



TIMELINESS STUDY – HOSPITAL REPORTS OF ADVERSE PREGNANCY OUTCOMES RECEIVED IN 2020

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PURPOSE

Timeliness studies are performed periodically by the Illinois Department of Public Health (IDPH) Adverse Pregnancy Outcomes Reporting System (APORS) to evaluate the 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 local community health agencies for follow-up services. The sooner intervention services begin, the better the outcomes for high-risk infants and their families. This study assesses the performance of hospitals in making timely reports in 2020. The results are used to provide hospital-specific feedback to improve case reporting.

METHODS

In 2020, 102 hospitals reported cases to APORS either electronically through the APORS database or on paper reporting forms provided by APORS. The hospital provides the infant's

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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. For 2020, a total of 8,240 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. In 2020, the COVID-19 pandemic stressed Illinois hospital resources, so the APORS Program notified hospital staff that timeliness of reports for infants discharged between March 10 and June 30 would not be included in the evaluation of their compliance. In this report, March 10-June 30 is referred to as the peak COVID-19 period.

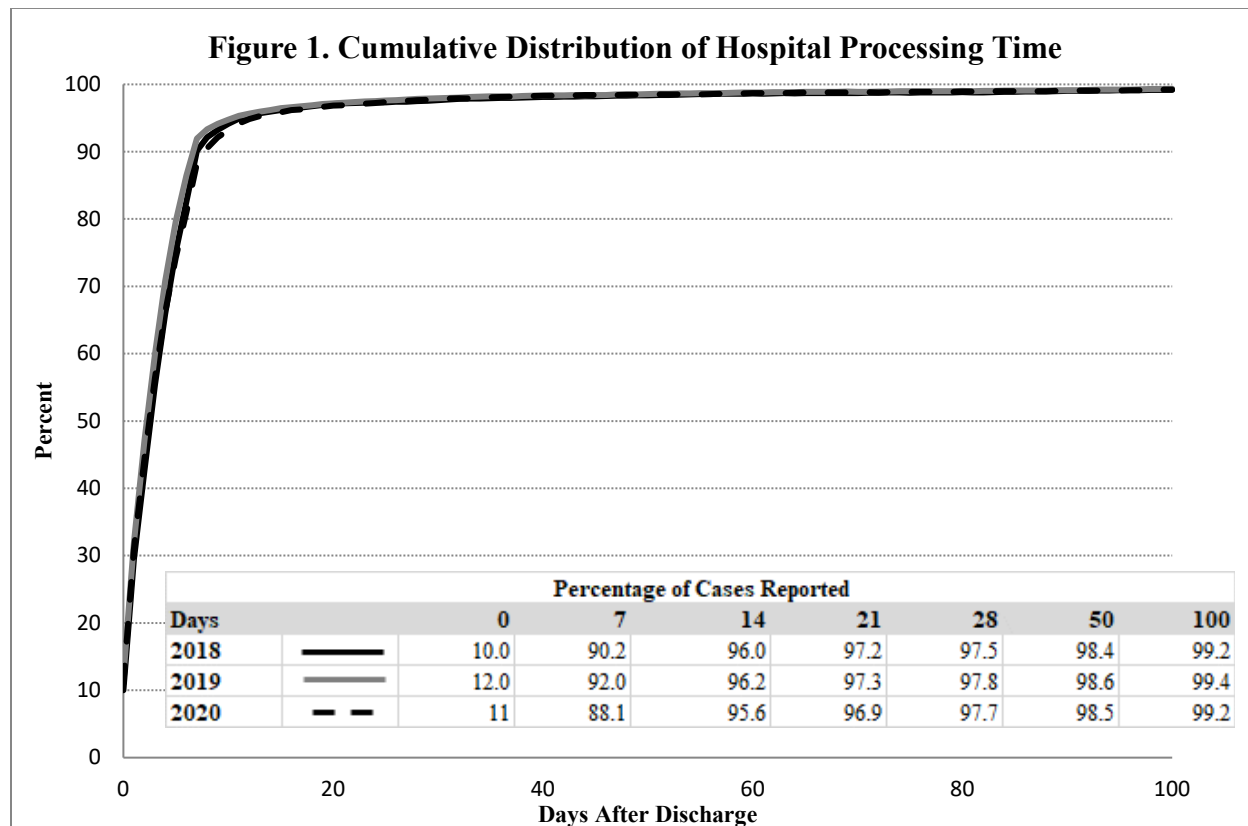
The APORS Program also looked at the time it took for reports to arrive at IDPH. The reporting date on the paper report and the date the form was received by the APORS Program were compared to calculate transit time. Extended transit times to IDPH mean that referrals to local health departments for follow-up 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 2020. Among all the cases, processing time ranged from 0 to 501 days with the median being three days and the mean being 5.7 days. The difference between the mean and the median indicates a right-skewed distribution of processing times. The cumulative distributions of cases with respect to reporting time are displayed in Figure 1; 44.4%

