



## Communicable Diseases Reporting and General Practitioners: An Intervention Study

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### Background

In order to improve surveillance and early identification of a bioterrorist event, it is crucial to improve the existing notifiable disease surveillance system. It is unknown what percentage of cases of all reportable diseases are captured by local health department surveillance activities. However, there are numerous examples of cases reported by laboratories and not by physicians or of physicians reporting cases not in a timely manner. Most of these problems appear to be in the outpatient clinics. When we have contacted providers who have not reported cases (e.g. cases identified through laboratory reporting only), providers have the following explanations: 1) did not know that they needed to report, 2) thought that laboratories report for them, or 3) did not know how to report. Therefore, we decided to implement a pilot project to see if we can improve reporting from outpatient clinics using active surveillance.

### Objectives

Determine if a brief one-on-one intervention between OEDC staff person and clinic staff by presentation and bi-weekly telephone contact can improve

reporting practices and timeliness of reporting.

### Methods

Design: randomized controlled trial of outpatient medical clinics.

Sampling frame: One thousand three hundred and eighty-eight outpatient clinics identified by yellow page listings. Each clinic was called to collect basic information. Nine hundred and twelve clinics in which the majority of providers are not family practitioners, pediatricians, or internists were excluded from sampling frame.

Randomization process: Initially, 244 non-duplicated clinics randomly selected to be intervention clinics and 199 control clinics.

Intervention: Intervention was started at the end of May and beginning of June 2003. Five OEDC staff performed the intervention with presentations, followed with biweekly reminders of email or phone calls. This continued for 6 months.

Evaluation and Data Analyses: All information of clinics and intervention logs were entered to the pre-designed databases. Of 244 selected intervention

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clinics, 41 clinics (16.8%) refused to participate in the intervention program and were excluded from data analysis. Of the 203 clinics that participated in the intervention, 13 (6.4%) dropped out during the intervention process but were included in the analysis. The analyzed results did not show significant changes after including or excluding the 13 dropout clinics. The clinical information was linked to the Merlin Surveillance System by provider address. The rest of health care providers in Miami-Dade County (most of them hospitals) are defined as “all other health care providers.”

The evaluation indicators included total number of cases reported, median days between date of lab report and date reported to MDCHD OEDC, percentage of cases reported to OEDC within 2 days from date of lab report by control and intervention clinics as well as by all other health care providers. The reported cases of chronic hepatitis B and C were not included. The 6 month period before and after the intervention were defined as the before and after the intervention periods respectively.

Data were analyzed using SAS software version 9.0. The descriptive analyses were conducted for cross-tabulations and median. Chi-square and Wilcoxon rank-sum were used to assess significant differences of percentage or medians.

## Results

A total of 1,868 non-duplicated cases were reported by health care providers in Miami-Dade County in 2003. Of these, a higher percentage was reported by control (8%) than intervention clinics (5%) (Figure-1). Among 203 intervention clinics, 22 clinics reported a total of 38 cases to OEDC before intervention, and 31 clinics reported 55 cases to OEDC after intervention, a 44.7 percent increase of reported cases. Among the control clinics, there were 81 and 76 cases reported to OEDC (from 19 and 24 clinics) in the first 6 months and in the last 6 months respectively, a 6.2% decrease. For all other health care providers, the number of reported cases decreased from 403 in the first 6 months to 302 cases in the last 6 months, a 25.1% decrease (see Figure-2) .

The median number of days between date of cases reported to OEDC and date of lab report decreased

from 2 before intervention to 1 after intervention. The median number of days between the first 6 months and the last 6 months yielded no obvious change among control clinics and all other health care providers (see Figure 3). Before intervention, there were no significant differences.

