

Paper, Fax, & Mail

ELR vs. Non-ELR

Electronic Laboratory Reporting

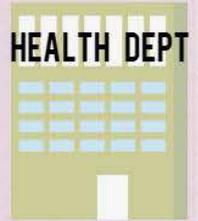


Evaluation Question

Is ELR helping achieve more timely communicable disease reporting within Arizona?



Significantly faster reporting from ELR compared to traditional methods



Average number of days for public health to receive report



Urgent Reports

* 24 Hour & 1 Day Reporting Requirement



Non-Urgent Reports

* 5 Day Reporting Requirement

Non-ELR



ELR



For more information about electronic laboratory reporting, please visit www.azdhs.gov/meaningful-use/electronic-lab-reporting



METHODS

Data analysis methodology:

- Confirmed and probable cases in MEDSIS for laboratory-reportable conditions (Arizona Administration Code R9-6-204), reported to public health agencies during the 2014 surveillance year, were analyzed.
- Cases of tuberculosis, hepatitis C and sexually-transmitted diseases were excluded, as they are managed by other ADHS programs. Additional inclusion criteria were: Arizona residents, entered by ADHS staff, first reported by a lab other than the Arizona State Public Health Lab, non-merged cases, “time to report” can be calculated and is a positive value.

Definition of terms used:

- Urgent and non-urgent conditions:** Reporting timeframes are defined in the reporting rules. Conditions to be reported within 24 hours or 1 working day are categorized as urgent. Conditions to be reported within 5 working days are categorized as non-urgent.
- Method of first report:** Multiple lab reports may be received for a single case. A case was considered to be “first received by ELR” if the earliest-received lab report in the case came through the ELR system.
- Time to report:** The difference, in days, between the earliest lab result date for a case and the date the result was received by a public health agency. Timeframes for 1 or 5 working days conditions were adjusted for weekends.
- Received within required timeframes:** Cases are “within” the required timeframe if the time to report was 0 or 1 day for urgent conditions, or 0 to 5 days for non-urgent conditions.

Outcome measurements:

- The time to report, in days, was compared between cases first received by ELR and non-ELR. Differences between the two groups were analyzed by ANOVA and by the Wilcoxon rank-sum test.
- The proportion of cases received within the required timeframes was compared using a chi-squared test for association.
- Urgent and non-urgent conditions were analyzed separately.

RESULTS

- 14,723 cases were included in the analysis.
- The mean number of days for a report to be received after test completion was significantly shorter for ELR than for non-ELR reports, for both urgent and non-urgent conditions (p-values for ANOVA <0.0001). (**Table 1**)
 - 2-sided Wilcoxon rank-sum tests were statistically significant (p-value = 0.02 for urgent, <0.0001 for non-urgent)
- The proportion of reports received within the required timeframes was significantly greater for ELR reports for both urgent and non-urgent conditions (p-values for chi-square <0.0001). (**Figure 1**)

Table 1. ELR reporting is significantly faster than non-ELR reporting

	First report received by...	N	Time to report, in days			
			Mean	Median	1 st quartile	3 rd quartile
Urgent conditions (n=674, 5%)	Non-ELR	262 (39%)	2.7	1	0	3
	ELR	412 (61%)	0.9	1	1	1
Non-urgent conditions (n=14,049, 95%)	Non-ELR	6724 (48%)	5.0	4	1	7
	ELR	7325 (52%)	0.9	1	0	1

Figure 1. ELR reports are more likely to be received within required timeframes

