



Pennsylvania Department of Health Neonatal Abstinence Program

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March 24, 2021

Neonatal Abstinence Syndrome (NAS)

The Council of State and Territorial Epidemiologists (CSTE) defines NAS as:

“a constellation of signs of withdrawal in newborns (less than 28 days) following in utero exposure to medications or illicit drugs, most commonly opioids (including opioid agonists used for treatment of opioid use disorder), benzodiazepines, and barbiturates”

Two Tiers of NAS Surveillance

- Tier 1 – Case reporting based on public health legal authority
 - Clinical records reported by providers and laboratories
- Tier 2 – Case reporting based on administrative data
 - International Statistical Classification of Diseases 10th Revision, Clinical Modification (ICD-10 – CM) diagnosis codes.

Clinical Criteria

Clinical evidence in the neonate:

- Diagnosis of NAS; or
- A chief complaint mentions NAS; or
- Clinically compatible presentation of at least one symptom of withdrawal:
 - ▣ Central nervous system (CNS) hyperirritability;
 - ▣ Autonomic over-reactivity;
 - ▣ Gastrointestinal hypermobility;
 - ▣ Respiratory; and
 - ▣ Clinical signs are not explained by another etiology

Clinical evidence in the mother:

- Maternal history of chronic opioid use (including Medicated Assisted Therapy, illicit use, or pain medication), benzodiazepine, or barbiturate use in the four weeks prior to delivery

Laboratory Criteria

- **Confirmatory**

Neonate – Detection of opioids or opioid metabolites, benzodiazepines or barbiturates in any clinical specimen

- **Presumptive**

Maternal – Detection of opioids or opioid metabolites, benzodiazepines or barbiturates in blood or urine from a screening in the four weeks prior to delivery

▶ Pennsylvania Initiative

- January 10, 2018 – NAS becomes a reportable condition to the Pennsylvania Department of Health per Chapter 27 of the Pennsylvania Health and Safety Code
- The purpose of initiative is to strengthen state and local response to NAS by providing deidentified aggregate data to describe the burden of NAS in Pennsylvania, identify high incidence locations for targeted intervention and reduce the statewide incidence of NAS.

Goals of NAS Surveillance

- Estimate incidence of NAS
- Tracking trends leading to meaningful comparisons in order to plan prevention and treatment
- Evaluate effectiveness
- Monitor long term health and developmental effects of in utero exposure to opioids
- Link women with chronic opioid use to treatment
- Allocate resources to provide services to affected families
- Connect families with services aimed at promoting optimal child development and family well being.

▶ NAS Reporting to DOH

- Bureau of Family Health, Division of Newborn Screening and Genetics
- Reported via iCMS
- RedCap reporting discontinued
- Reporting requirements include confirmed and probable cases only

2020 Findings

133,910 total infants born – Perkin Elmer Genetics, Inc.
1,755 total number of NAS – iCMS

	Q1	Q2	Q3	Q4
NAS	313	437	528	477
Childline	246 79%	358 82%	435 82%	383 80%
POSC	138 44%	241 55%	294 56%	289 61%

2020 Findings



2020 Findings continued

	Q1	Q2	Q3	Q4
NAS	313	437	529	476
MAT	152	229	308	277
Medicaid	95 (62%)	116 (52%)	168 (54%)	144 (52%)