Figure 1. Percent of Reported Cases by Health Care Provider

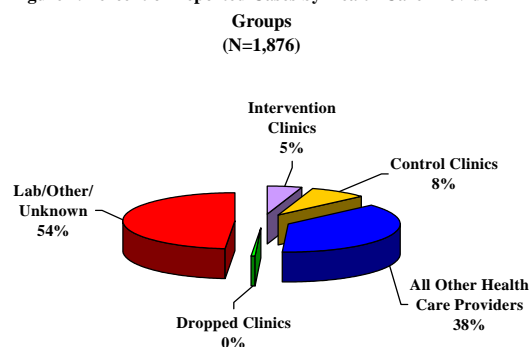


Figure-2. Percent of Changes of Total Cases Reported to Miami-Dade County Health Department Before and After Intervention

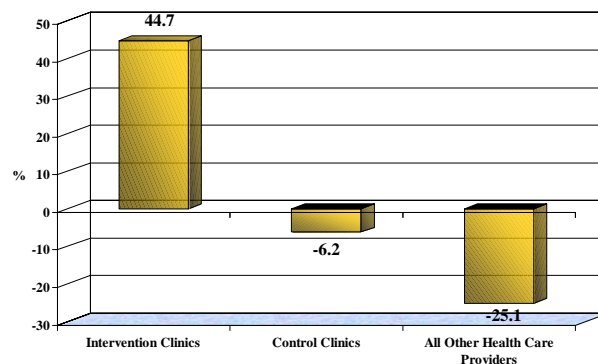
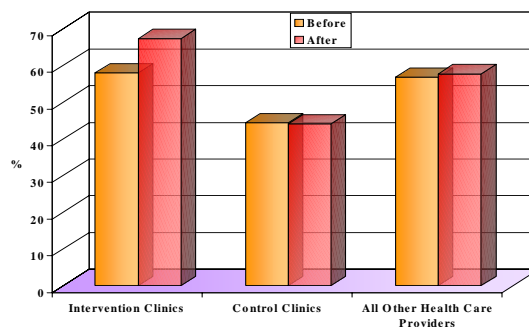


Figure-3 Percent of Cases Reported to Miami-Dade County Health Department within 2 Days from Date of Lab Report



among studied groups regarding percent of cases reported to OEDC within 2 days from date of lab report. After intervention, compared to control clinics, intervention clinics had significantly improved reporting ( $p=0.01$ ).

## Discussion

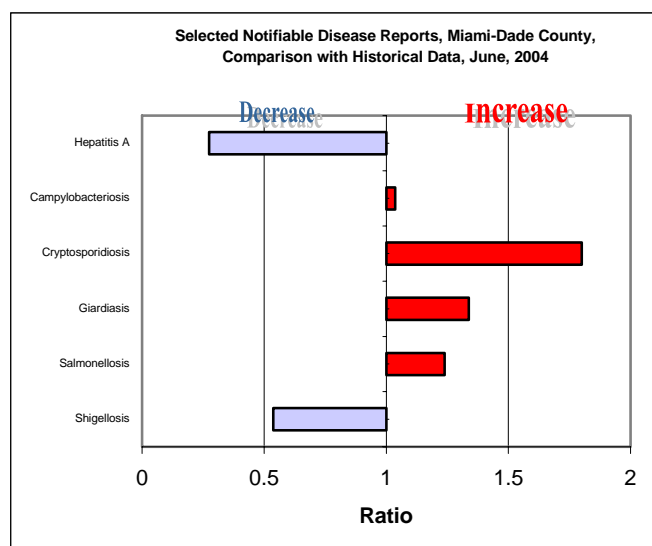
A well functioning notifiable disease surveillance system is crucial to our ability to identify a cluster or covert bioterrorist event in a timely manner. The results of our pilot intervention study indicate a brief one-on-one intervention between OEDC staff person and clinic staff, followed by biweekly telephone contact can increase the number of reported cases and the timeliness of reporting. Particularly, the median days between date of cases reported to OEDC and date of lab report was obviously shortened among intervention clinics.

