



TIMELINESS STUDY – HOSPITAL REPORTS OF ADVERSE PREGNANCY OUTCOMES RECEIVED IN 2019

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Adverse Pregnancy Outcomes Reporting System

PURPOSE

Timeliness studies are performed periodically by the Illinois Department of Public Health's (IDPH's) Adverse Pregnancy Outcomes Reporting System (APORS) to evaluate the amount of time hospitals take to report APORS cases. IDPH regulations require Illinois hospitals to report infants who meet the APORS case definition within seven days of the infant's hospital discharge, but the actual timeliness often varies from hospital to hospital. Assurance of timeliness is important because APORS cases are considered high-risk and, as such, are referred to a local community health agency for follow-up services. The sooner intervention services begin, the better the outcomes for high-risk infants and their families. This study assesses hospitals' performance in making timely reports in 2019. The results are used to provide hospital-specific feedback to improve case reporting.

METHODS

In 2019, 115 birth hospitals reported cases to APORS. The cases were reported either electronically through the APORS database or on paper reporting forms (Infant Discharge

Record (IDR)) provided by APORS. The hospital provides the infant's hospital discharge date and the reporting date for paper reports; the reporting date is generated automatically by the data system for electronic reports. These two dates were compared to determine hospital processing time for each report. In reporting year 2019, a total of 8,782 reports were analyzed. The average processing time was calculated for each hospital, as well as the percentage of cases reported within the seven-day requirement. An APORS case is considered timely if the report is completed by the hospital within seven days of the infant's discharge. Cases for whom drug exposure was the only case condition were not included in this study because obtaining results from drug testing may take longer than seven days.

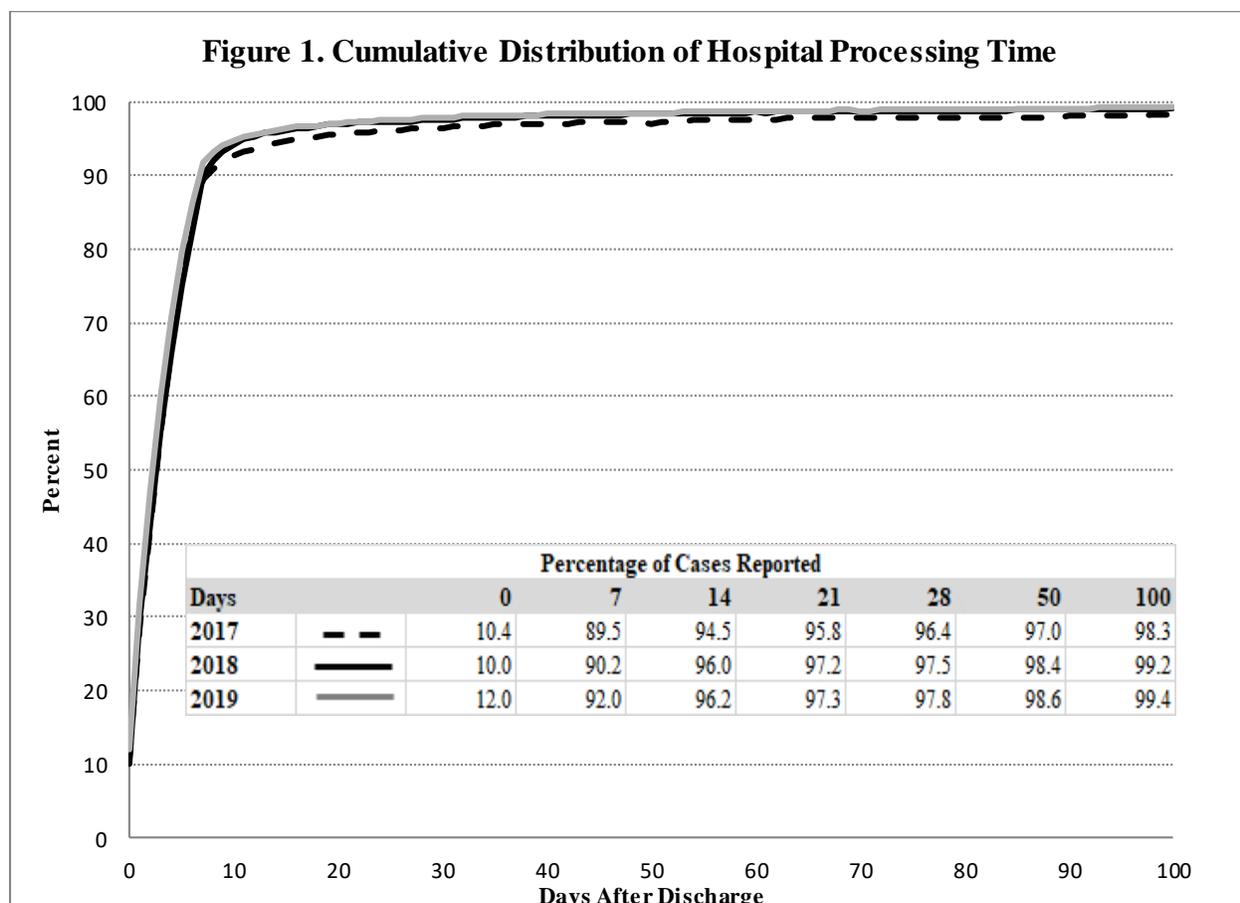
The APORS program also looked at the time it took for reports to arrive at IDPH. The reporting date on the IDR and the date the form was received by the APORS Program were compared to calculate transit time. Extended transit times to IDPH mean that referrals to local health departments for follow-up services are slower than they should be. Transit times for cases reported through the electronic data system are zero days.

