Getting the Patient Voice into the Electronic Medical Record: Using Parent-Completed Pre-Visit Tools to Customize and Improve Well Child Care

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Background

National guidelines recommend that young children receive twelve well-child health care visits in the first three years of life, more than during any other developmental stage.[1] Well-child visits are the primary means of delivering preventive and developmental services to young children and they comprise the majority of health care visits for most children under three.[2] Quality preventive and developmental services promote healthy development and the early identification of problems and risks that threaten health and well-being, preparing children for success both in school and in life.[1,3-7] Preventive care guidelines for quality health care for children include parent education and counseling, developmental assessment, and screening for psychosocial and safety risks.[1,8,9] However, substantial gaps exist between the recommended provision of care and what is actually provided.[10-13] Improving care means improving communication and partnerships with parents and meeting the unique priorities and needs of each child and family. A major gap in the studies to date is a lack of focus on or achievement of meaningful improvements in comprehensive anticipatory guidance and parental education that meets parents' needs.[14]

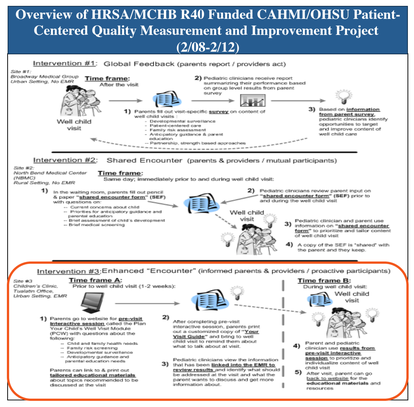
Objectives

1. **Assess the feasibility and acceptability of an enhanced encounter intervention for providers and staff**
2. **Assess the feasibility and acceptability of an enhanced encounter intervention for parents**
3. **Determine the impact on the quality of well-child care** (using pre-post design)
   - **-Education & Anticipatory Guidance:** Are parents' education needs met?
   - **-Developmental Surveillance:** Are providers more likely to ask if the parent has concerns about the child's learning, development, or behavior?
   - **-Family Assessment:** Is the provider more likely to ask about issues in the family (e.g. parental depression, emotional support, changes or stressors, substance abuse)?

Methods

This study was a part a larger quasi-experimental study that engaged three pediatric offices (study sites) in the implementation and evaluation of three patient-centered interventions designed to translate into practice the nationally recommended well-child care services set forth in the recently revised and MCHB-sponsored Bright Futures guidelines.[3] The Well Visit Planner (WVP) was one of the three patient-centered interventions, and it was evaluated using qualitative and quantitative measures. For the purpose evaluating the quality of care measures, the site that implemented the WVP served as its own comparison using baseline and follow-up data collection of the measures, including the Promoting Healthy Development Survey (PHDS). The following sections describe the WVP intervention, the study site, the evaluation measures, and the process for sample selection.

Overview of HRSA/MCHB R40 Funded CAHMI/OHSU Patient-Centered Quality Measurement and Improvement Project (2/08-2/12)



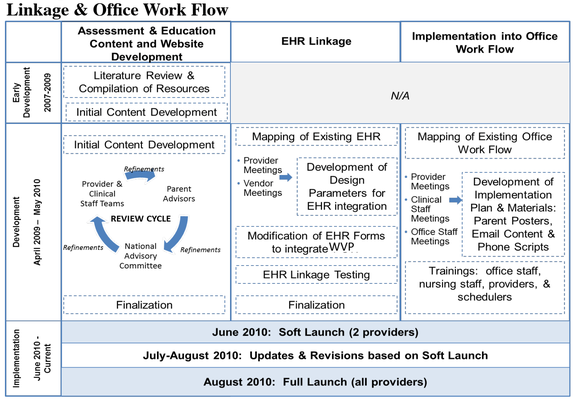
Methods

The Intervention: The Well Visit Planner (WVP)*

*Previously called the Plan my Child's Well-Visit (PCW)

