

# Health Plan Performance Series

## Identifying the Value of Medicaid Managed Care

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Topic No. 3

### Neighborhood's Synagis® program for at-risk infants improves care while saving nearly \$2 million

*Use of evidence-based guidelines, coordination with providers and families and home-based administration of preventive medicine are key success factors*

Four years into its program to ensure appropriate utilization of Synagis®, a highly effective but expensive medication for infants at risk for severe respiratory disease, Neighborhood Health Plan of Rhode Island is reporting improved treatment compliance rates, enhanced health outcomes, and better controlled costs.

#### Background

The leading cause of infant hospitalizations in the United States is respiratory syncytial virus, or RSV. Annually in this country, an estimated 125,000 infants are hospitalized due to RSV, and severe RSV infections are believed to be responsible for up to 500 infant deaths.<sup>1</sup>

#### When an at-risk child does not receive Synagis treatment

One example of what happens when a child does not receive critical Synagis care is found in James'\* story. James is a Neighborhood member who was born seven weeks premature in June 2001. He had a low birth weight and his doctors were very concerned about his lung development during the first few months of his life. James did not receive a preventive Synagis shot and he contracted RSV in November 2001. The RSV infection had a severe impact on his fragile body and he was admitted to the hospital where he stayed for 40 days at a cost of more than \$124,000. He continues to experience respiratory-related complications today.

\*Name and story modified to protect the child's identity

In 1998, the medicine palivizumab/Synagis was introduced to prevent the serious lung infections caused by RSV. It is delivered in shot form once per month to at-risk infants during the RSV season, which typically lasts from November through March in the northeast.<sup>2</sup>

With nearly 4,000 babies born to Neighborhood Health Plan of Rhode Island members each year, about 400 of whom are born prematurely or have significant heart or lung issues, Neighborhood is well acquainted with RSV and its prevention.

#### Neighborhood's Synagis Management Program

In 2004, noting an increase in premature births and the corresponding expense for Synagis, Neighborhood established a multidisciplinary team of doctors, pharmacists, nurses and members to examine the issue. Research indicated that many provider requests for Synagis were for children who did not meet guidelines established by the American Academy of Pediatrics (AAP) and the Centers for Disease Control (CDC). There also was ambiguity over how many shots were needed to cover the RSV season. After careful review of the guidelines, consultation with local authorities, and discussions with providers, Neighborhood began a Synagis management program focused on four elements:

1. **Proper identification, outreach, and selection of at-risk infants:** Neighborhood worked with pediatric providers to identify all infants who meet the Synagis guidelines. This identification was done in two ways: requests for specific children to

receive the shots were received in the early fall from the practitioners; also, Neighborhood reviewed its data to identify at-risk children. The providers for those children were then contacted to discuss the child's at-risk status. Similarly, Neighborhood talked with providers who were requesting Synagis for children who did not meet treatment guidelines. Result:

**Increased identification** – The number of at-risk infants approved to receive Synagis treatment increased 71.6% the first year Neighborhood's Synagis Program began proactive outreach to physicians. That number has since more than doubled.<sup>3</sup>

**Guideline compliance** – Over the past four years, 155 provider requests for Synagis were withdrawn (117) or denied (38) once Neighborhood reminded providers of AAP/CDC best practice guidelines that indicated treatment was not necessary. At an average Synagis treatment cost of \$7,030 per patient, this represents a "did not qualify" savings of \$1,089,650.<sup>4</sup>

**2. Improved compliance with the administration of Synagis** - In accord with best practice techniques, Neighborhood began working with an infusion-therapy specialty company to contact the parents (or guardians) of at-risk infants, establish an appropriate in-home shot schedule and administer the injections. Protocols were established to address non-compliance and Neighborhood adjusted the shot season to reflect AAP/CDC guidelines. Result:

**Compliance rate** – Before the in-home program began, 64% of infants completed the full complement of shots. During last RSV season, that percentage increased to 78%.

**Number of shots** – By adjusting our internal RSV season calendar to reflect AAP/CDC guidelines, Neighborhood reduced the number of shots

administered each season from six to five (November thru March). This change saves approximately \$1,900 per child who completes the full complement of shots (78%), per year, a savings of \$754,338 since the protocol began three years ago.<sup>5</sup>

**3. Favorable health outcomes for infants** - At the end of each RSV season, in addition to cost monitoring, Neighborhood reviews the patient health outcomes of its Synagis program. Result:

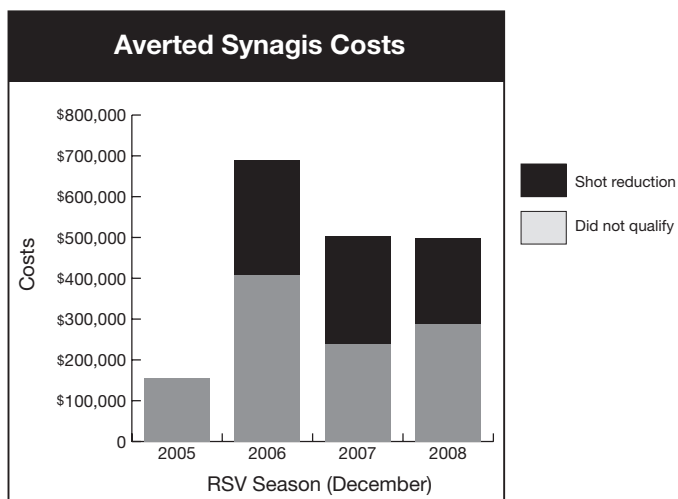
**Inpatient admissions** – Over the past six RSV seasons, 98 percent of Neighborhood's 1,020 prematurely-born, Synagis-eligible infant members have avoided RSV related hospitalizations.<sup>6</sup>

**4. Aggressive program administration cost management** Neighborhood received bids and then negotiated with a specialty pharmacy to optimize medication cost. Result:

**Discounts** - This sole provider discount decreased costs by over \$20,000 annually saving \$80,000 over the past four years.

**Conclusion**

Neighborhood's program for the prevention of serious RSV infections in fragile infants and small children has been a very successful example of managed care at its best: improved care at lower cost by careful management following evidence-based guidelines.



**Footnotes:**

1. MedImmune © 2006 "RSV: Help Protect Your Baby" <http://www.rsvprotection.com/>
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- Shay DK, Holman RC, Newman RD, et al. JAMA. 1999;282:1440-1446.
- Shay DK, Holman RC, Roosevelt GE, Clark MJ, Anderson LJ. J Infect Dis. 2001;183:16-22.
2. Centers for Disease Control and Prevention "Respiratory Syncytial Virus (RSV) Varies by Season and Year" <http://www.cdc.gov/Features/dsRSV/>
3. Increased identification and approvals – 81 approved (2002-before Neighborhood outreach), 139 (2003), 166 (2004), 194 (2005), 187 (2006), 188 (2007), 165 (2008)
4. Compliance savings calculations (\$1,900 per shot x 3.7 average number of shots per child per season = \$7,030 x 155 withdrawn/denied requests = \$1,089,650)
5. Shot reduction cost savings calculations (\$1,900 per shot x 509 children served over the past three years x .78 compliance rate = \$754,338)
6. Inpatient rate (1,020 premature births, 20 RSV admissions; Timeline = 12 months after birth for babies born before 29 weeks, 6 months after birth for babies born between 29 and 35 weeks)