Ensuring that pregnant women within the Medicaid population receive proper prenatal care is a priority for health plans in terms of improving quality and controlling expenses. Deficiencies in prenatal care can increase the risk of premature delivery and/or delivery of low birth-weight infants [1]. These infants are more likely to suffer from neurodevelopmental disabilities, congenital anomalies, and respiratory problems, and they are 4 times more likely to die prematurely than infants with normal birth weights [2].

Medicaid health plans confront numerous challenges in identifying and caring for pregnant members (Table 1), including significant member turnover. As many as 10% to 15% of Medicaid members involuntarily disenroll from health plans each month, usually as the result of loss of eligibility [3]. Moreover, Medicaid members are far less likely than commercial or Medicare members to have stable housing, a reliable mailing address, a telephone, or a long-term relationship with a health care provider [4]. In addition, significant comorbidities, such as substance abuse, hypertension, diabetes, and mental illness, exist within this population [5]. Also, since health plans frequently learn about pregnancies solely through delivery claims, they often do not have the opportunity prior to delivery to address risk factors that might lead to poor birth outcomes.

Medicaid health plans may find that they need to go beyond traditional strategies to increase identification of women earlier in their pregnancies, stratify them according to needs, and provide effective outreach and intervention. This report describes 2 birth outcomes improvement programs initiated as part of the Best Clinical and Administrative Practices (BCAP) initiative run by the Center for Health Care Strategies in Lawrenceville, New Jersey. The BCAP initiative, funded through a grant from the Robert Wood Johnson Foundation, convenes health plan medical directors to develop and pilot best practices to improve health care delivery for individuals served under Medicaid managed care.

**The Monroe Plan: Early Identification of High-Risk Pregnancy**

**Setting**
The Monroe Plan for Medical Care is a physician-organized and -governed, nonprofit independent practice association of 2800 providers. The plan provides health care services for low-income residents in Rochester, New York, and 6 neighboring rural counties; it has served Medicaid recipients since 1974. The plan has 53,000 members representing approximately 75% of the area market and accounting for approximately 800 births each year.

**Project Goals**

**Timely form submission.** Monroe Plan obstetricians are expected to submit a prenatal registration form for all pregnant patients. The form serves as a health risk assessment tool and gathers information on social risk factors, psychoneurologic history, maternal medical and obstetrical history, and previous birth outcomes. Prior to 1997, the submission rate of the prenatal registration forms was 3%. In 1997, the plan made submission of the prenatal registration form mandatory and established a policy of reimbursing the clinician $30 for every submission. Since then, the submission rate has consistently been above 90%. Timeliness of submission, however, has been a challenge. Consequently, the plan set a goal to maintain the overall submission rate of the prenatal registration form while increasing the submission rate during the first trimester of pregnancy in order to allow for timely interventions for identified risks.

**Address identified risks.** While the plan was engaged in a concerted effort to boost submission of prenatal forms, a retrospective chart review revealed that there were numerous occasions when the plan did not address behavioral health or chemical dependency issues identified by providers on the prenatal form. In the first quarter of 2000, 19% of the prenatal registration forms submitted identified behavioral health or chemical dependency issues among patients; however, there were no formal processes in place to ensure timely and appropriate intervention and follow-up. Therefore, the second project goal was to ensure that 100% of pregnant
women identified with mental health or chemical dependency issues received appropriate follow-up services through the Monroe Plan behavioral health unit.

Change Strategies

Education and relationship building. The Monroe Plan formed a workgroup composed of members of the quality management committee and medical staff that met monthly to plan and effect administrative change strategies to meet project goals. The first change involved conducting face-to-face educational and relationship-building meetings with high-volume obstetric care providers and their office staff. The meetings, which were conducted by the medical management department members in collaboration with care coordinators and outreach workers, emphasized the importance of timely submission and completeness of the prenatal registration form for each pregnant member. Under the BCAP initiative, the prenatal form had been revamped to improve comprehensiveness and ease of use. These improvements included restructuring the format of the prenatal form and adding new components, such as dental care and several other social risk factors. Plan staff stressed that the prenatal registration forms are used to identify risks within the pregnant patient population in order to improve the management of high-risk patients; this helped overcome the pervasive perception among providers that the form was yet another administrative burden imposed by the managed care community. Smaller physician practices received the new prenatal form by mail, along with a written communication explaining the rationale for requiring early submission of the form.

