An Opportunity for Office-Based Research*

CASE

Robert, a nearly 12-year-old boy, traveled an hour to see a new pediatrician. Robert’s mom told the pediatrician that Robert had not been seen by a doctor for several years because “no one seems to be able to help him with his problem.” Robert had been wetting the bed “ever since he was toilet-trained” at age 2 years.

Robert wets the bed approximately 5 out of 7 nights. He never has daytime accidents. He did not have a history of urinary tract infection, dysuria, urgency, or increased frequency of urination. He has daily bowel movements and denied soiling or accidents. Robert’s mom said he had “toilet-trained himself” at age 2 years. Both Robert’s mom and maternal grandfather had nocturnal enuresis “into their teenage years.”

The pediatrician was surprised to learn that another physician had treated Robert with imipramine at age 5 years. The medication worked intermittently, and Robert continued to take it for approximately 1 year. At age 6 years, Robert’s parents saw an advertisement for a bed-wetting alarm. They purchased the alarm but found that Robert never woke up when the alarm sounded. At age 7 years, Robert saw a urologist who told him he would “outgrow the problem.” A year later, the urologist prescribed desmopressin acetate (DDAVP) nasal spray, which Robert took on occasion during the next 2 years. Every time he stopped the DDAVP, he resumed wetting the bed. His parents never punished him for his accidents, but they did try restricting fluids after dinner and also woke Robert in the middle of the night and encouraged him to go to the bathroom. Neither of these strategies was successful. Robert said he was “frustrated” and wondered if “I would still be wetting the bed as a grown-up.”

The pediatrician explained the nature of enuresis to Robert and his mom, provided them with instructions and an order form for a bed-wetting alarm, and arranged a follow-up visit. The next day, during nursery rounds, he asked several of his colleagues about their approaches to the treatment of enuresis. Robert presents with a common problem in primary care pediatrics that is associated with many treatment options. Once the less frequent genitourinary, neurological, and metabolic etiologies for persistent enuresis have been excluded, the child’s clinician has a responsibility to educate the patient and family about bed-wetting in the context of developmental expectations. This critical process of education and demystification is often therapeutic and, for some cases, a sufficient intervention. However, as Robert’s pediatrician observed, in a 12-year-old some form of medical intervention is appropriate (nighttime wetting occurs in 25% of 4-year-olds, 10% of 8-year-olds, and only 2% of 12-year-olds).

For the purpose of the Challenging Case discussion, I was interested in how treatment options might spark an interest among primary care pediatricians in raising a researchable question, reviewing available literature, surveying colleagues in the community, and potentially leading to an office-based clinical research project. The office of the community pediatrician offers a rich resource of primary care patients in whom the intensity, duration, and patterns of symptoms may be different from those children seen in tertiary care centers. In recent years, academic generalists and developmental-behavioral pediatricians have made use of this observation. Robert’s pediatrician opened the door. Where does he go from here?

Both of the discussants have had considerable ex-
perience in primary care pediatrics in addition to an active interest in office-based research. Following a fellowship in developmental-behavioral pediatrics, Dr William Barbaresi practiced general pediatrics. Later, he went to the Mayo Clinic in Rochester, Minnesota, where he is currently Director of Developmental-Behavioral Pediatrics. Dr Irwin Benuck is an Associate Professor of Clinical Pediatrics at Northwestern University Medical School. He is a member of a community-based pediatric practice and has been a leader in an office-based primary care research group that has collaborated effectively with academic pediatricians.

Dr William J. Barbaresi

The case of 12-year-old Robert illustrates the all-too-common and unnecessarily long struggle with enuresis experienced by many children. The pediatrician who saw Robert and initiated treatment with a bed-wetting alarm was surprised by Robert’s treatment history. The pediatrician was perhaps even more surprised by his colleagues’ response to his question about their method of treatment for enuresis. Those of us who have worked in busy primary care settings will understand the issues faced by this physician, both during the encounter with Robert and the discussion with his colleagues.