- A family-centered quality improvement method anchored to visit-specific focus areas defined by *Bright Futures*
- A pre-visit tool and education module completed by the parent prior to child's visit
- Yields a personalized guide and educational resources for parents and pediatric providers to review before and during the well-child visit
- Responses to the WVP are incorporated into the child's electronic health record (EHR)
- National experts, families and pediatric providers collaborated in the design, development and testing of the WVP

Development & Implementation Process for WVP Content, Website, EHR Linkage & Office Work Flow



Inclusion Criteria: 1) parent had a well-child visit scheduled at the study site for one or more of their children; 2) the child was scheduled for their 4-month to 3-year-old well-child visit; 3) the parent could read and understand English and was able to complete the intervention and evaluation tools; and 4) the parent was able to access the online version of the WVP.

Data Analysis: Results from qualitative data sources were analyzed using standard approaches to identify major themes across respondents. For quantitative results, descriptive statistics were used to describe each sample and standard independent samples T-tests and X^2 tests of statistical significance were used to assess differences in the PHDS measures for the baseline and follow-up samples. Logistic regression models comparing key measures at baseline and follow-up control for race/ethnicity, number of children in household, insurance type, amount of TV child watches, how well parent is coping with the demands of parenthood, if the child is a first child, parental depression, visit type and provider seen.

Evaluation Measures

1. *Baseline and follow-up provider and clinical staff surveys:* Provider perception of the quality of well-child care, quality improvement initiatives, and priorities for and barriers to providing well-child care, feasibility and acceptability, impact on quality of care, and overall perceptions of value.
2. *Baseline and follow-up provider and clinical staff focus groups:* Used to further explore themes that arose from the surveys.
3. *Implementation tracking system:* Percent of well-child visits for which a WVP was completed, provider name, age group, completion times, priorities selected, use of educational materials.
4. *Baseline and follow-up Promoting Healthy Development Survey (PHDS) (8 age-specific versions):* Quality of care before and after the intervention, including whether parents' needs were met with regard to anticipatory guidance and parent education, if parents were asked if they had concerns about their child's development, family assessment and receipt of family-centered care .

Results

Parent Feasibility and Acceptability

2,075 parents completed the WVP, which took an average of 9 minutes to complete. Responses to the follow-up PHDS show that parents found the intervention to be feasible and acceptable and that they valued using the tool as a part of their visit. Most reported that they were comfortable with the amount of time it took to complete the tool and that they would recommend it to other parents: 92.4% and 92.2% respectively (n=244). 85.4% of parents who were provided the WVP developmental surveillance items reported that the items helped them to identify topics to discuss with their provider (N=164), and 84.8% reported that they helped them to learn more about their child's development. 64.3% of respondents reported that the WVP increased the value of their child's well visit, with the remaining reporting that it somewhat increased the value (27.4%) or that it did not really increase the value (8.3%) (N=252). Most parents indicated that the WVP was helpful in supporting individual components of patient-centered care, with over 80% reporting that the tool helped them to prioritize topics to discuss with the child's health care provider, discuss their child's learning, development and any concerns they may have. All quality of care measures were more favorable for the follow-up group than for the baseline group. Adjusted odds ratios show that four measures were statistically significantly improved at follow-up: 1) parent had their needs met on all physical care anticipatory guidance topics (AOR 1.67, 95% CI 1.11-2.50); 2) parent was asked about one or more family assessment topic (AOR 3.32, 95% CI 2.24-4.91); 3) parent had their needs met on all family assessment topics (AOR 2.23, 95% CI 1.10-4.53); and 4) comprehensive care measure was met (AOR 2.37, 95% CI 1.44-3.88).

[Comprehensive care measure is based on whether parents had their informational needs met on every anticipatory guidance priority topic, were asked about their concerns about development, were asked about 1 or more family assessment topic, and received family-centered care.]

