Washburn County
Public Health/Home Care
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Testimony On Governor's Budget Joint Finance

Hello, I'm Billie LaBumbard. I'm the Director of Washburn County Public Health/Home Care. I have been doing Community Health Nursing or Public health Nursing for 30 years.

I believe in Prevention - Although in public health it may take years to see any results to populations. I've found prevention takes time, money and repetition. TIME, MONEY & REPETITION. In order to have a change accepted by many different people, people need to understand and promote that change. For example, moms, dads, children and grandparents accepting the value of ~~wearing bike and horse back riding helmets.~~ not smoking

My Plea to you is to support our prevention efforts with funding.

1. Tobacco cessation and limiting access to tobacco

   In Washburn County we have passed smoke free county buildings. We do cessation classes for teens and adults. Two judges send students for diversion education. It's not enough! We need to do prevention at all ~~younger~~ ages. We have a Northern Coalition with Sawyer County, LCO Tribal folks and NWCHC that has just had a successful workshop, sharing what works. Tobacco settlement money needs to go for prevention. How much money would be adequate? $80 million to be used for education, media blitz, cessation program and community based programs.

2. Immunization Funding

   We need more immunization funding for local outreach. We received a private grant to buy computers and software. We're going to link up clinics and public health. We will get a handle on our data. We need help to do better outreach. That means stamps, letters, posters, ads. How much money? $2 million is good. Help us do our job.

Assure adequate funding for Public Health

April 13, 1999

My name is Deb Knippel and I am a Prevention Specialist with Ministry Behavioral Health in Stevens Point. Much of my time is spent working with youth on alcohol, tobacco, and other drug abuse prevention. Tobacco is a gateway drug. That is, youth who begin using tobacco are at a higher risk for using alcohol, marijuana and other illicit drugs. Preventing the use of tobacco will reduce other risk behaviors.

Another part of my work involves teen tobacco-use cessation. As in other parts of our state, 37% of youth are smoking. If these youth continue smoking as adults, the smoking related costs to our state will be even greater than what they are today. There are very few cessation support services available for teens. Teens have very different needs than adults. We need additional research to find effective means to help teens quit smoking/chewing. I have co-facilitated smoking cessation programs in local high schools. Although the success rate has been low, participation is always high. We need more trained staff to reach more youth in more effective ways.

Wisconsin has a good start in tobacco use prevention but we need more. It is difficult to compete with the tobacco industry which spends 16 million dollars a day advertising a product that is the leading cause of death in our nation(8,000 Wisconsin citizens each year). We need more designated funding for tobacco-use prevention, research, and cessation.

I am asking you to financially support the measures outlined in the TRUST campaign:

1. 50 Million dollars dedicated annually to reducing tobacco use among youth and adults.

2. Funds designated for a comprehensive program which would use counter advertising, community-based initiatives and programs including enforcement of present laws relating to the sale of tobacco, cessation services for youth and adults, and evaluation and research for more effective services.

3. Funds be set aside in a way that they are commited to tobacco prevention and are not able to be influenced in any way by the tobacco industry or political action.

We will never receive this kind of money again from the tobacco industry. We must do all we can to protect this money and use it for the intent in which we went after it – to reduce the burden on our state related to the death and destruction of tobacco use.

Deb Knippel
1749 Elk Street
Stevens Point WI 54481

Deb Knippel

Tuesday, April 13, 1999

Ladies and Gentlemen of the Senate Health Committee and/or Joint Committee on Finance:

Tobacco kills nearly 8,000 people in Wisconsin each year. Our state's smoking rates exceed the national average with 36 percent of our young people smoking and 40 percent of pregnant women smoking. Caring for sick smokers cost over $1.3 billion last year-that's $267 for every man, woman and child in Wisconsin.

What lies before you this legislative session is a once-in-a-lifetime opportunity to lower the health and financial burden of tobacco. If you invest in a sustained, coordinated, comprehensive effort to reduce and prevent tobacco use in Wisconsin, **WE WILL SEE RESULTS!!!** Through similar programs, California, Massachusetts and even Florida after only one year, have all dramatically reduced their smoking rates. They have saved lives and dollars--but first they had to invest the money to be able to do it.

That's why over 80 health organizations and counting, from across the state, including the American Cancer Society, American Heart Association and the American Lung Association, have signed on to support a fair share of the money gained from Wisconsin's tobacco settlement to be used to reduce and prevent tobacco use. This Campaign is known as the TRUST Campaign (Tobacco Reduction Using the SettlemenT). Our Campaign is about three things:

1. **Tobacco Dollars for Tobacco Prevention:** Wisconsin should follow the National Centers for Disease Control guidelines and direct $80 million, or half of the settlement dollars, into proven efforts that will help smokers who want to quit and prevent children and young people from ever starting to smoke or use tobacco.

