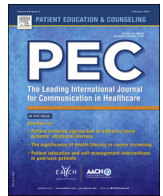




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# Relationship between Teach-back and patient-centered communication in primary care pediatric encounters<sup>☆</sup>

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### ABSTRACT

**Objective:** We proposed and tested a theoretical framework for how use of Teach-back could influence communication during the pediatric clinical encounter.

**Methods:** Audio-taped pediatric primary care encounters with 44 children with asthma were coded using the Roter Interaction Analysis System to measure patient-centered communication and affective engagement of the parent. A newly created Teach-back Loop Score measured the extent to which Teach-back occurred during the clinical encounter; parental health literacy was measured by Newest Vital Sign. Logistic regression was used to test the relationship between Teach-back and features of communication. Focus groups held separately with clinicians and parents elicited perceptions of Teach-back usefulness.

**Results:** Teach-back was used in 39% of encounters. Visits with Teach-back had more patient centered communication ( $p=0.01$ ). Adjusting for parent health literacy, parent age, and child age, Teach-back increased the odds of both patient centered communication [proportional AOR (95% CI)=4.97 (4.47–5.53)] and negative affect [AOR (95% CI)=5.39 (1.68–17.31)]. Focus group themes common to clinicians and parents included: Teach-back is effective, could cause discomfort, should be used with children, and nurses should use it.

**Conclusions:** Teach-back was associated with more patient-centered communication and increased affective engagement of parents.

**Practice implications:** Standardizing Teach-back use may strengthen patient-centered communication.

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## 1. Introduction

Teach-back is an iterative communication technique in which a clinician asks the patient to say in their own words the information that they have just been given. Teach-back is promoted by the American Academy of Pediatrics, American Medical Association Foundation, and Joint Commission as a critical communication strategy for improving adherence to treatment plans and

protecting patient safety [1–3]. However, a survey of pediatricians indicated the technique is used only 23% of the time. The most frequently cited barrier is limited time [4]. While planning to implement Teach-back, we heard additional concerns from pediatricians that they worried that parents would perceive the technique as condescending. No previous studies have evaluated how Teach-back influences the communication dynamics during a primary care office visit.

We proposed and tested a theoretical framework for how use of Teach-back could influence communication during the pediatric encounter. Nested in the Chronic Care Model [5], we proposed that the Teach-back technique is a skill of the prepared, proactive practice team, while health literacy, the capacity to obtain, understand, and use health care information [6], is a skill of the

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informed, activated patient/parent. The combined result of these skills would be “productive interactions” (Fig. 1). In the context of the primary care visit, we tested the hypothesis that visit interactions would be more “productive” when parents had higher health literacy and/or with more use of Teach-back. Conceptually, we defined “productive interactions” as occurring when a greater proportion of the visit dialogue was patient-centered [7,8], and we hypothesized that it would also be associated with greater affective engagement of the parent- both “positive” and “negative” because patient-centered communication would be associated with more dialogue focused on the patient/parent’s concerns.

From the clinician’s point of view, the ultimate outcome of a productive clinical encounter would be patient understanding and adherence to the given instructions. We posit that patient-centered communication is a key step toward those outcomes, particularly because it is not enough for the patient/caretaker to understand the instructions; they must also agree to carry them out. Patient-centered communication engages the patient/caretaker in dialogue that enables informed decisions about whether/how to act on information given. Hence, the relationship between implementation of Teach-back and patient-centered communication is key.

Finally, to inform future implementation of Teach-back, we conducted focus groups with clinicians and parents to generate new hypotheses about how the technique moderates the pediatric encounter.

## 2. Methods

We recruited participants from an academic pediatric primary care practice serving a low income, minority population in Wilmington, Delaware. All four attending pediatricians in the practice (all practicing at the site for >10 years) participated in audio-taped encounters with children with asthma recruited between September 2009–September 2010.