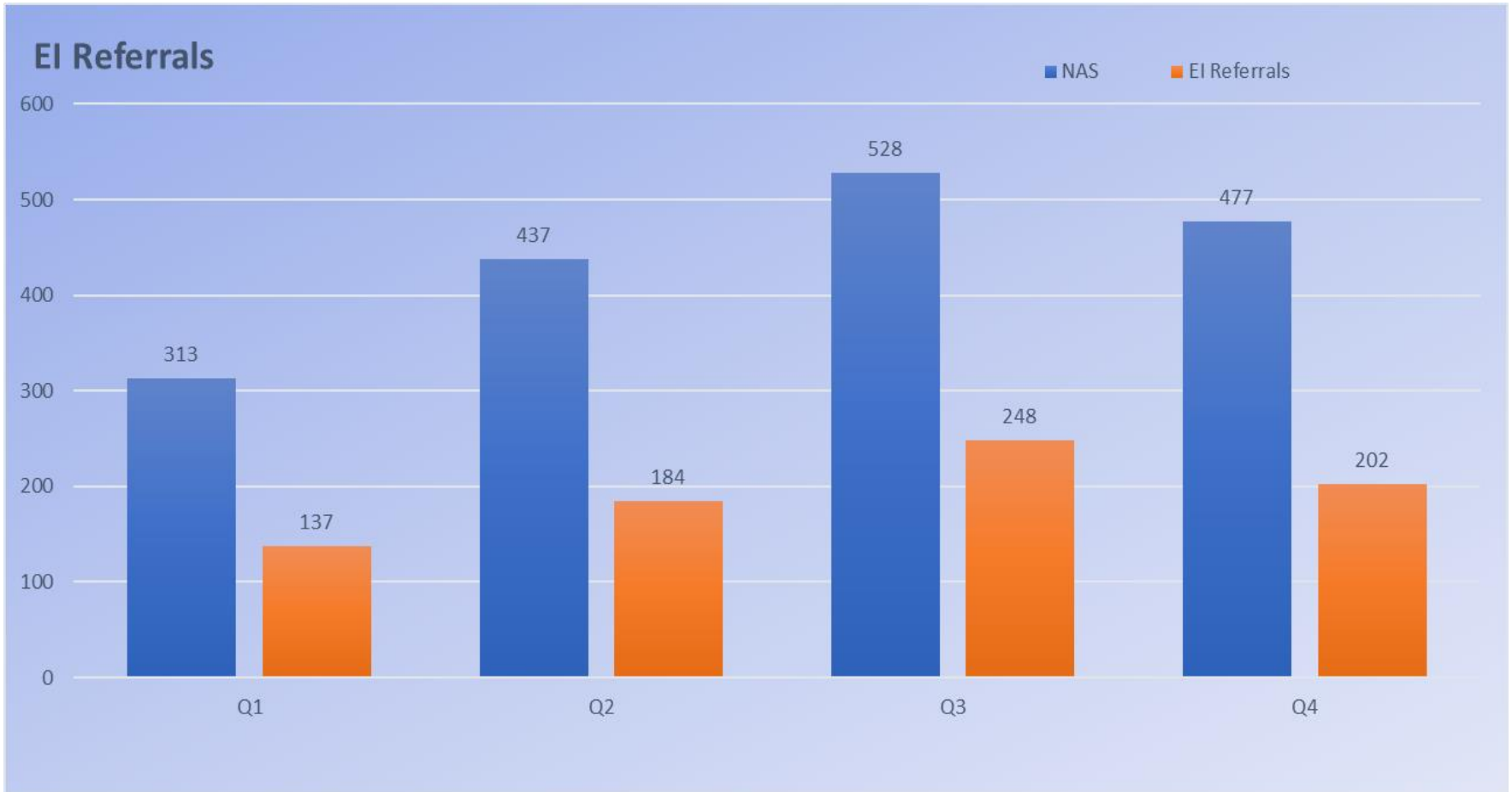
2020 NAS TREATMENT

2020 NAS Cases with Pharmacological Tx		Q1	Q1	Q2	Q2	Q3	Q3	Q4	Q4
Nonpharmacological/no treatment	--	175	56%	223	51%	275	52%	251	52.60%
Morphine only	--	79	25.00%	126	28.80%	143	27%	105	22%
Methadone only	--	1	0.30%	3	0.60%	1	0.10%	3	0.60%
Phenobarbitol + Methadone	-	0	0%	1	0.00%	0	0%	0	0%
Morphine + Clonidine	--	15	4.70%	13	2.90%	23	4.30%	22	4.60%
Morphine + Phenobarbitol	--	3	0.90%	8	1.80%	12	2.20%	10	2.10%
Morphine + Phenobarbitol + Clonidine		2	0.60%	1	0.20%	6	1.20%	2	0.40%
Phenobarbitol only	--	1	0.30%	1	0.20%	1	0.10%	2	0.40%
Other drug	--	5	1.60%	5	1.10%	6	1.10%	20	4.20%
Blank	--	32	10.20%	56	12.80%	61	1.10%	62	13%
TOTAL		313		437		528		477	

2020 EARLY INTERVENTION REFERRALS

	Q1	Q2	Q3	Q4
NAS	313	437	528	477
EI Referrals	137 44%	184 42%	248 47%	202 42%

2020 EARLY INTERVENTION REFERRALS



NAS Prevalence by Region 2020

- Southeast Region – 12 per 1,000
- Southwest Region – 17 per 1,000
- Southcentral Region – 11 per 1,000
- Northeast Region – 14 per 1,000
- Northwest Region – 32 per 1,000

NAS Prevalence in Pennsylvania

- 2017 -- 16 per 1,000
- 2018 -- 14 per 1,000
- 2019 -- 12 per 1,000
- 2020 -- 13 per 1,000

“To equally protect and equitably promote the health and well-being of pregnant people, their partners, their children and all families in Pa.”

Questions?

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