

At the end of each calendar year, the Provider Based Performance Improvement (PBPI) committee provides an annual data report for the system. The current reporting software, ImageTrend, provides many canned reports to organize the data. During 2024, System members completed a combined 94,853 Patient Care Reports (PCR) which reflects an 5.03% increase over 2023.

Table 1	2024		2023		2022		2021	
Total PCRs written	94,853		90,085		83,285		76,217	
Male	46,288	48.8%	43,427	48.2%	39,704	48%	36,305	48%
Female	47,401	50%	45,631	50.6%	43,690	51%	39,100	51%
Nonbinary/Unknown/ Unable to determine/F to M/M to F	1,164	1.2%	1,027	1.1%				

Pediatric Data 17 and younger (extrapolated from totals above)

Table 2	2024		2023		2022		2021	
Total PCR written	6,256		5,967		5,548		5,023	
Male	3,392	54.2%	2,929	53%	2,598	52%	2,184	52%
Female	2,826	45.2%	2,607	47%	2,406	48%	2,004	48%
Nonbinary/Unknown/ Unable to determine/F to M/M to F	38	0.6%	28	0.4%				



Page 2 of 12

Disposition

Each PCR is required to document a Disposition under National EMS Information System (NEMSIS) rules:

"Type of disposition treatment and/or transport of the patient by this EMS Unit.1"

Table 3

Disposition Incident Patient Disposition (eDisposition.12)	2024 Number of Runs	2024 % of Total Runs	2023 Number of Runs	2022 Number of Runs
Transport by This EMS Unit- ALS	43,836	46.2%	20,247	21,381
Transport by This EMS Unit- BLS	33,430	35.3%	30,038	28,180
Pt Refused Transport- BLS	7,760	8.2%	-	-
Pt Refused Transport- No Care Provided	3,033	3.2%	-	-
Pt Refused Transport- ALS	2,820	3.0%	-	-
No Transport- No Care Provided	1,337	1.4%	-	-
Transport by Another EMS Unit- BLS	754	0.8%	-	-
No Transport- ALS	494	0.5%	-	-
No Transport- BLS	472	0.5%	-	-
No Disposition Selected	468	0.5%	-	-
Transport by Another EMS Unit- ALS	174	0.2%	-	-
No Transport- No Level of Care	61	0.1%	-	-
Transport by Another EMS Unit- No Care Provided	48	0.1%	-	-
Patient Refused Transport	39	0.1%	-	-
Other (21 misc. dispositions)	128	0.2%	-	-

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Where we Transport

In 2024, System members transported 77,528 (81.7%) patients to various destinations throughout Illinois and surrounding states. This data reflects the findings entered as "Destination/Transferred to". Name is defined as "The destination the patient was delivered or transferred to" fields.

NCH is centrally located within the EMS System's service area and is the closest hospital for some of our busier agencies. Thus it appears to have received a disproportionate number of EMS transports. All System hospitals receive EMS patients from surrounding Systems that are not reflected in these numbers. These data do not reflect the total EMS patients received by any hospital, but only those from NWC EMSS Provider Agencies.

(Blank destination, 3,640 incidents, and "Not Transported", 13,685 incidents, omitted from total)

Year	2024		2023	2022
Total PCRs	94,8	53	90,085	83,285
Total Transports	77,5	28	71,723	65,805
NWC EMSS Hospitals	Number of patients received	% of Total Runs	Number of patients received	Number of patients received
Northwest Community Hospital (Part of NorthShore)	20,572	21.7%	20,439	19,853
Ascension Alexian Brothers MC	8,890	9.4%	9,148	8,957
Ascension Health St. Alexius MC	6,587	7.0%	6,572	6,622
Advocate Good Shepherd Hospital	6,516	6.9%	6,417	4,361
AdventHealth Glen Oaks MC	2,550	2.7%	2,562	2,667
Ascension Resurrection MC	355	0.4%	288	252
Non-system Hospitals that receiv	ed the most p	atients from	a System a	gency.
Advocate Condell MC	1,908	2.0%	1,843	1,792
Advocate Lutheran General Hospital	1,838	2.0%	1,598	1,417
NorthShore Glenbrook Hospital	1,614	1.7%	1,327	1,252
NorthShore Hospital-Highland Park	835	0.9%	723	669
NorthShore Hospital- Evanston	793	0.8%	193	155
All other Destinations	25,070	22.8%	20,233	17,475