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of cases were reported within two days, while 88.3% were reported within the required seven days. Ninety-nine percent of cases were reported within 88 days. For comparison purposes, percentages of cases for 2018 and 2019 are also shown in the inset table of Figure 1. Timeliness in 2020 was slightly worse than in the previous two years.



Source: Illinois Department of Public Health, Adverse Pregnancy Outcome Reporting System as of January 2021

Table 1 shows the average hospital processing time ranged from 1 to 67 days. Sixty-four hospitals (63.7%) 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 39 (38.2%) hospitals reported 90% of cases, or more, within seven days of an infant’s discharge.

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Table 1. 2020 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	3	40.0	36	100	5.5	71	10	14.2
2	94	5.8	37	48	4.8	72	60	5.8
3	7	7.1	38	23	2.6	73	45	3.7
4	65	2.2	39	13	9.2	74	9	60.1
5	146	5.3	40	28	6.5	75	58	1.9
6	8	37.9	41	6	2.8	76	47	7.1
7	5	10.8	42	2	52.0	77	9	2.7
8	13	11.6	43	99	2.1	78	3	0.7
9	14	9.4	44	284	4.5	79	56	3.7
10	299	5.9	45	77	3.9	80	106	10.0
11	14	8.1	46	67	3.2	81	11	3.9
12	335	4.7	47	80	2.6	82	90	3.3
13	5	1.2	48	4	32.5	83	30	5.3
14	63	1.8	49	68	2.6	84	35	6.7
15	4	28.8	50	14	8.4	85	65	3.6
16	41	3.7	51	4	3.0	86	11	53.1
17	5	54.8	52	15	14.6	87	214	4.0
18	141	1.9	53	173	5.0	88	12	4.1
19	19	3.7	54	57	28.6	89	8	66.6
20	196	3.0	55	77	15.8	90	6	41.0
21	100	5.1	56	204	4.4	91	61	16.2
22	220	6.4	57	6	1.0	92	367	3.0
23	14	4.5	58	466	5.9	93	8	3.8
24	87	9.6	59	256	5.6	94	34	4.8
25	15	2.0	60	6	41.2	95	21	7.2
26	19	3.9	61	22	4.4	96	427	3.3
27	32	12.8	62	2	60.0	97	13	11.1
28	132	3.4	63	87	5.5	98	12	0.8
29	11	48.9	64	32	5.3	99	28	7.0
30	431	3.6	65	13	12.6	100	27	5.3
31	8	0.9	66	205	3.6	101	29	5.8
32	1	2.0	67	171	2.8	102	21	25.8
33	33	9.3	68	117	1.8			
34	12	16.7	69	7	34.1			
35	831	7.1	70	51	2.9	APORS Average		5.7

These calculations include all cases for 2020, including those during the peak COVID-19 period from March 10 to June 30.

Source: Illinois Department of Public Health, Adverse Pregnancy Reporting System as of January 2021.