2. This money will be used to **support a comprehensive program** that contains four essential components 1) Advertising to counter the use of tobacco, 2) Community-based programs and initiatives, 3) Services to help people quit using tobacco and 4) Evaluation and research to make sure the dollars are being used to support programs that are effective and science-based.

3. This **money be set aside and used to form a foundation, or a public/partnership** between the State's leading health organizations and the Legislature. This approach will ensure that the dollars are committed to tobacco prevention over time, isolated from interference from the tobacco industry, not subject to political censorship, and do not go to support or grow a governmental bureaucracy.

It may take great political will and courage on your part to see that these dollars are used to alleviate the tremendous problem that brought them here in the first place--the burden of tobacco. However, the long-term benefit will be real tax savings from reduced health care and other costs associated with tobacco use.

In the end, we hope you see these dollars as we do--as a golden opportunity and not a pot of gold.

Thank You,
Jennifer Peterson
2505 Pointe Road, Schofield, WI 54476
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PUBLIC HEARING

Dear Joint Finance Committee,

As you know millions of Americans smoke, in fact around 40,000,000, but it is also true that 8 out of ten wish they didn't. While no one ever picked up their first cigarette and claimed that their goal was to become addicted it nevertheless was in many cases what happened. Becoming addicted is a process. While the depth to which each person becomes addicted varies I still know from my experience that, no matter how many cigarettes a person has smoked and for how many years, the person in them who never smoked is still there and can be found! But, in order to quit, many people need and deserve our help!

And although cigarettes are expensive and cause cancer and heart disease and greatly impact job performance I also believe that as importantly doing something your entire life that you can't stand doing is a miserable way to live. Imagine doing something twenty times a day that you can't stand doing! People who smoke and want to quit but can't are not weak but are sensitive to a very addictive drug-nicotine. In other words they need and once again deserve our help.

And quite recently the sad truth has emerged that all along the tobacco companies were aware of the addictive power of nicotine. They knew that smoking caused cancer. Yet they not only denied it but geared their billions of dollars in marketing strategies towards one of this countries most prized possessions- us, the people. And worse yet, our children That is sick and that is why I believe it is only fair that the money awarded to the State of Wisconsin in the tobacco settlement be used to: 1.) help the 80% of the of the one million Wisconsin smokers who want to quit(including 115,00 children), 2.) to initiate a comprehensive billboard, television and radio anti-tobacco campaign geared toward prevention and 3.) push for changes that will protect all of us from second hand smoke. Without money these doors will not be opened and on behalf of the citizens of the state of Wisconsin I implore you help make it happen as your hands rest firmly on the doorknob.

Sincerely,

Tom Jensen BS, PA-C
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PUBLIC HEARING OF THE JOINT FINANCE COMMITTEE
APRIL 13, 1999

Written testimony prepared by Judy Omernik of
Marathon County Health Department

ISSUE: Tobacco Settlement dollars and the Governor's Budget

The Governors Budget proposes spending just 4 million dollars over the biennium on efforts related to tobacco. That's less than 1.5% of the 338 million settlement payment Wisconsin will receive over the next two years.

The basis for the law suit was to recover the costs from tobacco related illness the State has had to pay. It would be hypocrisy to not invest the money in programs to reduce the costs associated with tobacco use. The tobacco industry leaders would be very happy if we did nothing to reduce the use of their deadly products.

Preventing people from ever beginning the habit is a profitable investment in our future. Wisconsin voters say reducing tobacco use should be a priority in spending the funding the state receives. The Campaign for Tobacco-Free Kids conducted a poll of 813 registered voters and 89% favor using the money on efforts to reduce tobacco use among kids.

There are many other states which have planned, funded, and implemented comprehensive tobacco control programs. We should look to them for models of success. We need to include prevention and education of young persons, counter the glitzy and slick advertising of the most unregulated industry in our country, and provide support and service to those who want to quit using tobacco.