Table 4

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Primary Impression

Each PCR includes a "Provider's Primary Impression" which is the EMS practitioner's determination of the patient's primary problem or most significant condition which led to the management given to them (treatments, medications, or procedures)¹. The 2024 data reflected 225 different Primary Impressions. The following table shows the top 24 that were selected in at least 1% or higher of the total PCRs written. The most frequently selected Primary Impression was "Weakness" rose to 18,688 calls, up 33.9% from 2023.

Table 5

Situation Provider Primary Impression (eSituation.11)	2024 Number of Runs	2024 % of Total Runs	2023 Number of Runs	2022 Number of Runs
Weakness (R53.1)	18,688	19.7%	13,961	11,358
Acute pain (G89.1)	3,851	4.0%	4,286	4,003
No abnormal findings upon Exam (Z00)	2,930	3.0%	5,863	5,399
Transport for additional assessment or testing (Z02.89)	2,807	3.0%	2,649	2,033
Altered mental status (R41.82)	2,588	2.7%	2,734	2,639
Dyspnea / Other Respiratory Unspecified (J98.9)	2,391	2.5%	2,467	2,467
Bed Confinement status (Z74.01)	2,224	2.3%	2,254	3,079
Malaise (R53.81)	2,125	2.5%	2,444	1,899
Injury of head (S09.90)	2,073	2.2%	2,190	2,159
Generalized abdominal pain (R10.84)	1,775	1.9%	1,604	1,397
Dizziness (R42)	1,666	1.8%	1,656	1,604
Syncope (R55)	1,645	1.7%	1,652	1,561
Repeated Falls (R29.6)	1,625	1.7%	1,803	1,677
Suicidal ideations (R45.851)	1,530	1.6%	1,688	1,647
Alcohol use, with intoxication (F10.92)	1,521	1.6%	1,566	1,412
Anxiety Disorder	1,405	1.5%	1,986	1,993
Unspecified Convulsions / Seizure (R56.9)	1,291	1.4%	1,235	1,157
Stroke / Cerebral Infarction (I63.9)	1,246	1.3%	1,120	1,108
Chest Pain (precordial) (R07.2)	1,216	1.3%	1,742	1,694
Nausea and Vomiting (R11)	1,103	1.2%	1,150	967
Unspecified disorder of adult personality and behavior (F69)	1,072	1.1%	N/A	N/A
Feared Complaint Unfounded (Z71.1)	1,047	1.1%	277	574
Back Pain, non-traumatic (M54.9)	974	1.1%	1,008	886
Chest Pain (Suspected Cardiac Origin) (R07.9)	941	1%	176	N/A

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Pediatric Top 24 Primary Impressions

Table 6

Situation Provider Primary Impression (eSituation.11)	2024 Number of Runs	2024 % of Total Runs	2023 Number of Runs	2022 Number of Runs
No abnormal findings upon Exam (Z00)	738	11.8%	719	618
Transport for additional assessment or testing (Z02.89)	349	5.6%	233	139
Suicidal ideations (R45.851)	314	5%	388	424
Violent behavior (R45.6)	276	4.4%	290	246
Unspecified Convulsions / Seizure (R56.9)	273	4.4%	268	254
Weakness (R53.1)	254	4%	173	131
Acute pain (G89.1)	220	3.5%	233	204
Injury of head (S09.90)	194	3.1%	189	165
Simple febrile convulsions / Seizure (R56.00)	165	2.6%	161	175
Fever, unspecified (R50.9)	163	2.6%	176	227
Allergy (T78.40)	131	2.1%	178	119
Syncope (R55)	125	2%	138	158
Depression	119	1.9%	3	N/A
Malaise (R53.81)	119	1.9%	89	56
Dyspnea / Other Respiratory Unspecified (J98.9)	116	1.9%	126	154
Anxiety disorder (F41.9)	112	1.8%	167	149
Mental disorder (F99)	111	1.8%	255	223
Generalized abdominal pain (R10.84)	79	1.3%	89	56
Unspecified disorder of adult personality and behavior (F69)	79	1.3%	N/A	N/A
Injury of face (S09.93)	71	1.2%	81	87
Injury of forearm (S59.91)	70	1.1%	58	51
Altered Mental Status (R41.82)	68	1.1%	56	65
Injury, other (T14.90)	64	1%	57	61
Injury of wrist, hand and finger(s) (S69.9)	63	1%	90	83
Injury of knee (S80.91)	61	1%	62	43

