

TRIP REPORT:

2002 INTERNATIONAL CONFERENCE ON EMERGING INFECTIOUS DISEASES and CONSULTATION ON THE DRAFT CDC STRATEGY FOR WATERBORNE DISEASE CONTROL

March 22 – 26, 2002, Jerry Gibson

On March 23 Jerry Gibson attended the CDC expert consultation on their new Waterborne Disease Control strategy as an invited consultant, and on March 24-26 attended the International Conference on Emerging Infectious Diseases (ICEID), in part to serve as Moderator of the slide session #80 on “Surveillance and Information systems.” Both trips were at the expense of CDC.

The Waterborne Disease Strategy meeting brought together about 100 state and local environmental health, environmental protection and city-country water system staff, about 5 state epidemiologists, a wide variety of private sector representatives of various water-using industries, and representatives of EPA, CDC, etc. We worked in six different topic areas in morning and afternoon groups to prepare comments for a written criticism on the CDC Strategy. The topic areas included three drinking water areas, recreational water, special water uses (e.g. renal dialysis) and water-borne terrorist attacks. In general the CDC Strategy was appropriate, but lacked sufficient attention to coordination and cooperation with State, local and private sector stakeholders, and was too heavy on research. However, considering recent impressive epidemiologic evidence of the significant contribution of drinking and recreational water to human illness, and new large studies to confirm the US burden of water borne disease due out at the end of 2002, it was clearly time for CDC and EPA to request greater funding for waterborne disease surveillance and control strategies.

The International Conference on Emerging Infectious Diseases (ICEID) was, as in the two previous such conferences, attended by over 2500 scientists and epidemiologists from around the world, presented over 400 scientific posters and close to 100 slide presentations, and had a bewildering amount of information relevant to public health. It was also attended by Drs. Dowda, McNeill (who had a poster on influenza epidemiology) and Ball. I include below a small proportion of what seemed some of the more interesting findings.

I will circulate my Program and Abstract Book....please let me know if you want to be on the circulation list

1. Multiple papers on food borne disease control in Europe and the United States. As here, the biggest causes of food borne illness in Europe are: a) *Campylobacter jejuni* (carried on poultry, has rapidly growing resistance to antibiotics including ciprofloxacin/other fluoroquinolones); and b) Norwalk-like viruses (NLV, Caliciviruses). An amusing anecdote: a large outbreak of gastroenteritis at a party during the recent Academy Awards, by what the press called a “mystery virus,” was in fact a classic NLV outbreak. These viruses are incredibly under-detected as causes of food-borne disease. (Emerging ID 1999, 5:607; Am J Epi 2001, 154:666; Comm Dis Public Health 1999, 2:108)

Much mention of the “Kaplan Criteria” for identifying NLV outbreaks: no bacterial pathogen isolated, over 50% of patients with vomiting, incubation period 12-77 hours usually 24-48, and duration of illness 12-60 hours. Other characteristics include high attack rates (virus is very infectious), multiple foods with non-significant but elevated ORs, and a sick food handler as source of contamination. Immunity to the virus is limited because it can develop multiple different serotypes/genotypes circulating in a community.

Very useful for control: simply freezing chicken will reduce the counts of *Campylobacter* on it by two logs! In the new “zero tolerance” policies in most of Northern Europe, what they do with *Campylobacter*-infected broiler flocks is require they be frozen before sale.

The Scandinavian countries and the United Kingdom are making serious efforts to detect all food-borne *Salmonella* and *Campylobacter* disease and rid their herds and flocks of these pathogens. Such contamination of foods is no longer considered “normal” and home preventive methods (thorough cooking etc) are considered the last line of defense, not the main defense. The United Kingdom has required immunization of broiler and egg-laying flocks for *Salmonella enteritidis* for two years, and incidence of *S. enteritidis* infection has dropped dramatically. In Scandinavia meat and poultry samples are screened for Shiga toxin-producing *E. coli*, *Salmonella* and *Campylobacter* and infected herds/flocks cannot be used for food without risk reduction such as freezing.

A paper discussed the effectiveness of voluntary private-public “compacts” to reduce bacterial contamination of food animals (such as we have for poultry in SC) and concluded that their effectiveness was limited.

2. Travel is risky! Travel was shown to be strongly associated with getting antibiotic-resistant *Campylobacter* gastroenteritis, *Cryptosporidium*, antibiotic-resistant sexually-transmitted diseases such as GC, *Salmonella* and *Shigella*, yellow fever and resistant *Helicobacter pylori*, as well as the classics such as malaria.

3. Georgia and NY are limiting their WNV bird species for surveillance to crows, jays and raptors. They say the jays are very important to include however. Dead bird clusters are a significant indicator for WNV activity (abstracts, page 148).

4. “RNA isolated from mosquito pools inhibits WNV real-time RT-PCR, using the Smart Cycler.” Apparently in some circumstances false negative results can be found from mosquito pools using the Smart Cycler (see attached abstract).

5. Control of food borne outbreaks: Study by CDC of successful and unsuccessful food outbreak investigations showed that early collecting of patient stool/vomit specimens was most strongly associated with identifying the cause of the outbreak. A paper (page 50) showed that microbiologic quality of food from caterers was significantly lower than food from restaurants, perhaps because of less training. Another paper (page 97) showed that delivery of stool collection kits to homes of patients increased yields of specimens. A study of restaurant inspection results over a multi-year period (page 49) in Tennessee showed that most problems cited on inspections were not those known to be common causes of food outbreaks. A recent study from Dade County was also cited. Neither found evidence to suggest that inspections reduce risk of food borne outbreaks.

6. The Massachusetts Department of Health has published a beautiful high-quality “Guide to Communicable Disease Surveillance and Reporting” provided to all local health departments and all physicians who request one, either in a loose-leaf notebook or

via their web page at www.state.ma.us/dph/cdc/gsrman/gsr.htm. It is in .pdf format. This will be very useful for our revision of our Disease Control Manual.

7. Another study showing that in Lyme Disease-positive regions (Wisconsin, Marshfield Clinic), true disseminated Lyme patients have complete cures with appropriate antibiotic treatment, but there are also many patients with no credible evidence of Lyme who receive multiple courses of antibiotics because of that unsubstantiated diagnosis.

8. Very nice report on New York State's development of electronic lab reporting, which they now have up and running after four years of work, 5 full time staff and "millions of dollars." (page 179). There were many unexpected problems: a) few labs can send HL7 messages, most are using "web page data entry" or special ASCII format; while some can send LOINC codes, none can send SNOMED, but both are needed to code some findings such as "Salmonella group B isolate"; many reports are missing address and race-ethnicity (considering asking to add this to CLIA standards); automatic alerts for urgent diagnoses did not work because labs only send data once a day in the middle of the night, and phone as well. The lesson is to work closely and early with the labs. This paper was one of six in the only slide session on "Surveillance and Information Systems." This session was characterized by excellent papers and vigorous discussion.