There are proposals made which would increase the amount of settlement money we spend on prevention and intervention and evaluation. We can do more! Just two years ago we saw the price of a liquor license increase from $500 to $10,000 to help limit the number of new license holders in the state. *If we can increase a license fee by 20 times the original amount, we should be able to increase by 20 times the amount of money we invest in saving lives ultimately lost to tobacco related illness.*

Gamma-Butyrolactone — Continued

labeled as dietary supplements, GBL-containing products are illegally marketed, unapproved new drugs that have been involved in at least 55 reports of adverse events, including one death (*10*). On January 21, 1999, FDA asked manufacturers to recall their GBL-containing products and warned consumers through press releases to avoid taking these products (*10*). Public education efforts should inform consumers that FDA review procedures for drugs are different than those used for dietary supplements. Consumers should be alert to the potential dangers of these products and understand that terms such as "natural" do not necessarily imply safety. Physicians should counsel patients about these products and be prepared to recognize and treat the toxic reactions that some might produce. Chronic GBL users should be monitored for withdrawal symptoms when discontinuing use of the product. Depending on the severity of the withdrawal symptoms, medical intervention may be required. Physicians are encouraged to report serious adverse events associated with these products to FDA's MedWatch program, telephone (800) 332-1088.

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Decline in Cigarette Consumption Following Implementation of a Comprehensive Tobacco Prevention and Education Program — Oregon, 1996–1998

In November 1996, residents of Oregon approved a ballot measure increasing the cigarette tax by 30¢ (to 68¢ per pack). The measure stipulated that 10% of the additional tax revenue be allocated to the Oregon Health Division (OHD) to develop and implement a tobacco-use prevention program. In 1997, OHD created Oregon's

Cigarette Consumption — Continued

Tobacco Prevention and Education Program (TPEP), a comprehensive, community-based program modeled on the successful tobacco-use prevention programs in California and Massachusetts (*1,2*). To assess the effects of the tax increase and TPEP in Oregon, OHD evaluated data on the number of packs of cigarettes taxed before (1993–1996) and after (1997–1998) the ballot initiative and implementation of the program. Oregon's results also were compared with national data. This report summarizes the results of the analysis, which indicate that consumption of cigarettes in Oregon declined substantially after implementation of the excise tax and TPEP and exceeded the national rate of decline.

OHD obtained data on the sale of Oregon cigarette tax stamps from the Oregon Department of Revenue for 1993–1998. OHD also obtained data on the proportion of revenue received at the old and new rates after the tax change (February 1997) to calculate the number of packs sold each month. Per capita consumption was calculated by dividing the number of packs sold by the total population of Oregon each year (*3*).

National comparison estimates were generated using data from the Tobacco Institute on state tax receipts for wholesale cigarette deliveries. Reliable figures were available through December 1997 (*4*). Data from Oregon and the other three states (Arizona, California, and Massachusetts) with tobacco-use prevention programs funded through state initiatives were excluded from the comparison estimates. National per capita consumption was calculated by dividing the total number of packs sold by the total population in the remaining 46 states and the District of Columbia (*5*). Calculations for Oregon for 1996–1998 represent the 1 year before and the 2 years after the tax increase.

From 1993 to 1996, taxable per capita consumption of cigarettes increased 2.2% in Oregon and decreased 0.6% in the 46 remaining states and the District of Columbia. In Oregon, from 1996 to 1998, taxable per capita cigarette consumption declined 11.3% (from 92 packs to 82 packs) (Figure 1). Despite a 2.7% increase in the state's population, 25 million fewer cigarette packs were sold in Oregon in 1998 than in 1996. In the United States during 1996–1997, per capita consumption declined 1.0% (from 93 packs to 92 packs).

