

Deviating Positively to Foster Change in Social & Bio Systems

“He imagined himself a microbe and he’s the best damn researcher and teacher in the field.” That’s what one grad student said of his mentor, Stanley Falkow, Professor Microbiology and Immunology; Geographic Medicine; Infectious Diseases, Stanford University School of Medicine and recent winner of the Lasker Award, sometimes referred to as "America's Nobel.”

Falkow’s approach to his work was to imagine himself a microbe. This enabled him to discover how some germs are able to resist the antibiotics that are commonly used to kill them. It is a process called “quorum sensing.” Antibiotic resistant germs communicate with each other by releasing chemical packets of information that lets them know when they’ve reached sufficient numbers to successfully attack a vulnerable surface such as any break in the integrity of the skin resulting from trauma, insertion of an IV, surgery, etc. as well as devices that enter the body such as catheters and breathing tubes or are implanted in the body like artificial joints, heart valves, etc.

Once the germs have collaborated in taking up residence on these surfaces, they connect and coordinate their efforts to resist antibiotics by producing a biofilm that acts as a barrier which prevents the antibiotics from reaching them. In other words, resistant bacteria survive by communicating, collaborating, connecting and coordinating which enables them to exploit the vulnerabilities of our healthcare system; a system that is deeply fragmented and which makes it difficult for healthcare professionals to communicate, collaborate, connect and coordinate (the 4 C’s) within and between their work silos.

As long as these mindless unicellular pathogens are able to beat healthcare workers at the game of 4 C’s, they will maintain the upper hand and the national epidemic of healthcare acquired infections will continue to kill 100,000 and more people every year.

The CDC presented a late breaking abstract at the annual Society for Healthcare Epidemiology of America (SHEA) meeting this year. Late breaking abstracts attract a lot of attention at this meeting, especially when the CDC presents. This one reported a breakthrough in preventing MRSA infections in six hospitals working collaboratively to prevent healthcare acquired infections (HAI’s). Their work was funded by the Robert Wood Johnson Foundation and supported by the Plexus Institute, the Positive Deviance Initiative and the CDC.

While HA-MRSA infection rates are climbing each year nationally, these hospitals have achieved statistically significant and sustained reductions. They achieved dramatic reductions in their MRSA infection rates by using a liberating approach to complex challenges requiring behavior and social change known as Positive Deviance (PD).

Until 1990, PD was only a theory based on the observations of Tufts University nutritionist, Marian Zeitlin, that in every third world village there are children among the poorest families who are adequately nourished. The theory was applied in the villages of Vietnam in the 90's by Jerry and Monique Sternin from Save the Children Federation. The Sternins enabled the villagers to discover and amplify the specific behaviors and practices of impoverished families who were able to keep their kids well nourished. The villagers learned to transfer these successful behaviors among themselves which dramatically reduced childhood malnutrition rates and PD became the approach for preventing malnutrition in Vietnam and several neighboring countries by the end of the decade.

The basic premise of PD is that solutions to seemingly intractable problems already exist in the practices, behaviors and experience-based ideas of the people who deal with the problem directly on a daily basis. When it comes to HAI's, this means front line staff; not just physicians and nurses, but housekeepers, food service workers, patient transport techs, respiratory therapists, pastoral care givers, patients, families, et al. Simply stated, it includes the "touchers;" all those who touch patients and environmental surfaces with their hands, clothing and shared equipment.

The six hospitals where MRSA infection rates are dramatically declining have leaders who decided to create the freedom and opportunities for the "touchers" to share their successful practices and great ideas, make decisions, co-create action plans and then go out and amplify their successful practices and act on their great ideas with the support of the leaders. This unleashing of positive deviant practices and ideas is focused on enabling everyone to adhere to good hand hygiene practice and contact isolation precautions. It also leads to innovative approaches to room cleaning, patient movement, respiratory therapy, pastoral care and numerous other aspects of patient care by the people who provide care. All 6 hospitals have active surveillance data that show reduced MRSA transmission rates; fewer patients being colonized with MRSA during their hospital stay.

There is much talk about how to hold the gains and sustain improvements in healthcare. The rock of sustainability has been licked smooth by a thousand tongues, yet it remains an issue. Hundreds of healthcare workers in the six hospitals reported by the CDC have volunteered and are co-creating thousands of "penny solutions." Those who create solutions don't turn their back on them. So, the solutions the "touchers" are producing endure and the infection rates continue to plummet. These new drivers of sustainable infection prevention include many "unlikely suspects," like housekeepers, patient transporters and ministers who now approach their work as a vital part of infection prevention.

This cultural change has come as a result of the deep sense of ownership of solutions that were co-created by those who do the work and have direct contact with patients and their environment. They own the solutions, the reduced transmission and infection rates, the data and the culture change. They have accomplished this by beating MRSA at the 4 C's game within and between the silos of their work.

An additional outcome has been a reduction in the resistance of staphylococcus aureus to Methicillin. Thus, the Positive Deviance approach has fostered both a social system and a bio system change from within that is not only likely to endure, but to spread to other seemingly intractable problems and, who knows, maybe even begin to eliminate the silos that imprison so many PD practices and ideas.

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