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Medications given

The following table shows the top 25 medications given to a patient. It is understood that due to varying ways to document, the following numbers do not represent the number of patients that received the medication, or the number of doses given, just the number of times the medication was used.

Table 7

Medication Given Description and RXCUI Code (eMedications.03)	2024 # of Times Medication Administered	2023 # of Times Medication Administered	2022 # of Times Medication Administered
Oxygen (7806)	5,346	5,024	7,344
Normal saline (125464)	5,104	4,663	5,391
Ondansetron (26225)	2,794	2,643	2,813
Aspirin (1191)	2,452	2,365	2,665
Fentanyl (4337)	1,826	1,727	2,336
Epinephrine 1 mg / 10 mL (317361)	1,729	1,704	2,070
Nitroglycerin (4917)	1,124	1,072	1,173
Albuterol (435)	732	696	783
Ipratropium (7213)	682	642	696
Dextrose 10% Injectable Solution (237648)	497	455	541
Midazolam (6960)	488	452	570
Naloxone (7242)	360	448	644
Ketamine (6130)	273	230	370
Diphenhydramine (3498)	193	222	206
Amiodarone (703)	131	97	131
Glucagon (4832)	125	98	105
Epinephrine 1mg/1mL (328316)	116	136	130
Lidocaine (6387)	83	41	75
Norepinephrine (7512)	81	75	128
Atropine (1223)	78	66	84
Adenosine (296)	76	76	78
Glucose	67	36	25
Acetaminophen (161)	54	59	11
Verapamil	33	41	30
Etomidate	27	25	15

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Procedures

The following table shows the top 25 procedures performed. It is understood that some patients received multiple attempts with the same procedure.

Table 8

Procedure Performed Description And Code (eProcedures.03)	2024 Number of Times Performed	2023 Number of Times Performed	2022 Number of Times Performed
IV - Peripheral (392230005)	13,464	12,383	9,078
ECG - 12 Lead Obtained (268400002)	5,016	4,563	3,213
Spine Motion Restriction (426498007)	3,554	1,452	22
Wound - Application of Bandage (182555002)	1,406	1,785	1,740
Cold Pack Application (229585002)	1,316	1,027	1,065
IO - Intraosseous Access (430824005)	642	671	706
Splinting - General (79321009)	504	626	632
Orotracheal intubation using video + Bougie (398128007)	490	520	516
CPR - Manual (89666000)	489	537	559
Wound- Application of minor dressing (15631002)	484	126	139
ECG- 4 Lead Monitoring (itSNOMED.0006)	453	116	74
CPR - Mechanical Device (429283006)	422	402	389
Capnography Waveform (250863006)	387	397	161
Airway - Clear / Suction (230040009)	386	351	333
Electrocardiographic monitoring (46825001)	325	163	60
Assist Ventilation - BVM (425447009)	298	120	283
Physical Restraints (386423001)	259	242	198
Surgical Face Mask Applied to Patient (465635009)	236	2,192	6,753
Nasopharyngeal Insertion (182692007)	232	254	286
Dressing - Pressure (26906007)	204	45	45
CPAP / NIPPV (47545007)	184	228	143
Oropharyngeal Insertion (7443007)	172	205	209
Defibrillation - Manual (426220008)	168	149	150
Assist Ventilation - BV to Tube (408853006)	156	39	86
CPR- With Impedance Threshold Device (441893003)	132	112	90

