



## **TIMELINESS STUDY – HOSPITAL REPORTS OF ADVERSE PREGNANCY OUTCOMES RECEIVED IN 2018**

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### **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 2018. The results are used to provide hospital-specific feedback to improve case reporting.

### **METHODS**

In 2018, 118 birth hospitals reported cases to APORS. The cases were reported either electronically through the APORS database or on paper reporting forms (Infant Discharge

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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 2018, a total of 9,255 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.

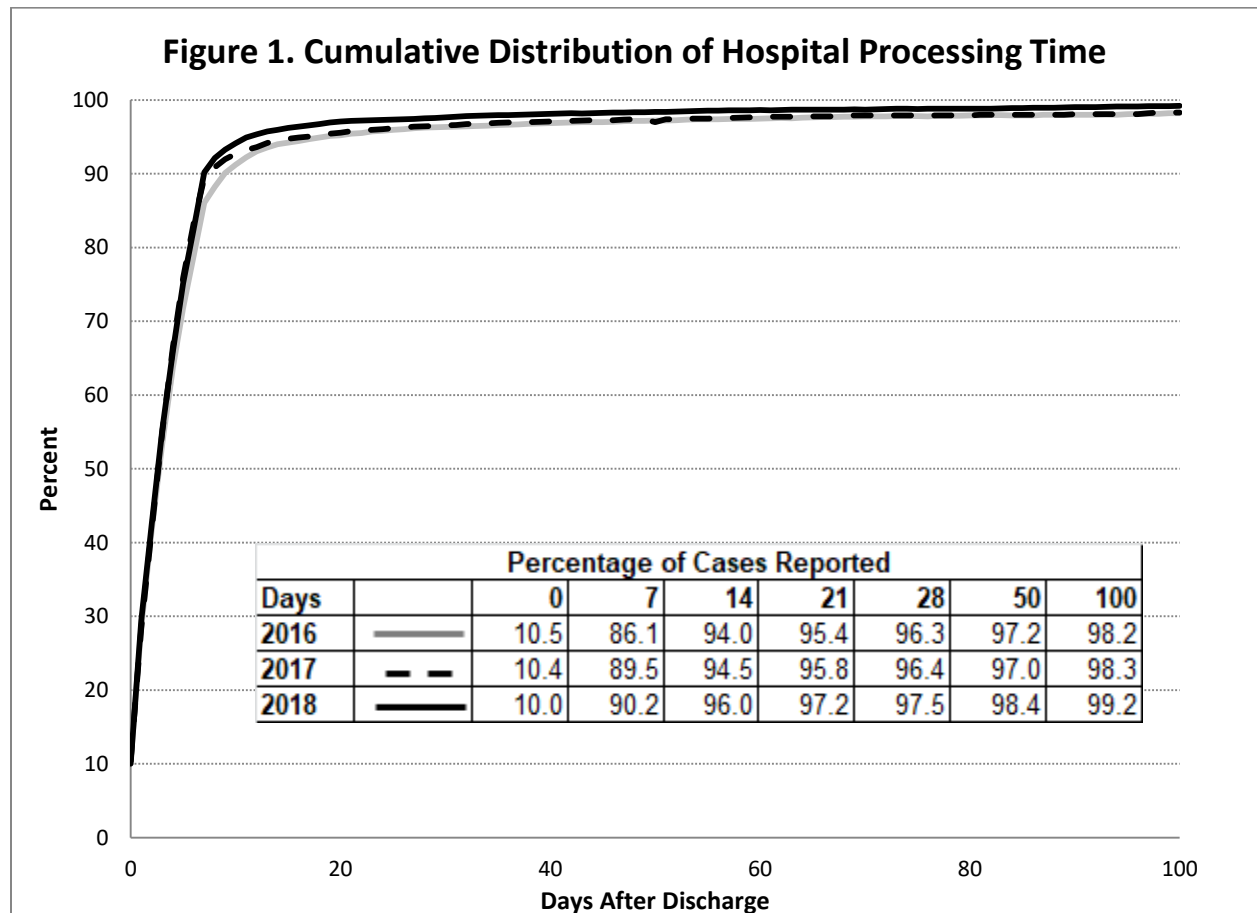
## **RESULTS**

*Processing Time for Cases Reported in 2018.* Among all the cases, processing time ranged from zero to 1,250 days with the median being three days and the mean being 6.2 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; 90.2 percent of the cases were reported within the required seven days. For comparison purposes,

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percentages of cases for 2016 and 2017 are also shown in the inset table of Figure 1. Timeliness in 2018 seems to be slightly, but consistently better than the previous two years.

Table 1 shows the average hospital processing time ranged from zero to 107 days. Seventy-four hospitals (62.7 percent) 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 55 (46.6 percent) hospitals reported 90 percent 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 2019