Enuresis is one of the most common developmental-behavioral problems encountered in pediatric practice, with an estimated prevalence of 20% to 30% at age 5 years.1 The literature on this topic is extensive, including excellent recent reviews and recommended evaluation and treatment approaches.2,3 Numerous studies have demonstrated the effectiveness of behavioral treatment with a bed-wetting alarm. Medications, including imipramine and DDAVP, have also been shown to be effective for symptomatic treatment of enuresis. Although alarms and medications have been found to have similar efficacy for a short-term resolution of symptoms, alarms clearly offer a much greater likelihood of a long-term cure that persists after treatment is discontinued.2,3 Furthermore, side effects are a significant potential problem to consider when weighing medical versus behavioral treatment. Enuresis is embarrassing to children and interferes with activities such as sleepovers with friends. Enuresis has also been shown to be associated with an increase in short- and long-term behavioral problems.1,4 Clearly, there is good reason to ask about this problem during well-child visits to avoid dismissing the problem by saying the child will outgrow it and to employ the safest, most effective treatment to produce a long-term cure.

Primary care physicians prescribe medication far more frequently than behavioral treatment with a bed-wetting alarm. Although a report in the Journal of Developmental and Behavioral Pediatrics suggested increased use of the bed-wetting alarm, the authors found that physicians were equally likely to report that they often use both medication and bed-wetting alarms.5 This suggests that Robert’s pediatrician should not have been surprised by the interaction with his colleagues. Several factors may explain why physician practice patterns are not clearly informed by the enuresis literature. Treatment with medication is attractive, because it may be perceived as a more convenient and less time-intensive approach. This is particularly relevant for physicians operating under increased pressure to see large numbers of patients for brief visits. Also, a lack of training in behaviorally oriented treatment may make the bed-wetting alarm alternative seem uncomfortable or impractical.

In our profession, perhaps our greatest safeguard against failure to employ evidence-based treatment for developmental-behavioral problems is to maintain an academic orientation, regardless of the setting in which we practice. This is not likely to be achieved simply by attending continuing medical education courses. There are, however, several practical ways for practicing pediatricians to maintain an academic orientation. Many pediatricians have participated in local journal clubs with colleagues from their community. I was a member of such a group for several years. We met monthly to review a specific topic or the contents of a pediatric journal. The members of the group clearly enjoyed the practical, social, and intellectual aspects of this forum.

Pediatricians also have an opportunity to participate in the highly effective Pediatric Research in Office Settings (PROS) network.6 PROS physicians participate in multisite studies related to common pediatric topics including developmental-behavioral problems. Pediatricians may also form an academic affiliation with a nearby medical school or residency training program. Such affiliations often involve serving as a training site for primary care experiences. There may also be opportunities to collaborate with local faculty on office-based research projects. This is particularly relevant for studies of evidence-based approaches to common developmental-behavioral problems including enuresis.

Such collaborative efforts may lead to studies that more accurately reflect the realities of primary care practice and may thus be of greater value to pediatricians working in such settings. An academic orientation, in addition to helping pediatricians provide optimal treatment to children with developmental-behavioral problems, may also contribute to intellectual and professional satisfaction for pediatricians engaged in primary care. Academic medicine is certainly not just for academicians.

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REFERENCES
Dr Irwin Benuck

This case represents a common clinical dilemma—multiple therapeutic strategies to achieve a good result. Each of the treatments considered by Robert’s pediatrician may result in a favorable outcome. However, there may be patient, family, and environmental factors that will favor the success of one treatment over the other. Alternatively, there may be better strategies than those considered in the case presentation. Perhaps no treatment other than patient education would be the best strategy.

There are 2 approaches community-based pediatricians may pursue in deciding on an optimal treatment plan. The first is to arrange a group discussion, perhaps even with an expert moderator, to develop a plan for a “best practice” outcome. The second approach would be to develop the office-based clinical research study to answer a variety of questions related to persistent nocturnal enuresis. An initial step in this direction may lead to a process for addressing other clinical problems.