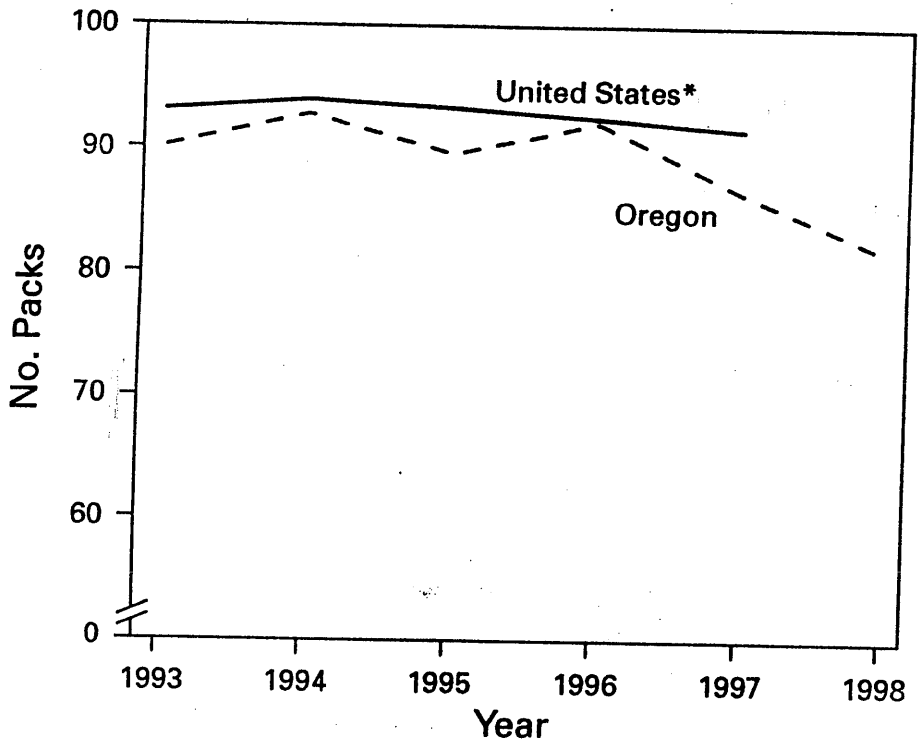
Reported by: B Pizacani, MPH, C Mosbaek, K Hedberg, MD, L Bley, PhD, M Stark, PhD, J Moore, PhD, D Fleming, MD, Oregon Health Div. Epidemiology Br, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Two years after the implementation of a ballot measure to increase the excise tax on tobacco and initiate TPEP, per capita consumption has declined 11.3% in Oregon, or the equivalent of 200 cigarettes (10 packs) per capita. Elements of the program include community-based tobacco-use prevention coalitions in every county; a statewide public awareness and education campaign; comprehensive school-based programs; tribal tobacco-use prevention programs; multicultural outreach and education; a quitters' help line providing smoking cessation support; and projects evaluating new approaches to prevent or reduce tobacco use. TPEP has an annual budget of $8.5 million, 93% of which is awarded in grants or contracts to external partners (e.g., county health departments, community-based agencies, tribal governments, and private-sector partners implementing the public awareness campaign).

Decreased consumption is probably a result of both the increase in the price of cigarettes and the tobacco-use prevention program. Price elasticity of demand,

Cigarette Consumption — Continued

FIGURE 1. Annual per capita sales of cigarettes — Oregon and United States, 1993–1998



*Excluding Arizona, California, Massachusetts, and Oregon.

defined as the percentage change in demand for cigarettes resulting from a 1% change in price, is an estimated –0.4% (*6*). A 15.8% increase in the price of cigarettes (the amount of the price increase in Oregon, calculated in 1996 dollars) should result in a 6.3% decrease in cigarette consumption. The findings in this report are consistent with reports from other states with tobacco-use prevention programs and indicate that excise taxes in conjunction with prevention programs reduce cigarette consumption more than excise taxes alone (*1,7*).

Other factors that could account for the decrease in cigarette consumption in Oregon probably did not contribute to the decline. Smuggling or cross-border sales probably are insignificant because a large proportion of Oregon's population resides in Portland, near Washington, where cigarette prices are higher. Increased sales on Indian reservations in the state probably would not contribute to the decline because cigarettes sold on reservations are taxed, and tribes are reimbursed only for tobacco taxes paid by tribal members. Another possibility is that the observed downward trend for Oregon may reflect national declines. Although reliable national data are not available for 1998, it is unlikely that the decrease in Oregon reflects secular trends.

Cigarette Consumption — Continued

During 1990–1997, the annual rate of decline in consumption for all 50 states averaged only 1.4% (*8*).

Oregon's decrease in cigarette consumption also appears to be resulting in decreases in smoking prevalence. Preliminary data from the Behavioral Risk Factor Surveillance System for 1996–1998 indicate that prevalence of current smoking among adults in Oregon declined 6.4%, representing 35,000 fewer smokers. The decline in cigarette consumption in Oregon, California, and Massachusetts indicates that an adequately funded, comprehensive tobacco-control program can quickly and substantially reduce tobacco use.

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Neighborhood Safety and the Prevalence of Physical Inactivity — Selected States, 1996

Physical inactivity is an important risk factor for premature morbidity and mortality, especially among high-risk populations. Although health-promotion programs have targeted high-risk groups (i.e., older adults, women, and racial/ethnic minorities) (*1*), barriers exist that may affect their physical activity level (*2*). Identifying and reducing specific barriers (e.g., lack of knowledge of the health benefits of physical activity, limited access to facilities, low self-efficacy, and environmental issues [*2–6*]) are important for efforts designed to increase physical activity. Concerns about neighborhood safety may be a barrier to physical activity (*2,3*). To characterize the association between neighborhood safety and physical inactivity, CDC analyzed data from the 1996 Behavioral Risk Factor Surveillance System (BRFSS) in Maryland, Montana, Ohio, Pennsylvania, and Virginia. This report summarizes the results of this analysis, which indicate that persons who perceived their neighborhood to be unsafe were more likely to be physically inactive.