RESULTS

Processing Time for Cases Reported in 2019. Among all the cases, processing time ranged from zero to 824 days with the median being three days and the mean being 5.2 days. The difference between the mean and the median suggests a right-skewed distribution of processing times. The cumulative distributions of cases with respect to reporting time are displayed in Figure 1; 47.1% of cases were reported within two days, while 92.0% were reported within the required seven

days. Ninety-nine percent of cases were reported within 73 days. For comparison purposes, percentages of cases for 2017 and 2018 are also shown in the inset table of Figure 1. Timeliness in 2019 seems to be slightly better than the previous two years.

Table 1 shows the average hospital processing time ranged from zero to 302 days. Eighty-one hospitals (70.4%) averaged seven or fewer days to process their reports. Hospital names on Tables 1 and 2 were eliminated to protect confidentiality. Table 2 shows that 57 (49.6%) hospitals reported 90% of cases, or more, within seven days of an infant’s discharge.



Source: Illinois Department of Public Health, Adverse Pregnancy Outcome Reporting System as of January 2020

Table 1. 2019 Cases: Average Time for Processing Infant Discharge Records by Hospital

Hospital Number	Number of Reports	Average Days	Hospital Number	Number of Reports	Average Days	Hospital Number	Number of Reports	Average Days
1	52	2.2	40	29	3.0	79	1	9.0
2	15	5.9	41	23	5.2	80	4	0.3
3	213	3.9	42	16	19.6	81	3	0.0
4	134	6.1	43	6	29.0	82	5	0.0
5	156	5.0	44	482	2.4	83	161	5.3
6	295	4.2	45	29	4.4	84	130	2.5
7	40	10.7	46	5	78.6	85	5	65.8
8	40	4.4	47	5	5.6	86	121	4.7
9	24	8.5	48	4	31.0	87	170	2.3
10	27	0.5	49	1	1.0	88	184	2.8
11	22	81.3	50	68	4.1	89	2	4.5
12	4	3.8	51	11	4.1	90	8	4.5
13	381	4.1	52	35	5.3	91	3	38.7
14	3	3.0	53	33	6.2	92	14	2.7
15	29	5.0	54	22	6.9	93	56	6.4
16	18	3.1	55	69	4.8	94	49	6.5
17	917	5.0	56	6	16.5	95	20	5.8
18	192	6.1	57	39	9.7	96	21	0.7
19	90	5.4	58	3	63.3	97	6	3.7
20	2	301.5	59	5	7.0	98	51	10.1
21	143	4.2	60	1	0.0	99	62	1.8
22	2	44.5	61	10	15.1	100	14	7.8
23	110	7.6	62	1	199.0	101	263	3.2
24	328	4.0	63	31	2.9	102	17	1.8
25	298	4.6	64	58	2.4	103	18	5.4