**Table 1. 2018 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	73	3.3	41	40	4.1	81	17	19.4
2	1	46.0	42	149	2.2	82	48	29.8
3	11	4.2	43	4	24.3	83	311	3.9
4	238	4.7	44	57	7.9	84	20	4.4
5	16	1.8	45	17	12.2	85	24	18.4
6	3	0.7	46	10	21.3	86	21	44.0
7	6	33.0	47	1	31.0	87	6	3.0
8	77	4.6	48	11	21.2	88	90	11.7
9	416	4.7	49	35	4.4	89	45	4.1
10	11	6.2	50	22	21.2	90	39	6.2
11	265	5.0	51	47	5.6	91	18	22.0
12	131	6.4	52	33	6.3	92	341	6.3
13	211	4.0	53	39	3.9	93	16	1.7
14	31	7.4	54	30	12.9	94	53	2.5
15	16	15.2	55	7	17.1	95	321	3.6
16	252	3.7	56	6	41.7	96	94	15.3
17	10	4.7	57	2	0.5	97	3	107.0
18	78	1.1	58	8	5.8	98	145	4.3
19	24	4.4	59	10	1.6	99	2	0.5
20	9	2.3	60	23	4.7	100	87	19.4
21	20	5.8	61	5	8.2	101	240	4.9
22	37	19.4	62	70	2.8	102	1130	6.4
23	47	4.4	63	21	7.9	103	35	2.7
24	38	6.0	64	31	3.6	104	45	2.9
25	60	2.4	65	49	25.4	105	5	28.2
26	1	5.0	66	8	26.0	106	391	4.8
27	9	5.8	67	63	4.6	107	8	1.9
28	1	0.0	68	3	53.7	108	5	1.8
29	172	4.6	69	8	5.8	109	37	5.3
30	207	3.7	70	3	84.7	110	35	17.8
31	134	4.8	71	9	12.6	111	56	0.4
32	8	16.3	72	2	68.5	112	50	17.9
33	91	3.6	73	29	11.9	113	397	3.8
34	176	4.5	74	507	2.4	114	203	6.7
35	13	18.8	75	6	3.0	115	148	3.6
36	2	0.0	76	7	16.6	116	196	5.8
37	6	23.0	77	22	5.5	117	14	49.9
38	6	88.0	78	1	4.0	118	53	8.0
39	71	5.9	79	44	3.8			
40	14	22.3	80	75	4.0	<b>APORS Average</b>		<b>6.1</b>

Source: Illinois Department of Public Health, Adverse Pregnancy Reporting System as of January 2019

**Table 2. 2018 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	73	98.6	41	40	85.0	81	17	70.6
2	1	0.0	42	149	93.3	82	48	93.8
3	11	90.9	43	4	75.0	83	311	92.3
4	238	87.4	44	57	87.7	84	20	95.0
5	16	93.8	45	17	88.2	85	24	54.2
6	3	100.0	46	10	70.0	86	21	52.4
7	6	50.0	47	1	0.0	87	6	83.3
8	77	92.2	48	11	54.5	88	90	86.7
9	416	92.3	49	35	88.6	89	45	82.2
10	11	72.7	50	22	68.2	90	39	97.4
11	265	83.4	51	47	78.7	91	18	77.8
12	131	76.3	52	33	69.7	92	341	83.3
13	211	92.4	53	39	97.4	93	16	100.0
14	31	93.5	54	30	83.3	94	53	94.3
15	16	87.5	55	7	14.3	95	321	93.5
16	252	94.0	56	6	66.7	96	94	81.9
17	10	90.0	57	2	100.0	97	3	33.3
18	78	97.4	58	8	75.0	98	145	94.5
19	24	83.3	59	10	100.0	99	2	100.0
20	9	100.0	60	23	87.0	100	87	85.1
21	20	90.0	61	5	60.0	101	240	83.3
22	37	86.5	62	70	100.0	102	1130	95.3
23	47	93.6	63	21	81.0	103	35	100.0
24	38	89.5	64	31	90.3	104	45	93.3
25	60	100.0	65	49	69.4	105	5	40.0
26	1	100.0	66	8	37.5	106	391	83.9
27	9	66.7	67	63	82.5	107	8	100.0
28	1	100.0	68	3	33.3	108	5	100.0
29	172	88.4	69	8	87.5	109	37	94.6
30	207	93.2	70	3	33.3	110	35	71.4
31	134	95.5	71	9	88.9	111	56	98.2
32	8	75.0	72	2	50.0	112	50	82.0
33	91	92.3	73	29	93.1	113	397	91.9
34	176	97.7	74	507	98.8	114	203	90.6
35	13	84.6	75	6	83.3	115	148	93.9
36	2	100.0	76	7	71.4	116	196	91.3
37	6	50.0	77	22	81.8	117	14	71.4
38	6	16.7	78	1	100.0	118	53	90.6
39	71	97.2	79	44	95.5			
40	14	42.9	80	75	93.3	<b>All APORS Cases</b>		<b>90.2</b>

Source: Illinois Department of Public Health, Adverse Pregnancy Reporting System as of January 2019

*Transit Time for Cases Reported in 2018.* Among all the cases, transit time ranged from zero to 107 days with the mean being 0.2 days and median zero days. Only one hospital (1.7 percent) had an average transit time of more than seven days. Fourteen hospitals (11.9 percent) had at least one record that took more than seven days in transit.

## **DISCUSSION**

*Case-Level Assessment.* In 2018, more cases (19.4 percent) 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 about two-thirds (65.9 percent) of the reports. Slightly more than 90 percent of cases were reported within seven days of discharge, as required by administrative rules. This is a slight increase over 2017 when 89.5 percent 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 2018. Fourteen 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 104 rated hospitals, 77 (74.0 percent) met compliance standards. The number of hospitals meeting compliance standards in 2018 exceeded that of 2017, although fewer hospitals were rated in 2017 (98 rated and 74 compliant).

**Table 3. Hospital Ratings for Compliance with Timeliness Standards in 2018**

<b>Rating</b>	<b>Cases Reported Within 7 Days</b>	<b>Number of Hospitals</b>	<b>Percentage</b>
Compliant	80 - 100%	77	74.0
Not Compliant	< 80%	27	26.0

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. In January 2018, APORS held an educational webinar for all hospital reporting staff and perinatal administrators in the state, providing a detailed review of reportable birth defects by body system. A recording of this webinar was also 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 2018  
Hospital Compliance Report

January 2019

**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%