 2013.
The EVS department was running smoothly, our Press-Ganey inpatient scores and our HCAHPS were respectable; staff morale was good and getting better. Over the past two years we had a complete change in our supervisory staff which included the addition of a manager's position. Our new supervisory team was experienced, educated and eager to make an impact. Staff participation and involvement in department decision making was at an all-time high.

We were in the preconstruction planning phase when the Hospital contracted with Thomson Reuters / Truven. Truven conducts independent and objective hospital and health system performance research. After an exhaustive collection of operating, financial statistics and compare group analysis which included a comprehensive normalization of departmental data

and comparison to compare groups. We determined that EVS department had an opportunity to be more productive.

With the opening of the new wing, our occupancy level would remain the same as all rooms would be private instead of semi-private. Benchmarking with Truven Health, WDH gained access to the largest database of client-supplied data in the industry. By comparing to industry benchmarks, WDH and EVS worked to increase our operational efficiency. Operational goals were established for EVS and it was determined that EVS would not increase current staffing levels with the opening of the Garrison Wing. When the new Garrison Wing opened in January of 2013 the addition of 130,000 square feet of cleanable space, would be accomplished without the addition of additional staff.

In order to accomplish our operational goal, Operations Excellence / Lean Six Sigma methodology was employed. A Lean Six Sigma DMAIC Charter was written based on project characteristics. Our project charter Environmental Services Garrison Wing Systems Design (EVS GW Systems Design).

EVS GW Systems Design, Team Members: Champion: Mike Catanzaro Director EVS, Project Manager/Belt Michele Clark, RN, CCRN OD Practitioner, Master Black Belt Keith Bartlett Executive Director Operations Excellence, Process Owner Rob Daigle, Manager EVS, Executive Sponsor Dan Dunn Senior Vice President Operations, Financial Rep Joel Degenaars

Problem Statement: as of January 2013 EVS will be responsible to clean and maintain an additional 130,000 square feet while maintaining staff expense. It is necessary to develop a streamlined, effective and efficient job and systems design to accomplish this goal.
Salary Expenses are not to increase due to the relocation of patient care areas from their current locations to the Garrison Wing.

The process starts at delivering cleaning and rest room supplies, includes cleaning the room, and ends with waste and linen removal. What was in scope included; cleaning and maintenance of the addition of the Garrison Wing, delivery of clean linens, cleaning and restroom supplies, removal of wastes (general, RMW, recycling & confidential wastes), and soiled linens. Out of Scope; initial move in cleaning, auditoriums set up, maintenance and project work.

The core team members were; Rob Daigle, EVS Manager, Caitlin Collins-Heon, EVS Supervisor, Rita Bishop, EVS Charge Person, Robin Colbath, EVS Charge Person, Donna Hickman, RN, BSN, Nurse Manager.

The extended team members included; Dee Hopper, RN, MBA, FACHE AVP Inpatient Services, Chris Hamill, MSN, RN, CNL AVP Outpatient & Surgical Services, Karen McDonald, RN Nurse Director, Betty Valentine, RN Nurse Manager, Jim Miller, Infection Preventionist, Abderrahmane (Abdul) Chaggouri, EVS Supervisor, Mary Krans, RN Dir Service Excellence

Critical Inputs or Design Criteria Identified

Scheduling plan to reflect current EVS staff and re-assignment to reflect new building footprint and load leveling concept.

No process for Linen delivery to nurse savers, need for standard linen contents and process for re-stocking that includes overage numbers to support change in delivery.

Standard process for unit cleaning, room cleaning and discharge room cleaning needed. Re-training plan required for new processes & assurance of compliance / competence of all staff.

Automation for dirty bed process.

We created an ‘A-Z’ approach to cleaning. Starting from the patient room door and working around the room in a circular manner allowed for cleaning that just ‘made sense’ and minimize missed areas. We also allowed for ‘team cleaning’ approaches to create efficiency throughout the department and drive our ‘team approach’ within the department. Team cleaning also minimizes time we are in daily room cleans during the day, which effectively disturbs the patients less.