Top 5 Priority Topics Parents Picked (Across all Ages)
Behaviors to expect in the next few months
How much and what kinds of food your child eats
Ways to guide and discipline your child
"Back-to-sleep" and crib safety - avoiding soft toys and bedding
Television – How much TV is okay?

Parent report of the usefulness of the features of the WVP Features: Percent Reporting Feature as "Extremely Useful" or "Very Useful"	
Ability to complete questions at home (n=253)	97.2%
Ability to complete the tool before every visit, with age-specific questions at home (n=252)	95.6%
Delivery of report to provider before the visit (n=252)	88.5%
Availability of customized Visit Guide to take to the visit (n=252)	64.7% (21.8% moderately useful)
Availability of a report to keep as a record for the family (n=251)	57.8% (26.3% moderately useful)
Access to online educational materials (n=252)	83.7%

Providers and staff reported that the WVP improved their office workflow and that they valued it as an important tool to support well-child care

"You found out more about [the child's] home than you otherwise would … Sometimes there would be something to talk about and I wouldn't have done that if it wasn't a [WVP] visit" – Pediatrician

"I got more information about how the parent was doing than I did before – family issues." – Pediatrician

"Most parents were putting down a lot more questions about what to expect about development and discipline." – Pediatrician

Discussion

We found the WVP pre-visit tool to be acceptable and feasible to implement for providers, staff and parents, resulting in improved content of well-child care. We found integration into the EHR logistically feasible but customization required dedicated staff and consultants. We also found that the culture of ongoing quality improvement at the practice level is important and that parent engagement reflected the degree of provider engagement. Building a tool that met the needs of providers required extensive provider input into the process. As a part of this study, we developed an applied theoretical and operational model for engaging parents as partners in improving the quality of well-child care services. This model is grounded in current theories of patient engagement and activation.[15-21] A key component of this model is that the family-provider relationship extends beyond the walls of the office, so that families have on-going opportunities to promote their children's health. Widespread implementation of the WVP tool has the potential to improve the quality of well-child care, parent engagement in care, provider ability to assess family strengths and stressors. As such, it could help well-child care better meet the needs of the child and their family and thus improve child health and wellbeing.

Getting Parent Data into the EHR

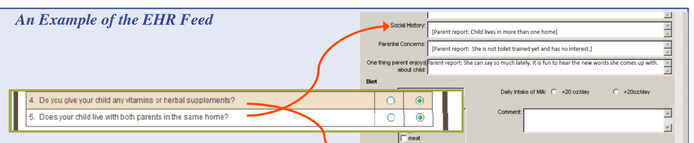
EHR Design Parameters and Finding Common Ground Across Different Provider Styles

1. Feed into existing forms where possible (one new form created)
2. Require no work, of providers, to "pull in" data
3. Only pull in what needs to be pulled in.
4. Distinguish in the open text box that it is from the parent- brackets & the words "Parent Report" *[Example of parent report: One eye seems lazy]*
5. Ensure clarity about potential resources/next steps
6. Provide a full summary in case someone wants to review the detail

Mapping to the Existing EHR Forms

WVP Section	Related EHR Forms
1A: Open-ended questions	Nurse Intake Form; Developmental Screen Form; Assessment of the Family (New Form)
1B: General Child Screening/TCC Lead & TB Screeners	Nurse Intake; Assessment & Plan; TB/Lead
1C: Developmental Surveillance & Screening	Developmental Screen (ASQ not imported)
1D: Screeners Assessing for Issues in the Family/Home	Nurse Intake Form; Assessment of the Family (New Form)
2: Anticipatory Guidance/Parent Education	Anticipatory Guidance

An Example of the EHR Feed



The WVP tools were developed and tested by the Child and Adolescent Health Measurement Initiative (CAHMI) for use in pediatric practices over four years and through grant from the federal Maternal and Child Health Bureau (R40 MC08959 03-00; 2008-2012).

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