26	63	2.8	65	43	6.2	104	234	4.5
27	17	6.7	66	29	6.5	105	186	8.0
28	8	11.6	67	22	3.2	106	281	4.8
29	30	8.6	68	21	2.0	107	437	5.9
30	35	3.9	69	16	2.3	108	115	4.7
31	88	4.7	70	2	67.0	109	6	70.8
32	6	42.5	71	14	0.4	110	7	17.6
33	18	7.1	72	18	6.5	111	12	22.1
34	10	4.6	73	43	2.0	112	302	6.4
35	12	23.9	74	6	5.8	113	7	22.1
36	327	3.5	75	140	3.0	114	1	18.0
37	39	5.5	76	38	4.8	115	84	2.4
38	20	11.9	77	2	29.5			
39	55	4.6	78	73	1.4	APORS Average		5.2

Source: Illinois Department of Public Health, Adverse Pregnancy Reporting System as of January 2020.

Table 2. 2019 Cases: Percentage of Reports Submitted Within Seven Days by Hospital

Hospital Number	Number of Reports	% Reports in 7 Days	Hospital Number	Number of Reports	% Reports in 7 Days	Hospital Number	Number of Reports	% Reports in 7 Days
1	52	96.2	40	29	100.0	79	1	0.0
2	15	80.0	41	23	87.0	80	4	100.0
3	213	94.4	42	16	31.3	81	3	100.0
4	134	93.3	43	6	66.7	82	5	100.0
5	156	91.7	44	482	99.4	83	161	93.8
6	295	92.9	45	29	93.1	84	130	98.5
7	40	82.5	46	5	40.0	85	5	40.0
8	40	95.0	47	5	80.0	86	121	95.9
9	24	87.5	48	4	50.0	87	170	96.5
10	27	100.0	49	1	100.0	88	184	94.6
11	22	13.6	50	68	89.7	89	2	100.0
12	4	75.0	51	11	81.8	90	8	75.0
13	381	89.5	52	35	85.7	91	3	66.7
14	3	100.0	53	33	90.9	92	14	100.0
15	29	89.7	54	22	72.7	93	56	80.4
16	18	94.4	55	69	97.1	94	49	81.6
17	917	97.4	56	6	16.7	95	20	85.0
18	192	93.2	57	39	82.1	96	21	100.0
19	90	92.2	58	3	66.7	97	6	83.3
20	2	0.0	59	5	60.0	98	51	82.4
21	143	91.6	60	1	100.0	99	62	93.5
22	2	50.0	61	10	80.0	100	14	85.7
23	110	87.3	62	1	0.0	101	263	92.8
24	328	91.2	63	31	90.3	102	17	100.0
25	298	94.0	64	58	98.3	103	18	94.4
26	63	95.2	65	43	74.4	104	234	93.2
27	17	82.4	66	29	69.0	105	186	82.3
28	8	87.5	67	22	95.5	106	281	87.2
29	30	90.0	68	21	95.2	107	437	91.1
30	35	85.7	69	16	100.0	108	115	89.6
31	88	92.0	70	2	0.0	109	6	33.3
32	6	33.3	71	14	100.0	110	7	85.7
33	18	77.8	72	18	94.4	111	12	83.3
34	10	100.0	73	43	97.7	112	302	93.4
35	12	58.3	74	6	50.0	113	7	71.4
36	327	95.4	75	140	95.0	114	1	0.0
37	39	82.1	76	38	86.8	115	84	100.0
38	20	70.0	77	2	0.0			
39	55	92.7	78	73	98.6	All APORS Cases		92.0

Source: Illinois Department of Public Health, Adverse Pregnancy Reporting System as of January 2020.