Eligible participants included: child aged 6–13 years with uncontrolled asthma (measured by the Asthma Control Test [10]); visit scheduled with usual provider as identified in the medical record and had seen that provider during the preceding six months; accompanied by the primary caretaker (which we defined as the person who accompanies the child to at least 75% of visits and is responsible at least 75% of the time for administering medications to the child); did not have a sibling already enrolled in the study; were not acutely ill (e.g., having difficulty breathing, febrile, vomiting, etc.); caretaker spoke English (<1% of the practice population spoke another language); caregiver planned to attend the practice for at least three months more (to reduce loss to follow-up for focus group recruitment).

### 2.1. Procedures

A digital audio recorder was placed in the examination room and started by a trained research assistant, who then left the room.

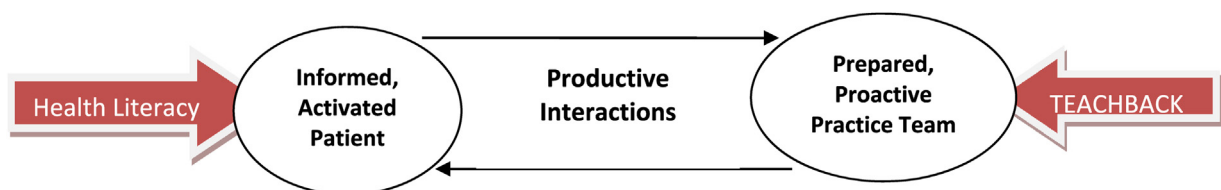
After the visit ended and the provider left the room for the last time, the research assistant retrieved the recorder. The research assistant administered baseline measures to the parent/child dyad before and after the clinician–patient encounter as feasible in the context of the visit. Visit recordings were stripped of patient identifiers and tagged with a unique identifier for coding with the Roter interaction analysis system (RIAS) [11]. At the end of the study, parents who had participated in the audio-taped encounters were invited to participate in focus groups to discuss their experience of doctor–patient communication. An expert in qualitative methods used a structured guide to facilitate two 60-min focus groups with parents and one focus group with the four participating clinicians.

To enable analysis of encounters with and without Teach-back, we waited until midpoint through study recruitment to engage clinicians in a three-week series of one-hour interactive trainings in health literacy and use of Teach-back. During the first session, the principal investigator (IS) presented information about health literacy and methods used to improve communication, including principles of “living-room language”, “chunk and check,” and Teach-back. The video, “In Plain Language” [9] was shown. Community-specific demographic data and known associations with health literacy were discussed. For reinforcement, participants were given a copy of “Help Patients Understand: A Manual for Clinicians” [2]. The second session focused on Teach-back. To demonstrate the technique and increase clinician’s skill without the bias of excessive content knowledge, interactive role plays were conducted where clinicians tried to teach each other a new instruction (e.g. “How to kill hair follicle fungus with sea salt). For reinforcement, a Teach-back prompt was added to the electronic medical record template in the ‘Plan’ section for all patient visits, and a poster reminding clinicians to use Teach-back was placed in front of the provider desk in each exam room. During the third session, the group discussed their experience with using Teach-back over the preceding week, and discussed strategies they used to incorporate the technique in practice. For reinforcement, providers were reminded to review Teach-back with trainees and to include Teach-back as a measure during structured observations of resident visits.

After all audio-taped visits were completed (September 2010), focus groups were conducted with parents and clinicians regarding their perceptions of Teach-back. The study was reviewed and approved by the Institutional Review Board of Nemours; informed consent was obtained from clinicians and parents, and assent was obtained from children seven years and older. We report on a cross-sectional analysis of all audio-taped encounters completed over the course of the study. Then, we report on the qualitative analysis of the focus group data.

### 2.2. Measures

To measure patient-centered communication and affective tone of visit communications, audio-recordings were coded using RIAS,



**Fig. 1.** Theoretical model for the contribution of health literacy and teach-back to the pediatric clinical encounter. Nested in the Chronic Care Model, we propose that the Teach-back technique is a skill of the prepared, proactive practice team, while health literacy is a skill of the informed, activated patient/parent. The combined result of these skills would be “productive interactions”.

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