Financial incentive. The second change strategy was the development and implementation of a 3-tiered financial incentive system that offered obstetrics providers a $50 payment for submission of the prenatal form during the first trimester, $30 for second trimester submissions, and $20 for third trimester submissions.

Patient Outreach

The Monroe Plan’s medical management department and behavioral health unit together developed a formal review process for the prenatal registration forms. The perinatal nurse reviews each submitted form and flags members within the following high-risk categories: previous poor birth outcomes, social isolation, complicating medical problems, and substance abuse/mental illness. If chemical dependency, mental illness, or other health issues are identified in the member profile, a behavioral health outreach worker attempts to reach that member by telephone to assist in arranging appropriate care. Because the Medicaid population is highly transient, telephone contact is not always possible. In such cases, an outreach worker will go into the community and attempt to locate the member to offer assistance in arranging interventions. To improve coordination of care between the medical management department and the behavioral health unit, a case management software system was installed. The case management database tracks patient encounters and interventions and identifies lapses in care for additional follow-up by the medical management and behavioral unit staff. Because the Monroe Plan directly contracts with area programs for chemical dependency and mental health services (instead of having a separate administrative entity manage these services), it is better able to track services and lapses in care.

Budget

The plan allocated 1 full-time equivalent (FTE) position for a nurse clinician within the medical management department to review prenatal registration forms and identify high-risk patients. One half of an FTE position was allocated within the behavioral health unit for implementing appropriate interventions. One FTE outreach worker was allocated to communicate with patients about the importance of obtaining treatment for chemical dependency and mental health problems. Also allocated was significant medical management department staff time for the planning and running of provider meetings as well as written communications. Financial allocations were made for provider reporting incentives and licensing of the case management software.

Results

Since the institution of the tiered payment system in April 2001, first trimester submissions have increased substantially (Table 2). The submission rate for prenatal forms in general has remained high. With continued communication and relationship-building along with improved awareness and

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Table 1. Some Problems with Common Methods for Identifying Pregnant Members

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member reporting</td>
<td>Intermittent at best</td>
</tr>
<tr>
<td>Laboratory data analysis</td>
<td>Multiple laboratory contracts means data are scattered; confidentiality barriers in releasing laboratory results</td>
</tr>
<tr>
<td>Pharmacy data</td>
<td>Frequently dependent on a subcontractor; access to useful and timely reports may be unreliable</td>
</tr>
<tr>
<td>Claims data</td>
<td>Determined only after member has delivered</td>
</tr>
<tr>
<td>Enrollment brokers</td>
<td>Untimely reporting</td>
</tr>
<tr>
<td>Provider reporting</td>
<td>Inconsistent and untimely</td>
</tr>
</tbody>
</table>
experience with its coordination of services, the Monroe Plan believes that performance for first trimester submissions will continue to improve and be sustainable.

The addition of the behavioral health outreach worker has resulted in enhanced contact and follow-up in the care of high-risk members. Since November 2000, all high-risk members have been contacted (either by phone or in person) for appropriate intervention and follow-up.

Lessons Learned, Next Steps
To further improve the rate of submission of prenatal forms earlier in the pregnancy, the Monroe Plan will simplify the form and the submission process, possibly through electronic transmission. The form already has been revised a second time to include fields for “date form is filled out by provider” and “date of initial prenatal visit,” with the intention of highlighting significant time lapses for providers and their staff. To further enhance compliance, the Monroe Plan intends to increase the frequency of meetings and communications with obstetrics practices.

The Monroe Plan found that aligning incentives is crucial to the success of improvement programs. Although financial incentives can be influential, we believe that communicating with providers and explaining how the form is used to improve patient care provides an equally strong or perhaps stronger incentive to submit the form in a timely fashion.