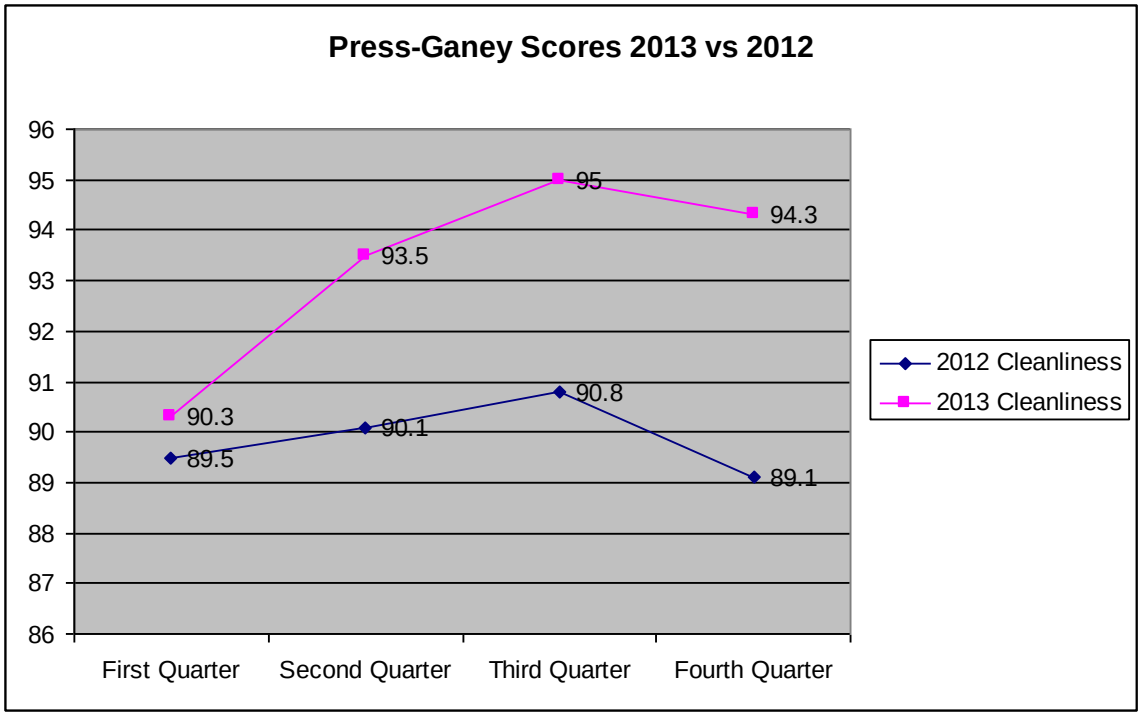
A New Approach to Office Cleaning

Faced with a challenge to open 130,000 square feet with existing staffing, we had to come up with solutions to keep our existing quality of service to patient areas high. Including the staff members of Wentworth Douglass Hospital in this process was the key to our success. It was decided the year prior to drop staff member office cleaning from five days per week (Monday-Friday) to twice a week (Tuesday and Friday). With the opening of the new building we decided to drop office cleaning to one day per week. If trash needs to be pulled prior to their office cleaning day, the office occupant would pull the trash and put it in an area that is cleaned nightly (i.e., bathrooms, break rooms). It seems like something small, but it really has helped to ensure we have the time we need in patient areas to clean them and keep our HCAHP and Press Ganey scores where they need to be. Involving the entire staff of Wentworth Douglass in this initiative has been a challenge, but ultimately a rewarding. We are seeing our efforts and patient centric focus pay off with Press Ganey and HCAHP scores staying right on target through the first quarter.

