

# AmeriHealth Caritas Pennsylvania and ProgenyHealth

## Care Coordination for Infants with Neonatal Abstinence Syndrome Secondary to In-Utero Opioid Exposure

### Description:

The incidence of Neonatal Abstinence Syndrome (NAS) due to maternal opioid use during pregnancy continues to rise, and much of the cost burden is born by Medicaid. AmeriHealth Caritas Pennsylvania has experienced an increase of NAS in its NICU population similar to the national trend. ProgenyHealth noticed wide management variations and lengths of stay among NICUs and developed an evidence-based management guideline used to conduct care management for this often difficult-to-manage cohort.

This has resulted in an average of length of stay of 21 days for this population, which compares favorably to the consensus average of approximately 30 days as reported in the literature. Quality of care was maintained as evidenced by only a single readmission for further NAS treatment.

### Abstract:

Illicit opioid abuse has reached epidemic proportions in the United States. It has been estimated that illicit drug use occurs in 4.4% of pregnant women, 16.2% among pregnant teens, and 7.4% among pregnant women 18 to 25 years of age. This has resulted in infants being born with opioid dependency. After delivery these infants begin to suffer withdrawal symptoms, termed neonatal abstinence syndrome (NAS). Based on a *JAMA* study from 2009, the NICU cost for an NAS admission is \$53,000 or over \$720M per year in aggregate, with nearly 80% attributed to Medicaid.<sup>1</sup> Additionally, a recent study published in the *Journal of Perinatology* demonstrated variation in hospital treatment of NAS resulting in wide variation in lengths of stay and hospital charges among 14 major US Children's Hospitals from 2004 -2011.<sup>2</sup> Increased length of stay is not only a cost-driver, but exposes the baby to hospital-associated morbidity, and can negatively affect the mother-baby dyad by delaying bonding. The incidence of NAS in the AmeriHealth Caritas Pennsylvania NICU population has continued to increase year after year, mirroring the national trend. It is now approaching 8% of total NICU admissions. The goals of the program are to shorten the average length of stay for NAS cases thereby decreasing the associated inpatient costs by optimizing/standardizing treatment regimens, and to promote mother-baby bonding, while not adversely affecting clinical outcomes as measured by readmissions for NAS treatment.

### Key Objectives:

- Control or reduce the per capita cost of care or increase efficiency
- Improve quality of care in a specific clinical area, i.e. prenatal care, diabetes, asthma, etc.
- Promote maternal infant bond

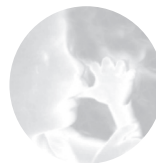
### Actions Taken:

Due to the wide inter-institutional variation in the management of NAS, ProgenyHealth sought to develop an evidenced-based treatment guideline for NAS. After a comprehensive, up-to-date literature review, ProgenyHealth in conjunction with its Medical Advisory Board, a group of nationally-representative, board-certified, practicing neonatologists, developed an NAS management guideline. This guideline is disseminated to participating NICUs to use as a clinical guideline and resource to assist them in the management of NAS infants. It is also reviewed with providers in NAS case discussions for the purpose of sharing evidence-based best practices to promote quality health care.

ProgenyHealth conducted a retrospective data analysis from its electronic database of all of AmeriHealth Caritas Pennsylvania's NICU patients with a diagnosis of NAS requiring pharmacologic treatment from 2007 through 2013 to assess the effect of its care management strategy on this population.



Coverage by AmeriHealth First.



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### Footnotes

<sup>1</sup> Patrick SW, Schumacher RE, Benneyworth BD, Krans EE, McAllister JM, Davis MM. Neonatal Abstinence Syndrome and associated health care expenditures United States, 2000-2009. *JAMA* 2012; 307:1934-1940

<sup>2</sup> Patrick SW, Kaplan HC, Passarella M, Davis MM, Lorch SA. Variation in hospital treatment of neonatal abstinence syndrome in US Children's Hospitals, 2004-2011. *J Perinatol* 2014 Jun 12 doi: 10.1038/jp.2014.114. [Epub ahead of print]

## Outcomes:

From 2007 through 2013, for the AmeriHealth Caritas Pennsylvania population of infants with NAS managed by ProgenyHealth, the average length of stay (ALOS) was 21 days. This compares favorably to consensus duration of approximately 30 days reported in the literature<sup>1,2</sup> and represents a 30% reduction in ALOS. During this 6-year time frame, only one baby required readmission for treatment of NAS, supporting the clinical stability and readiness of infants at NICU discharge. These results also speak to the benefit of our well-established case management First Year of Life program, which has successfully reduced readmission rates. Case management supports this at-risk population by addressing parents' clinical concerns and by connecting them with available social support programs. Less time spent in the NICU translates to cost-savings for the health plan and supports the establishment of the mother-baby dyad. Of note, some of the infants were treated with a combined inpatient/outpatient medical protocol. When one major facility discontinued this approach due to lack of provider willingness, length of stay increased back to pre-program levels. Further development of a combined approach remains an opportunity that requires a coordinated effort between health plans and providers which can be facilitated by the type of programmatic approach that ProgenyHealth provides.

## Location:

This program took place in Pennsylvania.

## Contact:

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### About AmeriHealth Caritas Pennsylvania

AmeriHealth Caritas Pennsylvania, a member of the AmeriHealth Caritas Family of Companies, is a Medical Assistance (Medicaid) managed care health plan serving 26 counties in Central and Northwestern Pennsylvania. Headquartered in Harrisburg, Pennsylvania, AmeriHealth Caritas Pennsylvania is a mission-driven company dedicated to helping members get care, stay well and build healthy communities. For more information, visit [www.amerihhealthcaritaspa.com](http://www.amerihhealthcaritaspa.com).

### About AmeriHealth Caritas

AmeriHealth Caritas is one of the nation's leaders in health care solutions for those most in need. AmeriHealthCaritas operates in 16 states and the District of Columbia, and serves more than 6 million Medicaid, Medicare and CHIP members through its integrated managed care products, pharmaceutical benefit management services, behavioral health services and other administrative services. Headquartered in Philadelphia, AmeriHealth Caritas is a mission-driven organization with 30 years of experience serving low-income and chronically ill populations. For more information, visit [www.amerihhealthcaritas.com](http://www.amerihhealthcaritas.com).

### ProgenyHealth

ProgenyHealth delivers care management solutions to insurers and employer groups, managing the health care services provided to premature and medically complex newborns in the neonatal intensive care unit (NICU) after birth. ProgenyHealth's clinically driven program promotes appropriate NICU utilization, improves access to care, educates family members and reduces costs while maintaining the highest quality level of care. For more information, visit [www.ProgenyHealth.com](http://www.ProgenyHealth.com).



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## Footnotes

<sup>1</sup> Kraft WK, Gibson E, Dysart K, et al. Sublingual buprenorphine for treatment of the neonatal abstinence syndrome: a randomized trial. *Pediatrics* 2008;122:e601–e607.

<sup>2</sup> Seligman NS, Salva N, Hayes EJ, Dysart KC, Pequinot EC, Baxter JK. Predicting length of treatment for neonatal abstinence syndrome in methadone-exposed neonates. *Am J Obstet Gynecol* 2008;199:396e1–e7