Providing appropriate medical interventions for members with behavioral health and chemical dependency issues has been a positive step forward, and the plan does not anticipate any difficulty in sustaining this program. The next steps for this plan will be to identify opportunities to measure treatment outcomes and to possibly enhance them with programs specific for pregnant women with behavioral health or chemical dependency problems. In addition, the Monroe Plan has formed an obstetrical advisory board to assist the plan with incorporating evidence-based strategies for improving patient care while fostering enhanced buy-in from its obstetrical providers for existing and future prenatal initiatives.

The Harmony Health Plan Identification Initiative
Setting
Harmony Health Plan, a nonprofit plan with 40,000 Medicaid members based in Chicago, Illinois, found that while its 2000 providers may know which members are pregnant, this information was either not shared with the health plan or the plan did not have a systematic method for evaluating sources of identification. The plan operates in an unusual regulatory environment in that the State of Illinois has a volunteer managed care Medicaid policy that functions on a month-to-month enrollment basis. Consequently, turnover is frequent. Moreover, due to governmental processing requirements, time from enrollment to benefit eligibility can span from 1 to 4 months. In this environment, early identification of pregnant members can be particularly difficult. Since pregnancy is the plan’s most frequent care item, accounting for approximately 25% to 30% of all hospital admissions and approximately 30% of overall plan costs, improvement in pregnancy care management was likely to not only profoundly influence member health but also result in significant cost savings for the plan.

Project Goal
Harmony Health Plan established a goal of increasing the number of pregnant women known to the plan prior to delivery by 25% between July 2000 and June 2001. A prenatal project committee was formed, consisting of the vice president for medical affairs, 2 quality assurance representatives, and 1 staff member from the health services department. The committee conducted a baseline measurement that revealed that the plan’s current pregnancy identification rate was 3%, even lower than expected. The committee sought to identify approaches to improving pregnancy identification without large staff involvement, high expense, or prolonged planning.

Identification Strategies
The committee identified strategies that could be used to help identify pregnant plan members:

1. State eligibility tapes with pregnancy codes. Every month, the state issues data to the plan regarding Medicaid eligible patients, including estimated delivery dates. A systematic process for reviewing state data was initiated in order to identify pregnant women.

2. Pharmacy claims. The plan began a review of pharmacy claims data to identify plan members who filled prescriptions for prenatal vitamins.

Table 2. Timeliness of Submission of Prenatal Forms: Monroe Plan

<table>
<thead>
<tr>
<th>Time Period</th>
<th>1st Trimester, %</th>
<th>2nd Trimester, %</th>
<th>3rd Trimester, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Quarter 2000</td>
<td>46</td>
<td>29</td>
<td>25</td>
</tr>
<tr>
<td>2nd Quarter 2000</td>
<td>39</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>3rd Quarter 2000</td>
<td>29</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>4th Quarter 2000</td>
<td>56</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>1st Quarter 2001</td>
<td>39</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>2nd Quarter 2001</td>
<td>46</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>3rd Quarter 2001</td>
<td>49</td>
<td>26</td>
<td>23</td>
</tr>
</tbody>
</table>
Vitamins are provided at no cost, as is transportation to and from the pharmacy; therefore, no disincentives to utilization of this benefit exist.

3. Health risk assessment forms. All members entering the health plan are asked to fill out a general health risk assessment form. A systematic review of these enrollment forms was initiated.

4. Department of health lists. On a monthly basis, the state department of health issues family case-management eligibility lists for the Medicaid population, which are made available to the plan as members enroll. This information also was reviewed and compared with other lists to help identify incoming members who are pregnant.

5. Physician/office manager incentives. The plan sent letters to high-volume obstetrics practices and offered a $25 cash incentive to providers and office managers who submitted a pregnancy identification/risk assessment form to the plan within 7 days of the patient’s first prenatal visit. The 7-day stipulation was intended as an incentive for prompt identification of pregnant patients.

As awareness of the project grew, other informal processes emerged for identifying pregnant members. For example, marketing representatives who identified pregnant patients at the time of enrollment conveyed this information to the nurse clinician for outreach and follow-up. The prenatal project committee met monthly to review statistics from all sources and to discuss ways to fine tune identification efforts.