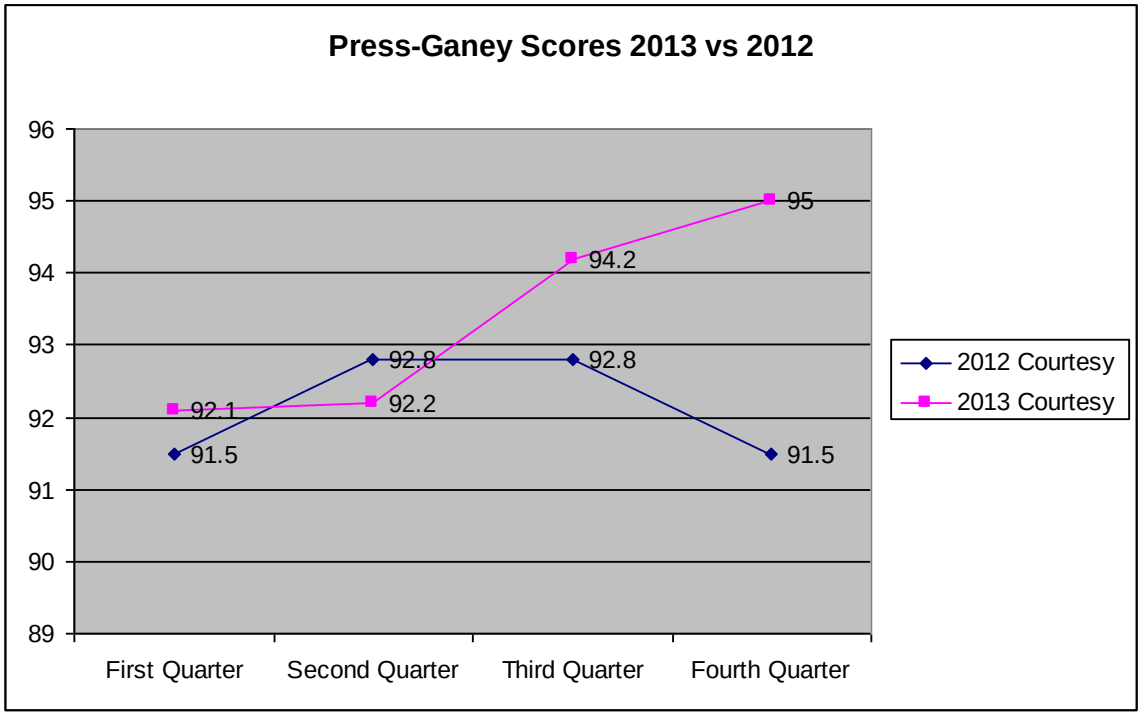
A New Approach to Area Cleaning

Team cleaning didn’t stop at just patient rooms. We added the approach to our area cleaning on the evening shift and are seeing positive results from the teams. We looked at how some of the areas were split up and noticed a lot of people over lapping area and there was an overall inefficient system to cleaning areas. We tried to group areas together, put together teams and changed times some people came in to later in the evening (when the areas they clean are actually closed).

Though, there continues to be challenges, we’re seeing overall increase in productivity and were able to ‘break even’ as much as possible with the increase of office space, lobby space, larger patient rooms for discharges and auditorium space added to the evening shift



Our Press-Ganey scores propelled us into the 99 percentile for Room Cleanliness in the Large PG Data Base Rank and in150-299 Bed Group Ranking for quarters two, three and four. It is important to note that the Garrison Wing was completed in January 2013 and patients occupancy occurred began on January 31, 2013 and was completed February 5, 2013.



Our Press-Ganey scores for Courtesy of Person Cleaning Room reached the 99 percentile for Room Cleanliness in the Large PG Data Base Rank and in150-299 Bed Group Ranking in quarters three and four. These were Press-Ganey scores this facility had never attained before and in light of what the Team was asked to do was something that was never expected. The Hospital Operations Excellence Team estimated that over the course of the year our Garrison Wing EVS Resign Project had a cost avoidance of over $400,000. These are real dollar savings.

Some physical changes to the EVS area were also made, staff's lockers were taken out of the corridor and out of alcoves and they were provided with a locker room with new lockers and a workstation with two computers to check emails, Health Stream courses and on break shopping. A break/meeting room was carved out and a kitchenette with sink, counters, microwave, toaster and refrigerator was also provided.

The (Hawthorne) experimenters concluded that it was not the changes in physical conditions that were affecting the workers' productivity. Rather, it was the fact that someone was actually concerned about their workplace, and the opportunities this gave them to discuss changes before they took place.

We had applied the changes as in the Hawthorne experiments without realizing it. Open communication and staff's collaboration in designing a streamlined, effective and efficient job and systems were keys to our success. The communication strategy we employed was to always be transparent. We identified and clarified misconceptions and rumors immediately. Staff concerns were aired and addressed. Our success can be credited to a number of factors; the ability of the Core Design Team to think outside of the box, being able to set aside how the staff "always" did their job, starting fresh and building a new model of how thing would be accomplished so that we would meet the our goals, unintended consequences notwithstanding.

Frederick Taylor Later in life he added: The working group as a whole actually determined the output of individual workers by reference to a standard that represented the group conception (rather than management's) of a fair day's work. This standard was rarely, if ever, in accord with the standards of the efficiency engineers.

Fritz Roethlisberger, a leading member of the research team, wrote: The Hawthorne researchers became more and more interested in the informal employee groups, which tend to form within the formal organization of the company, and which are not likely to be represented in the organization chart. They became interested in the beliefs and creeds which have the effect of making each individual feel an integral part of the group.

Had we seen unintended consequences caused by the (our unwitting) application of the Hawthorne Effect? Or, does good management sometimes occur without rhyme, reason or the aid of social scientists.