One limitation of this study is that we were unable to report the patient volume of each clinic because clinics were unable or unwilling to provide this information. In addition, we do not know what percentage of reportable cases were reported by each clinic. Finally, we had a relatively short follow-up period. We will have to reassess how lasting the effect of the intervention by evaluating differences between the two groups in the coming year.

## Acknowledgments

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\*Ratio of current month total to mean of 15 month totals (from previous, comparable, and subsequent month periods for the past 5 years).



### **To report diseases or for information:**

Office of Epidemiology and Disease Control  
 Childhood Lead Poisoning  
 Prevention Program (305) 623-3565  
 Hepatitis (305) 324-2490  
 Other diseases and outbreaks  
 (305) 324-2413

HIV/AIDS Program (305) 324-2459  
 STD Program (305) 325-3242  
 Tuberculosis Program (305) 324-2470  
 Special Immunization Program  
 (786) 845-0550

**Nights, weekends, and holidays**

**(305) 377-6751**



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# Monthly Report

## Selected Reportable Diseases/Conditions in Miami-Dade County, June 2004

Diseases/Conditions	2004 this Month	2004 Year to Date	2003 Year to Date	2002 Year to Date	2001 Year to Date	2000 Year to Date
AIDS <sup>*Provisional</sup>	147	748	549	578	697	705
Animal Rabies	0	0	0	0	0	0
Campylobacteriosis	17	64	64	47	46	50
<i>Chlamydia trachomatis</i>	409	2231	2177	2271	1746	1579
Ciguatera Poisoning	0	0	0	0	0	0
Cryptosporidiosis	3	7	6	3	7	1
Cyclosporiasis	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0
<i>E. coli</i> , O157:H7	0	1	0	0	0	1
<i>E. coli</i> , Non-O157	0	0	0	1	0	0
<i>E. coli</i> , Other	0	0	0	0	0	0
Encephalitis (except WNV)	0	0	0	1	0	0
Encephalitis, West Nile Virus	0	0	0	0	0	0
Giardiasis, Acute	28	134	77	97	110	27
Gonorrhea	147	799	966	1017	856	1090
Granuloma Inguinale	0	0	0	0	0	0
Hepatitis A	3	16	21	64	68	41
Hepatitis B	3	19	29	11	24	45
HIV <sup>*Provisional</sup>	168	919	852	1012	844	936
Lead Poisoning	37	141	109	123	99	203
Legionnaire's Disease	1	4	3	0	0	0
Leptospirosis	0	0	0	0	0	0
Lyme disease	0	1	2	0	1	3
Lymphogranuloma Venereum	0	0	0	0	0	0
Malaria	0	8	5	5	10	15
Measles	0	0	0	0	0	0
Meningitis (except aseptic)	3	5	2	3	3	5
Meningococcal Disease	3	11	3	10	10	12
Mumps	0	0	0	0	0	1
Pertussis	3	5	1	3	1	4
Polio	0	0	0	0	0	0
Rubella	0	0	0	0	0	0
Rubella, Congenital	0	0	0	0	0	0
Salmonellosis	47	164	197	119	80	68
Shigellosis	13	90	165	99	40	59
<i>Streptococcus pneumoniae</i> , Drug Resistant	14	45	55	63	85	102
Syphilis, Infectious	20	98	92	95	99	72
Syphilis, Other	73	450	529	526	327	409
Tetanus	0	0	0	0	1	0
Toxoplasmosis	0	1	4	11	6	0
Tuberculosis <sup>*Provisional</sup>	16	107	114	121	95	119
Typhoid Fever	0	1	2	1	0	0
<i>Vibrio cholera</i> Type O1	0	0	0	0	0	0
<i>Vibrio cholera</i> Non-O1	0	0	0	1	0	0
<i>Vibrio</i> , Other	0	0	1	0	0	0

\* Data on AIDS are provisional at the county level and are subject to edit checks by state and federal agencies.

\*\* Data on tuberculosis are provisional at the county level.



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