Office-based clinical research presents many opportunities with numerous challenges. Community-based pediatricians read many peer-reviewed articles in medical journals. They appear to make sense, and they either suggest a need to change practice patterns or generate other ideas for study. For example, consider the observation that children who watch many hours of television weigh more than those who watch less television. If an office-based pediatrician is interested in testing this hypothesis in her office, how does she go about collecting and analyzing data and writing a manuscript?

Today, it is difficult for a single practice with a well-intentioned clinical investigator to design and carry out a clinical research study. Primary care pediatricians devote increasing time to administrative office duties, not only reducing the time for patient care but also leaving little time to engage in clinical investigation. Data collection in a busy practice is challenging, and the analysis of the data requires computer skills and a knowledge of statistics. Finally, once the paper is completed and sent to a journal for peer review, one must be prepared for, at best, revisions and, at worst, rejection. In addition, the cost of conducting a research study even without expensive materials and supplies must be considered. There are few funding sources available for office-based research.

An alternative approach to conducting office-based research is to develop a coalition of the practices within the community. The Department of Pediatrics at Northwestern University Medical School and Children’s Memorial Hospital has created such a vehicle, the Pediatric Practice Research Group. Through this mechanism, ideas from practicing physicians are presented to a group of colleagues for review and study. Data collection is carried out in the participating practices.

The critical issues include developing leadership among the pediatricians and skilled personnel to implement the research and funding. Collaboration with an academic colleague with research experience ensures quality design of a study and appropriate data collection and analysis. Journal editors and reviewers seem to especially favor this approach, as the data are collected in different practices, representing a cross-section of the population. Furthermore, the onus of data collection does not rest on a single practice, and the actual data analysis and manuscript preparation are carried out by experts along with a core group of practitioners. This approach works well for office-based pediatricians who have clinical-research interests and prefer data-driven outcomes that reflect their own community standards of practice.

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Web Site Discussion

The case summary for this Challenging Case was posted on the Developmental and Behavioral Pediatrics Web site† (www.dppeds.org/discuss) and the Journal’s Web site (www.lww.com/DBP). Comments were solicited.

David M. Snyder, MD

This is the most classic Challenging Case yet! This young man seems to have primary nocturnal enuresis on a genetic basis. My experience—and I believe the literature supports this—is that the child is most likely to outgrow the enuresis close to the same age that his older relatives did. The optimal treatment is to inform the child and his family of this and reassure them.

The role of medication for enuresis, in my opinion, is for when the problem presents a significant stress to the family with adverse impact on the child’s relationships and self-esteem. Demystification is the treatment of choice, but, sadly, this doesn’t always do the trick.

The question embedded in the case (ie, why do we use medications rather than the bell and pad) is also interesting. My sense is that we are better trained...
(conditioned?) to use medications than behavioral interventions.

Bob Wells, PhD

This is an interesting case of a very common developmental problem that demonstrates the wide range of treatment approaches and the general lack of empirical evaluation to determine relative efficacies. There is a recent article entitled “Empirically Supported Treatments In Pediatric Psychology: Nocturnal Enuresis,” which does a nice job reviewing some of the previous research reports. The authors review several articles that combined DDAVP with the urine alarm and found that significantly more children were dry for the combined treatment (75%) than for the alarm alone (46%).

In my own clinical practice, urine alarms, DDAVP, and imipramine all offer different potential benefits to the child and family. Clearly all families need to be educated and demystified about the biological underpinning of this disorder so that children and parents are less worried that this is a sign of a significant psychological or conduct problem. Most families and children want to “do something” and, in my opinion, are rarely content to wait out the natural remission. DDAVP seems to be most useful for children wanting immediate, short-term relief for sleepovers and campouts. The alarm works best for organized families with motivated children, and the efficacy is clearly improved when combined with Azrin’s Dry Bed Training procedures. Imipramine is perhaps the most potentially risky intervention but works very well if monitored carefully and is well tailored for kids who have enuresis in addition to insomnia, anxiety, depression, or attention-deficit/hyperactivity disorder.