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Pediatric Cardiac Arrests

Table 9

Agency Name (dAgency.03)	Incident Date	Disposition Incident Patient Disposition (eDisposition.12)	Situation Provider Primary Impression (eSituation.11)	Situation Provider Secondary Impression List (eSituation.12)	Disposition Destination Name Delivered Transferred To (eDisposition.01)
Arlington Heights FD	03/02/2024	Treat & Transport ALS	Respiratory Arrest		Northwest Community
Palatine FD	05/18/2024	Treat & Transport ALS	Cardiac Arrest		Lutheran General
Wauconda FD	09/03/2024	Treat & Transport ALS	Cardiac Arrest		NIMC
Arlington Heights FD	09/03/2024	Treat & Transport ALS	Respiratory Arrest		Northwest Community
Barrington FD	09/22/2024	Treat & Transport ALS	Cardiac Arrest		Advocate Good Shephard
Palatine FD	09/30/2024	Treat & Transport ALS	Cardiac Arrest		Northwest Community
Lincolnshire RiverwoodsFPD	10/18/2024	Treat & Transport ALS	Cardiac Arrest		Condell MC
Lake Zurich FD	11/19/2024	Treat & Transport ALS	Cardiac Arrest		Advocate Good Shephard
Schaumburg FD	11/25/2024	Treat & Transport ALS	Cardiac Arrest		Northwest Community
Bloomingdale FPD	12/13/2024	Treat & Transport ALS	Cardiac Arrest		Glen Oaks

Total Pediatric Cardiac Arrests for 2024:

10 Peds arrests in 2024

(1 MORE than 2023)

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Times Report

Many factors can affect response, scene, and at hospital times. Private vs. Fire-based responses and distance to receiving hospital are two of the largest factors, but keystroke errors in data entry also become a factor. The data is reported as the average and 90th percentile fractal times. The 90th percentile number is a better measure than a simple mean or "average" since it accounts for 90% of the data set instead of 50%. Outliers, which are part of most data sets, will not have the same disproportional adverse effect on the totals as the mean (average) calculation. Due to the differing nature of Private and Fire-based services, the times are reported as total System times and differentiated for service type.

Enroute time:	From Unit notified until Unit enroute.
To the scene:	From unit enroute to unit arrived on scene.
On scene:	From Unit arrived on scene until unit left scene.
Transport time:	From Unit left scene until unit arrived at destination.
Back in-service time:	From Unit arrived at destination until unit identified back in-service.

Table 10	2024 All System		2024 Fire Based Services		2024 Private Ambulance Services	
	Average	90%	Average	90%	Average	90%
Enroute time	1.04	2.61	1.02	1.91	1.13	5.93
To the scene	7.85	14.66	3.88	6.76	26.74	52.2
On scene time	17.02	29.63	14.48	24.99	29.18	51.64
Transport time	11.24	20.76	9.95	15.16	17.38	47.37
Back in service	24.93	44.11	24.53	42.99	26.81	49.4

Table 11	2023 All System		2023 Fire Based Services		2023 Private Ambulance Services	
	Average	90%	Average	90%	Average	90%
Enroute time	0.99	2.84	1.04	1.99	0.75	7.31
To the scene	7.88	14.7	3.91	6.75	27.74	54.71
On scene time	16.06	27.26	14.18	22.74	28.72	49.86
Transport time	10.86	20.00	9.69	14.83	16.69	45.87
Back in service	26.43	45.87	26.58	46.44	25.63	43.02

Table 12	2022 All System		2022 Fire Based Services		2022 Private Ambulance Services	
	Average	90%	Average	90%	Average	90%
Enroute time	1.00	2.53	1.03	1.92	0.84	5.41
To the scene	8.01	14.79	3.87	6.57	27.66	53.86
On scene time	16.29	26.76	14.12	22.66	26.59	46.25
Transport time	10.73	19.37	9.44	14.55	16.83	42.28
Back in service	28.30	47.48	28.87	48.87	25.60	40.91

Unit Numbers

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Most agencies have multiple units that complete PCRs. The following are the 15 units and agency affiliations with the top numbers of completed PCRs.

