

## **Can MRSA be Controlled in Our Food Supply Chain?**

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How to control this pathogen is a complex question, but the food industry is not without remedies or resources to deal with this issue. Extricating the industry from the entanglement it finds itself in is possibly the biggest challenge this industry has ever faced.

A broader look at the issues of how we got here is in order. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a major topic of discussion these days and for

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good reason. The overuse of antibiotics and its direct role in the mutation and adaptation of this and many other microorganisms is well documented.

Antibiotic resistance has put the food manufacturing and healthcare industries on a parallel track.

The FDA is working to identify and contain antimicrobial resistance on its own version of parallel tracks. This includes efforts to reduce drug-resistant bacteria in foods and in animals that enter the food supply and facilitating the development of new antibiotics to treat patients while preserving the effectiveness of existing antibiotics.

However, less complex, less costly, but highly effective measures exist and are now available to help reduce microbial contamination threats for both of these industries.

There is a third component in addition to the FDA's parallel approach that is garnering a growing advocacy at least in the healthcare debate. It centers on what would seem to be a common sense approach and a foregone conclusion; stricter personal hygiene, cleaning, sanitization and disinfection protocols.

Healthcare business models based their reliance on antibiotics which ultimately created progressively lax hygiene and disinfection policies.

In the livestock and food manufacturing industries, specifically livestock production, preemptive use of antibiotics helped fuel greater production outcomes by reducing mortality rates and increasing higher weight yields. While many livestock producers would probably argue this point, it too de-emphasized stricter hygiene and disinfection protocols.

The parallels that exist between these two industries because of the overuse of antibiotics and their aftermath keeps the two of them inextricably connected as they work to bring these issues under control. Collectively, these industries face mounting public and governmental pressure to correct and reverse the threat of what has become a full blown health crisis. Both industries face substantial financial ramifications if they fail to act swiftly and comprehensively.

Congress has already imposed legislation that is having a profound financial effect on our healthcare institutions by eliminating reimbursements for readmissions due to Hospital Acquired Infections (HAI's).

Coupled with the cessation of reimbursements for HAI readmissions is new reporting and rating systems that financially penalize hospitals based upon poor infection control performances. These penalties are imposed by reducing legitimate reimbursements, further resulting in once financially healthy hospitals quickly underperforming almost overnight.

Even with substantial loss of revenues, fines and penalties, compliance in many hospitals still lags. There is hope however; published data from some reporting

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hospitals proves that stricter adherence to personal hygiene, cleaning, and disinfection protocols can cut infection rates from MRSA and other resistant microorganisms by as much as 90 percent. If hospitals embrace these simple concepts it can revive the financial health of many institutions.

This is a simple and transferable methodology for the food manufacturing industry to incorporate. If the food industry adopts these principals they can set a protective, self-policing, course of action that can help to reduce the fear of what will happen when, not if, the FDA mandates the cessation of subtherapeutic antibiotic use for livestock.

The livestock and food manufacturing industry would be well advised to keep a watchful eye on these proceedings. With the FDA's recent request for voluntary reductions in the subtherapeutic use of antibiotics by asking the drug companies to tighten the supply of antibiotics to farmers on a prescription only basis, many believe the die is cast.

Even if the FDA has not fully or officially ruled whether or not antibiotic residues in meats and poultry are safe for consumers can the industry really afford to take the chance and that they are not in the crosshairs? Signs are pointing to consumers growing skepticism towards antibiotic fed meat's safety and in turn are demanding that the FDA do something about this critical issue.

The livestock industry is now in the middle of this discussion no matter how unwelcome the spotlight is. Antibiotics, once only administered to sick livestock became employed as a growth enhancement. In so doing, the livestock industry became the largest consumer of antibiotics in our nation. In 2011 alone this industry consumed nearly 30 million pounds of antibiotics equaling 80% of all the antibiotics sold that year.

Consumers are watching.

Stricter personal hygiene and environmental cleaning services are not reserved for the healthcare industry. Simple processes and procedures carried out with laser focus can make a difference.

For livestock producers and food manufacturers, common sense tells us that the place to start is to look at what is in place and have the fortitude to make improvements where necessary:

- Demand strict adherence to your HACCP plan and make full reviews of existing facility cleaning, sanitizing, and disinfection protocols including subcontracted facilities.
- Initiate corrective measures and establish higher quality control standards.
- Hold management, employees, vendors, and subcontractors accountable for implementing improved environmental and disinfection protocols.
- Institute strict hygiene protocols that focus on improved hand washing and sanitization, on-site showering, and on-site laundering activities so that

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employees do not transport potentially contaminated clothing in their vehicles, into their homes and back to the facilities. This is a bigger problem than what may appear and easy to remedy.

- Develop a Biosecurity plan or review and amend an existing plan to encompass more stringent facility and equipment disinfection maintenance from birthing and weaning facilities, grow houses, slaughter houses, and production facilities including packaging operations, etc.
- Embrace new technology, seek out safe, non-invasive, and innovative detection, testing, and static technologies that can reduce bio loading and bacterial colonization on surfaces between cleanings providing livestock facilities with measurably healthier environments for longer periods of time.
- Hire consultants and outside firms that specialize in corrective biohazard measures if necessary to kick start new protocols.
- Be proactive, not reactive, begin the reduction of antibiotic use to pre-subtherapeutic levels and reserve its use for sick livestock only before the FDA mandates it. The cost of prevention will always be money better spent than reactionary spending and it might be a wiser choice than hoping that the FDA never mandates the cessation of subtherapeutic antibiotic use.
- The void left by the cessation of daily antibiotic dosing for growth enhancement will be replaced by the results of properly implementing cleaner facility protocols and policies.

MRSA and other resistant microorganisms on their own will not control themselves; the industry has to take proactive measures to bring this and similar pathogens that affect livestock operations and production processes under control. It is achievable, but there will always be some pain when implementing new or stricter policies.

The days of safe healthcare and images of pastoral farming are no longer the current view. Consumers still want to be safe and they will hold our institutions responsible. The debate is ongoing and it isn't likely to go away anytime soon.

Getting in step with consumer demands can buy food manufacturers substantial public relations currency that might come in handy someday. But, in our free market system someone will jump in, fill the void, and give the public what it wants if industry mainstays ignore the public's concerns about their health and well-being.

*Jim Praechtl is the CEO, co-founder, and partner of Clearstream, LLC along with partners Anthony Daddona and Sean Wursta. Jim also holds the title; Director of Product Development for the company which helps to define much of Jim's day to day responsibilities. Clearstream was formed in 2007 based on the decision to begin implementing a green and sustainable business model. Through extensive research the company was drawn to the world of antimicrobial technologies and coatings.*

*Jim works extensively with Clearstream's manufacturing partners on a daily basis at mPact Environmental Solutions, LLC and Holly Oak Chemical, Inc. on new product development, regulatory affairs, implementation protocols, and product placement. For more information visit Clearstream at [www.thinkclearstream.com](http://www.thinkclearstream.com) [1]*

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