Transit Time for Cases Reported in 2019. Among all the cases, transit time ranged from zero to 107 days with the mean being 0.1 days and median zero days. Only two hospitals (1.7%) had an average transit time of more than seven days. Thirteen hospitals (11.3%) had at least one record that took more than seven days in transit.

DISCUSSION

Case-Level Assessment. In 2019, more cases (19.9%) were reported on the day after discharge than any other day. This day, the following three days, and the day of discharge itself were the top five reporting days, accounting for 70.9% of the reports. Ninety-two percent of cases were reported within seven days of discharge, as required by administrative rules. This is an increase over 2018 when 90.2% of cases were reported within seven days. Timely reporting assures that newborns can be offered case-management services soon after discharge from the hospital, when the children and families will most benefit.

Hospital-Level Assessment. The main objective of the study is to assess the timeliness of reporting APORS cases at the hospital level. To that end, individual hospitals were rated based on reports received in 2019. Seventeen hospitals were not rated as they submitted too few cases (less than five) to provide stable estimates. Table 3 illustrates how the categorical ratings were determined. Of the 98 rated hospitals, 80 (81.6%) met compliance standards. The number of hospitals meeting compliance standards in 2019 exceeded that of 2018 (104 rated and 77 (74.0%) compliant), although fewer hospitals were rated in 2019.

Table 3. Hospital Ratings for Compliance with Timeliness Standards in 2019

Rating	Cases Reported Within 7 Days	Number of Hospitals	Percentage
Compliant	80 - 100%	80	81.6
Not Compliant	< 80%	18	18.4

A facility-specific summary report has been distributed to each hospital (see the Appendix). The summary report documents each facility’s level of compliance with APORS’s requirements and contains information about the transit times for a facility’s IDRs. Hospitals are also provided with the statewide report, so that they have an overview of the study and its results.

Training and Education. Hospital training and education are important for APORS data quality, case completeness, and timeliness. APORS held webinars in 2019 for all hospital reporting staff and perinatal administrators in the state, reviewing reporting requirements for infants exposed to illicit drugs and hepatitis B. Webinar recordings were made available for viewing by hospitals staff at any time. Additionally, throughout the year, APORS provided individual level training for facilities with compliance challenges or staff turnover.

APORS regards the timeliness study as an important tool for determining hospital compliance with reporting standards, and will repeat this study annually. The hospital-specific timeliness reports serve as a valuable measure of facility performance and can assist hospital managers with identifying issues regarding timely reporting.

Appendix Sample Report

**Illinois Department of Public Health
Adverse Pregnancy Outcomes Reporting System**

**Timeliness Study for Cases Submitted in 2019
Hospital Compliance Report**

January 2020

Timeliness Standard for Reporting APORS Cases:

Cases must be reported within seven days of the infant's discharge or death.

**Hospital Name
Facility ID Number**

Cases Reported	Average Time (Days)	Percent of Cases Reported within 7 Days	Compliance Rating
45	2.6	93.3%	Compliant

Compliant means that 80 to 100 percent of the cases were reported within seven days.

Not Compliant means fewer than 80 percent of the cases were reported within seven days.

Not rated means the hospital reported fewer than five cases or it was an out-of-state hospital and not subject to APORS regulations.

The following information does not have a bearing on compliance or non-compliance with the timeliness standard for reporting APORS cases, but delays in reporting may impact the care a child receives after discharge from hospital.

Average Time in Transit (Days)	Percent of Cases Received within 7 Days of Being Reported
3.8	91.1%