Table 13

Response EMS Unit Call Sign (eResponse.14)	2024 # of Runs	% of Total Runs	Agency Name (dAgency.03)	2023 # of Runs	2022 # of Runs
726	3,030	3.19%	Elite Ambulance	1,470	439
701	2,453	2.68%	Elite Ambulance	2,508	2,755
709	2,336	2.59%	Elite Ambulance	1,973	1,763
A51	2,444	2.58%	Schaumburg FD	2,198	2,144
A21	2,273	2.4%	Hoffman Est. FD	2,342	2,255
M21	2,249	2.37%	Bloomingdale FPD	2,336	2,320
A2	2,064	2.18%	Arlington Hts. FD	2,197	2,230
A82	2,032	2.14%	Palatine PD	2,052	1,995
A1	1,864	1.97%	Arlington Hts. FD	1,931	2,011
A52	1,831	1.93%	Schaumburg FD	1,949	1,812
A83	1,775	1.87%	Palatine FD	1,859	1,731
713	1,761	1.87%	Elite Ambulance	1,592	911
A3	1,741	1.84%	Arlington Hts. FD	1,873	1,847
A341	1,740	1.83%	Wauconda FD	1,681	-
704	1,655	1.74%	Elite Ambulance	1,063	1,522

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PCRs written by each agency

The following are the numbers of PCRs completed by each agency. This may not fully indicate the number of patients treated, as some agencies complete a PCR on "no patient found" and "canceled" incidents. Total PCRs written in 2024 were 94,853.

Table 14

Total PCRs per agency	2024	2023	2022
Advantage	696	437	869
Arlington Heights	8,004	8,442	8,314
A-Tec	1,259	1,063	1,280
Barrington	1,581	1,652	1,561
Barrington-Countryside	1,463	1,404	1,308
Bloomingdale	4,053	4,148	4,050
Buffalo Grove	3,606	3,777	3,703
Elite Ambulance	20,648	16,900	15,250
Elk Grove Village	3,953	3,998	3,959
Hoffman Estates	5,115	5,138	5,098
Inverness	759	783	766
Itasca	1,126	1,114	1,065
Lake Zurich	3,664	3,442	3,349
Lincolnshire-Riverwoods	2,549	2,598	2,545
Long Grove	1,169	1,150	1,241
Mount Prospect	5,535	5,180	4,986
Palatine	6,585	6,728	6,582
Prospect Heights	1,474	1,642	1,601
Rolling Meadows	2,755	2,839	2,896
Schaumburg	7,640	7,571	7,681
Superior	6,472	4,955	3,185
Wauconda	3,289	3,312	-
Wood Dale	1,458	1,557	1,527

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Respectfully Submitted PBPI Executive Board

Adam Sielig, Paramedic	Taylor McIntyre, Paramedic
Arlington Heights Fire Department	Hoffman Estates Fire Department
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Buffalo Grove Fire Department	Rolling Meadows Fire Department
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Tyler Petersen, Paramedic Buffalo Grove Fire Department Screen Coordinator, PBPI committee	Vasilios (Bill) Toliopoulos, BSN, RN, LI, ECRN, PHRN Kourtney Chesney BSN, RN, LI, ECRN, Paramedic System Liaison for PBPI

References

- NEMSIS VERSION 3.5.0.211008CP3: The NEMSIS/NHTSA Version 3 Dataset provide 596 data elements that can be implemented by an EMS system. National data elements are defined as those that should be collected for the National EMS Database, but additional data elements should be considered for use at the state and local levels depending on each state or local EMS system's need. https://nemsis.org/technical-resources/version-3/version-3-data-dictionaries/
- Title 77: Public Health Chapter I: Department of Public Health Subchapter f: Emergency Services and Highway Safety Part 515 Emergency Medical Services, Trauma Center, Comprehensive Stroke Center Primary Stroke Center and Acute Stroke Ready Hospital Code Section 515.350 DATA COLLECTION AND SUBMISSION (Source: Amended at 42 III. Reg. 17632, effective September 20, 2018)

https://www.ilga.gov/commission/jcar/admincode/077/077005150C03500R.html

- 3. IDPH EMS Rules Section 515.330 EMS System Program Plan (Source: Amended by emergency rulemaking at 46 Ill. Reg. 1173, effective December 27, 2021, for a maximum of 150 days)
- 4. https://www.imagetrend.com/

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