The BRFSS is a population-based, random-digit–dialed telephone survey of the civilian, noninstitutionalized U.S. population aged ≥18 years. In 1996, data on physical activity were analyzed for 12,767 persons (5320 men and 7447 women) who

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Frank G. Matteo, H.O., M.A.

April 8, 1999

Senator Gwendolynne Moore
Joint Committee on Finance
Room 409 South, State Capitol
Madison WI 53707

Re: Local Public Health Issues
Joint Finance Committee Governor's Budget Hearing

Dear Senator Moore:

I appreciate this opportunity to present this information to your committee today.

As the Kenosha County Health Officer, I have some comments regarding the proposed budget, **first** with the intended public health allocation of the tobacco settlement funds by Governor Thompson and **secondly**, with the lack of adequate funding to local public health departments for childhood immunization outreach and for the creation of a statewide/local central immunization registry.

My first issue is that the distribution of Wisconsin's $338 million tobacco settlement over the biennium grossly underfunds public health prevention activities to halt childhood/adult tobacco usage in Wisconsin.

Governor Thompson has set aside $5 million in his 1999-2001 budget, which is **less than 1%** of the total available settlement monies, to reduce our most preventable cause of death in the nation. Furthermore, of the $5 million allocated, only $1 million is going directly into prevention activities at the local public health level.

To achieve positive health outcomes in the reduction of tobacco usage in Wisconsin, I am a firm believer that the TRUST Coalition Campaign's concepts will succeed.

The TRUST Coalitions programs are based on the Centers for Disease Control and Prevention formula for the distribution of tobacco monies that is required for

The TRUST Coalitions programs are based on the Centers for Disease Control and Prevention formula for the distribution of tobacco monies that is required for each State to overcome the challenges of reducing tobacco usage and they are the route that Wisconsin needs to pursue if we can expect to have a healthier population.

The TRUST Campaign's goal is to earmark up to $50 million per year (over the life of the funds) for a broad-based action plan that would allocate monies for:

- Annual Funding of Prevention Efforts to Sustain Long Term Efforts
- Prevent Children from Beginning Tobacco Usage
- Assist Smokers Who Want to Quit
- Protect Non-Smokers from Hazardous Effects of Second-Hand Smoke
- Dedicate Significant Funding to Statewide Efforts to Prevent and Reduce Tobacco Usage in Wisconsin
- Monitor Smokers for Symptoms of Tobacco Related Disease and Provide Access to Health Services

Specifically, these dollars from the coalition would go to the media sector, for counter advertising, to research and education (school health education programs for tobacco and cessation programs for adults), and into community-wide interventions, (utilizing community-based organizations) and in ensuring that tobacco users have access to the monitoring of their symptoms and health services, if needed.

A report recently released by the CDC on April 2, 1999, relates that the State of Florida had a 19% drop in youth smoking from March 1998 to March 1999 (the largest teen smoking decline since 1980) from an intense $70 million anti-tobacco media campaign aimed at children. Other States such as Massachusetts and California, have had similar reductions in teen smoking from their counter-advertising programs.

We know that one in three teens in Wisconsin smoke, that in Kenosha County our teen smoking rate is 37% and our County tobacco usage rate is 29% of our population, which is much too high.

It is also known that since eighty percent (80%) of smokers start by age 18, our most powerful tool is to prevent this from occurring.

Tobacco usage costs Wisconsin 8,000 lives each year and an additional $1.4 billion in increased health care costs to our residents per year.

The Kenosha County Division of Health would utilize the dedicated monies to target our school-aged children by working in conjunction with school officials. Our school public health nursing staff would conduct education classes (elementary/middle/high school level) on the health risks of tobacco usage, and of environmental tobacco (second hand) smoke, we would enhance our current tobacco cessation classes and would expand that program to include off-hour classes (evenings, Saturdays) throughout Kenosha County, we would partner with local tobacco coalition programs in conducting media counter advertising programs, and we would distribute literature on the negative health effects of tobacco usage.