Obtaining a good history and understanding the families’ goals and concerns can go a long way to determining which intervention should be tried first. In the Challenging Case, this appears to have been done but with very poor continuity of care. The challenge is to join with this family and institute a plan that will allow them to feel assured of a successful outcome.

REFERENCES

Hugh Bases, MD

Children with enuresis should be offered treatment options. It is not enough to say to a family that he or she will “outgrow it soon.” It is embarrassing and humiliating for the child.

I engage the child in the treatment plan as much as possible. I explain there are many ways to treat this problem and ask which of them he or she would like to try. I give them as much control over the process as possible. They will ultimately be able to do it; doctors and parents are coaches. I also require the child to participate in cleaning up in the morning at some level (at an appropriate level: pulling off the sheets or placing pajamas in the hamper, etc). To reduce friction, I discourage punitive measures by parents and tell them to give a boring acknowledgment that the bed is wet, clean up, and move on. Frequent, close follow-up is needed.

Nell Stalker, MD

We also need to know whose problem the bed-wetting really is. Some kids are not interested in giving up the problem at the time they arrive in our offices. As has been pointed out, this problem can be emotionally damaging to some kids, and a much more aggressive approach is warranted in those cases to help them gain a semblance of control.

Dr Martin T. Stein

There are at least 2 compelling reasons to encourage active participation in clinical research among office-based primary care pediatricians. First, as the discussants have observed, the patients seen in a pediatric office present with many common problems for which an evidence base for treatment is not always available. The same problems seen in medical center outpatient clinics may not reflect the characteristics of those patients cared for by most primary care clinicians. Secondly, many academic pediatricians start their careers as generalists in a community pediatric practice. They then bring a primary care experience to their research and teaching careers, which again emphasizes the availability of researchable questions from pediatric office practice.

A review of the comments from the Web site suggests a number of research studies that might answer questions about persistent primary nocturnal enuresis. Several of the responders addressed the family context—parents’ childhood experience with bed-wetting, parental response to a wet bed each morning, the punitive parent, and the child’s interest in or readiness for an intervention. One approach might be to work with a pediatric psychologist or family practice physician and develop a study that surveys child and parent perceptions of bed-wetting and the family’s response to the symptom. This may lead to further study of the most effective approach to education and treatment selection. Both of the practice research groups mentioned by the discussants, the PROS network and the Pediatric Practice Research Group, collaborate with academic researchers to guide study design and data collection and analysis. The Society for Developmental and Behavioral Pediatrics has a mentorship program available to pediatricians to assist them in a review of clinical-research projects. In addition, pediatricians should not feel a financial restraint in initiating an office-based research study. Funding sources, especially start-up funds for a small project, include the local or national Academy of Pediatrics, a local parent group or foundation, a hospital medical staff, and local philanthropists.

Other comments from the Web site focused on the importance of a thorough history, including developmental and family components, during a pediatric
assessment of a child with enuresis. Associated conditions including sexual abuse, obstructive sleep apnea, punitive parenting, and occult constipation were discussed. Dr Morris Wessel (New Haven, Connecticut) supported this point when he wrote, “All too often I found in my years of practice that concentration on one aspect of a complaint rather than looking at the child’s total health and medical patterns often resulted in a failure. We must remember we are all pediatricians no matter what our subspecialty interest is. It seems that sometimes we forget to look at the ‘whole child,’ both in terms of physical status, as well as psychological status.” Dr Wessel’s suggestion also implies that a perspective on the “whole child” (and, I might add, including the family) is a strength of pediatric practice as a source for clinical research in developmental and behavioral pediatrics.
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