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Table 2. 2020 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	3	33.3	36	100	87.0	71	10	30.0
2	94	83.0	37	48	83.3	72	60	71.7
3	7	57.1	38	23	95.7	73	45	88.9
4	65	96.9	39	13	61.5	74	9	22.2
5	146	84.9	40	28	82.1	75	58	100.0
6	8	37.5	41	6	100.0	76	47	78.7
7	5	40.0	42	2	0.0	77	9	100.0
8	13	84.6	43	99	96.0	78	3	100.0
9	14	50.0	44	284	87.0	79	56	96.4
10	299	84.6	45	77	92.2	80	106	61.3
11	14	71.4	46	67	95.5	81	11	90.9
12	335	88.4	47	80	92.5	82	90	94.4
13	5	100.0	48	4	50.0	83	30	96.7
14	63	96.8	49	68	100.0	84	35	88.6
15	4	25.0	50	14	92.9	85	65	96.9
16	41	92.7	51	4	75.0	86	11	72.7
17	5	60.0	52	15	86.7	87	214	95.8
18	141	97.9	53	173	87.9	88	12	75.0
19	19	89.5	54	57	35.1	89	8	50.0
20	196	94.4	55	77	80.5	90	6	50.0
21	100	82.0	56	204	95.1	91	61	77.0
22	220	89.5	57	6	100.0	92	367	95.6
23	14	78.6	58	466	91.0	93	8	87.5
24	87	86.2	59	256	80.1	94	34	91.2
25	15	100.0	60	6	83.3	95	21	57.1
26	19	84.2	61	22	81.8	96	427	97.2
27	32	81.3	62	2	50.0	97	13	92.3
28	132	97.7	63	87	92.0	98	12	100.0
29	11	45.5	64	32	75.0	99	28	89.3
30	431	84.9	65	13	61.5	100	27	88.9
31	8	100.0	66	205	86.3	101	29	79.3
32	1	100.0	67	171	95.9	102	21	71.4
33	33	69.7	68	117	96.6			
34	12	66.7	69	7	57.1			
35	831	88.0	70	51	100.0	All APORS Cases		88.3

These calculations include all cases for 2020, including those during the peak COVID-19 period from March 10 to June 30.

Source: Illinois Department of Public Health, Adverse Pregnancy Reporting System as of January 2021.

Transit Time for Cases Reported in 2020. Among all the cases, transit time ranged from 0 to 75 days with the mean being 0.1 days and median zero days. There were no hospitals that had an average transit time of more than seven days. Twelve hospitals (11.8%) had at least one record that took more than seven days in transit.

DISCUSSION

Case-Level Assessment. In 2020, more cases (20%) 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 66% of the reports. Eighty-eight percent of cases were reported within seven days of discharge, as required by administrative rules. This is a decrease from 2019 when 92% of cases were reported within seven days. The COVID-19 pandemic and APORS' relaxation of the timeliness requirement for babies discharged between March 10 and June 30 did reduce the overall timeliness of APORS reporting. It is anticipated that reporting timeliness will return to pre-COVID-19 levels in 2021. 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 2020. Twelve 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 90 rated hospitals, 71 (78.9%) met compliance standards. The percentage of hospitals meeting compliance standards in 2020 was slightly less than in 2019 when 81.6% of the hospitals were compliant.

Table 3. Hospital Ratings for Compliance with Timeliness Standards in 2020

Rating	Cases Reported Within 7 Days	Number of Hospitals	Percentage
Compliant Overall	80 - 100%	66	73.3
Compliant Only Outside Peak COVID period	80 - 100%	5	5.6
Not Compliant	< 80%	19	21.1

A facility-specific summary report has been distributed to each hospital (see the Appendix for an example). The summary report documents each facility’s level of compliance with APORS’ requirements and contains information about the transit times for a facility’s reports. 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 did not hold the usual training webinars in 2020 for all hospital reporting staff and perinatal administrators in the state, because of APORS’ staff involvement in the COVID-19 response. Throughout the year, however, 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 2020
Hospital Compliance Report

January 2021

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**

Discharge Date Ranges	Cases Reported	Average Time (Days)	Percent of Cases Reported within 7 Days	Compliance Rating
Jan 1-Mar 9 and Jul 1-Dec 31	22	4.6	80.0	
Jan 1-June 30	29	3.2	89.5	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
2.8	95%