

Public Health: Swine Flu may have originated in poo pools

Pigs, contrary to widely held opinion, are not dirty animals. As a Geordie would say "nice pig, but his shit stinks." Anyone who has visited a piggery knows that no matter how clean the animals, their output is, simply, nasty. Its horrid in small doses. So imagine what the accumulated output of 1,000,000 pigs is like. Welcome to the politely named "manure lagoons" of Mexico.

Demonstrating the power of the internet to race ahead of official investigations, the media this morning is feeding on itself and on "the blogosphere." But what is appearing is not all that it seems.

It all started in a blog written by James Wilson who The Times describes as "a founding member of Biosurveillance Indication and Warning Analysis Community (BIWAC)." On the blog are visitors' comments. And amongst the visitors' comments are references to a specific pig farm, and its "manure lagoons." Wilson wrote that "residents esidents claimed that three pediatric cases, all under two years of age, died from the outbreak." He also said that "officials stated that there was no direct link between the pediatric deaths and the outbreak; they said the three fatal cases were isolated and not related to each other."

The blog, it turns out, is a marketing tool for a company called Veratect - a US start up - which some US media have written the kind of gushing copy that often covers little substance with many words.

Veratect describes itself as a "biosurveillance company." Veratect says that it warned both the WHO and the USA's Centres for Disease Control and Prevention (CDC) of the swine fever outbreak before it hit the news - or other blogs.

Whilst the media scrambled to pin the blame, at least by association, on an American company called Smithfield Foods based in Virginia. Smithfield is big into intensive pig farming and it outsources its production of around 1,000,000 pigs each year to an enormous "facility" in Mexico. The pigs are reared using the model which, like the poo pools, has been given a nice name to disguise what it really is: "Confined Animal Feeding Operations (CAFOs)" are, at their worse, the pig equivalent of veal crates. Animal welfare is not something that the USA takes very seriously and nor, obviously, does Mexico.

CDC is aware of CAFOs - and has a special section devoted to them. After all, intensive chicken farming has led to the outbreak of many diseases over the years. So the risks of building up piles of waste matter are no surprise. But the piles of poo from a million chickens does not begin to equate to the output of a million pigs.

CDC says "CAFOs are agricultural facilities that house and feed a large number of animals in a confined area for 45 days or more during any 12-month period. Pollutants possibly associated with manure-related discharges at CAFOs may affect human health either directly or indirectly" Well, that's clear, then. So large numbers of animals in close proximity for long enough for most diseases to incubate, develop and spread and producing potentially contaminated output are a recognised farming practice.

And the CDC says that, in the USA, half of all animal farm waste matter is generated by these intensive farming methods. It does not say how much of Mexico's poo pools are generated by outsourced US intensive farming methods.

And whilst the poo stinks, there are many other hazards directly related to it.

"People who work with livestock may develop adverse health effects, including chronic and acute respiratory illnesses and musculoskeletal injuries, and may be exposed to infections that travel from animals to humans. Residents in areas surrounding CAFOs report nuisances, such as odour and flies. In studies of CAFOs, CDC has shown that chemical and infectious compounds from swine and poultry waste are able to migrate into soil and water near CAFOs. Scientists do not yet know whether or how the migration of these compounds affects human health."

Note "chemical compounds." That's the drugs that the USA permits to be fed to animals, including growth hormones that scientific evidence from the pro-lobby says does not pass into the food chain - but the disgraceful obesity levels of those born since the introduction of such hormones raises at least sufficient questions to cause serious concern.

And the CDC bears even worse news: the poo pools may breed drug-resistant diseases:

"Pollutants possibly associated with manure-related discharges at CAFOs include:

- **Antibiotics**, which may contribute to the development of antibiotic-resistant pathogens
- **Pathogens**, such as parasites, bacteria, and viruses, which can cause disease in animals and humans

• **Nutrients**, such as ammonia, nitrogen, and phosphorus, which can reduce oxygen in surface waters, encourage the growth of harmful algal blooms, and contaminate drinking-water sources
• **Pesticides and hormones**, which researchers have associated with hormone-related changes in fish
• **Solids**, such as feed and feathers, which can limit the growth of desirable aquatic plants in surface waters and protect disease-causing microorganisms
• **Trace elements**, such as arsenic and copper, which can contaminate surface waters and possibly harm human health"

CDC has, therefore, taken account of the mould that afflicts fish in intensive fish farming.

The response to "Mad Cow Disease" has been to order that the disease takes more than three years to manifest itself. But a three year old beef animal is not yet fully mature. So the use of accelerants in the form of hormones has been approved to bring cattle to maturity in as little as 18 months.

The CDC is concerned that all of these things - and general waste management issues - create the conditions where disease may generate and mutate.

Which brings the story back to Mexico.

At the end of March and the beginning of April, a plague of flies hit the small town of La Gloria. Simultaneously, a respiratory disease, then classified as simple influenza, spread through the district. The town was quarantined, and sprayed to kill the flies, say several media reports.

Smithfield, which claims to be the world's largest producer of pork products, has its enormous site at La Gloria.

On 26th April, Smithfield said that it had found "no reason to believe that the virus is in any way connected to its operations in Mexico. The company also noted that its joint ventures in Mexico routinely administer influenza virus vaccination to their swine herds and conduct monthly tests for the presence of swine influenza."

It also quoted CDC and the US Department of Homeland Security as saying ""people cannot get the hybrid influenza from eating pork or pork products" and "preliminary investigations have determined that none of the people infected with the hybrid flu had contact

with hogs."

However, down Mexico way, Health Minister, Jose Angel Cordova held a press conference yesterday. He reported that the number of death had leapt overnight to almost 150, and that 2000 people were or had been in hospital. Mexico City was badly affected, he said. He was ordering further investigation into how the disease moves - and pigs were at the heart of the investigation. He also reported that the first confirmed case was a four year old boy in La Gloria but also went on to say that recent days had seen no further reports of cases there.

Yesterday, Wilson "updated" his blog. Explaining his revisions he said "One key myth I wish to dispel is the claim that there was any credible link to a pig farm in the original report- such claims must be verified through solid epidemiological investigation."

Let's see how much of the media that is trawling the web for comment as the story develops pick up that comment that undermines much of the hysterical reporting the features across the media spectrum this morning.