Nurse Outreach
Harmony Hugs, a multilevel patient incentive program, conducts continuous outreach to pregnant members to encourage timely prenatal care and appropriate interventions for high-risk pregnancies. This nurse outreach program existed prior to the identification project; however, it was modified and expanded to meet the larger needs of the new identification project. When a pregnant member is identified, the nurse clinician attempts to contact the patient by telephone to perform a pregnancy-specific risk assessment. However, telephone contact is frequently difficult in this highly transient population. The plan instituted an after-hours and weekend calling program to bolster these efforts.

Budget
Staff allocations include an RN and an intake staff member, who together constitute 1 FTE position. In addition, funds were allocated for the $25 provider incentives. Plan officials have estimated that if the funds allocated result in the avoidance of 1 preterm delivery per year, a return on investment will be realized.

Results
Harmony Health Plan increased its identification rate of pregnant enrollees from 3% in July 2000 to 76% in June 2001 (Figure). We calculated this rate by determining the total number of women who had delivered in a given month (using delivery claim forms), counting the number of these women that the plan had previously identified during their pregnancies, and dividing the total number of delivery claims into the number of women identified by the plan before delivery. Of the 5 strategies used to identify pregnant
members, the most effective was pharmacy report forms (324/819 members identified from July 2000 to June 2001). Harmony uncovered only a small number of false positives (6% to 10% of those taking prenatal vitamins) per month. The second most effective data source was state eligibility tapes (173/819 members identified from July 2000 to June 2001) and the department of health lists (108/819 members identified from July 2000 to June 2001). Surprisingly, the provider incentive fee accounted for identification of only 7% (60/819) of the members known to be pregnant during this period. It is believed that the financial incentive may only be effective in practices with a large Harmony population base that can benefit from multiple form submissions monthly. Lower volume practices are simply not likely to remember to submit the forms for the occasional Harmony patient. The health risk assessment form identified 22 (3%) of the pregnant women within the 12-month period.

Results for nurse outreach have been mixed. Only 31% of the 819 plan members identified as pregnant in the project year were reachable by telephone. Although the plan had arranged to have nurse clinicians call patients after-hours and on weekends, it was determined that such a program was not necessary in this population. During the project year, only 14 members were contacted after-hours and on weekends, suggesting that contact issues were not so much based on scheduling conflicts but on larger issues such as transient housing and overall lack of telephone access.

The plan also attempted to track stage of pregnancy upon enrollment, which involved a manual, labor-intensive process of counterchecking all member information. Based on 11 months of data (we stopped collecting this data before the end of the year-long project), we found that 21% of pregnant members did not enroll in the health plan until the third trimester.

Building on Results
Project results far exceeded project goals, and plan officials believe the improvement is sustainable. Harmony has integrated the review of identified data sources into its routine procedures. The plan also will continue to provide cash incentives to physicians and office managers to encourage identification of pregnant patients. Harmony Hugs will continue its telephone outreach; however, as noted above, the plan will no longer have nurses try to contact patients after-hours and on weekends.

As mentioned, pharmacy data was the most effective tool for identification of pregnant members in Chicago. Interestingly, when the project was implemented in the other Harmony Health Plan regions (southern Illinois and Indiana), other tools proved more effective. For example, financial incentives produced the best results in Indiana. Geographic variation may be related to a region’s characteristic form of medical practice as well as to the format of the managed care Medicaid benefit. We suggest that plans seeking to improve their patient identification rate use a variety of tools in order to determine which works best within their practice environment.

Conclusion
Early identification of pregnant women within the managed care Medicaid population is a challenging undertaking. While every health plan struggles with this issue, few are aware of activities undertaken by others in this area. The BCAP initiative for Medicaid health plans, run by the Center for Health Care Strategies, enhances communication among plans so they may better understand which initiatives prove most successful. The experiences of the Monroe Plan for Medical Care and Harmony Health Plan suggest that no single approach to early identification can be uniformly successful. An amalgam of strategies, however, can produce significant and sustainable results.

References