We would also be able to screen and refer residents, who show symptoms of tobacco related diseases, to our local medical providers for assessment and care, if needed.

My second concern is that if Wisconsin fails to contribute more resources into the local public health departments for childhood immunization outreach activities and the development of local immunization central registries, then we will begin to lose all the positive inroads that we have made in increasing our children's immunities to childhood diseases.

Thanks to our excellent national medical research, we now have ten (10) recommended childhood preventable vaccines that the Kenosha County Division of Health administers on a countywide basis. All of these must be coordinated by public health nurses & staff since they require multiple inoculations at the age appropriate times to ensure the maximum protection of our kids from the likes of measles, mumps, rubella, polio, hepatitis B, tetanus, pertussis, to name a few of our common childhood diseases.

Currently, one in four American children are not fully immunized against childhood diseases. Our public health objective is to have ninety percent (90%) of our children immunized from these diseases by age two. The outreaching into all areas of the community and into all populations is vital to accomplishing this goal.

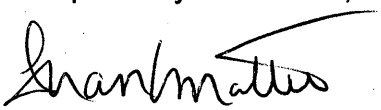
Because the immunization reporting system is only developed for local public health, we currently only are aware of the percentage of immunized children that utilize our clinics; and in order to have truly accurate numbers, we need to have a central immunization registry that all local providers report data into. The Kenosha County Division of Health would be the Central County registry and all physicians, the schools, our Federally Qualified Health Center and managed care organizations would input data and have access to the data. This system would further be linked regionally and finally Statewide with the Wisconsin Division of Public Health.

We would utilize the funding for the central immunization registry system maintenance, upgrades, and data entry staffing.

When this central immunization system is fully completed, we would then have true assessment and the assurance capabilities so that we could attain the maximum immunization levels for our children's and the community's improved health.

Thank you for the opportunity to appear before you today.

Respectfully Submitted,



Frank G. Matteo, H.O., M.A.
Health Officer

FGM/nlr

cc: Allan K. Kehl, Kenosha County Executive

Department of Health

Diane S. Muri, DPA, MPH
Public Health Administrator

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April 8, 1999

Senator Brian Burke, Co-Chairperson
Representative John Gard, Co-Chairperson
Members, Joint Committee on Finance

WRITTEN TESTIMONY
ON
GOVERNOR'S PROPOSED BUDGET
4-8-99
BY
DIANE MURI
PUBLIC HEALTH ADMINISTRATOR

On behalf of the Public Health Community and the City of Racine Board of Health, I wish to advocate for adequate funding for tobacco use reduction programs. Tobacco use remains the leading cause of preventable illness and death in our state. Each year the taxpayers of Wisconsin pay over $200 million in Medicaid costs for tobacco related illnesses. These illnesses and subsequent costs to taxpayers are 100 percent preventable. We know that providing support to currently addicted tobacco users to help them quit smoking effectively reduces the personal and community costs of smoking. We know that targeted community education to teenagers reduces smoking rates in the young. All that is lacking is the funding necessary to allow such programs to work.

The governor's budget proposal would allocate a mere $2.5 million per year to tobacco research and prevention. Only $1 million of those funds are allocated for actual prevention programs. Each year tobacco companies spend $100 million in advertising their products in Wisconsin. What a disparity! Is it any wonder that here in Racine County an estimated 4,110 under-age children, ages 14 to 17 years, smoke? We need to spend more to get the anti-smoking message out.

Fortunately, we have a unique opportunity to fund effective anti smoking campaigns. Wisconsin's share of the tobacco settlement funds is estimated at $160 million annually for twenty years. The TRUST campaign (Tobacco Reduction Using the Settlement)

requests that $80 million annually, or approximately 50 percent of the settlement funds, be dedicated to preventing and reducing tobacco use in our state. This money would be used to fund a four pronged approach to reducing tobacco use:

1. counter advertising to de-glamorize the image of tobacco
2. community based programs and initiatives
3. services to help people quit and
4. tobacco-related research and evaluation

A resolution by the City of Racine Board of Health, dated March 8, 1999, in full support of the TRUST campaign is attached. It supports the dedication of $80 million annually for tobacco use reduction and tobacco use prevention in Wisconsin. The board members recognize tobacco use as a serious problem in our community. Also attached is the written testimony of the president of the Wisconsin Public Health Association concerning the lack of adequate tobacco prevention funding in the governor's proposed budget. The Wisconsin Public Health Association has focused on support of the TRUST campaign as its sole public health legislative issue this year. They recognize that tobacco use is the most important preventable public health problem in our state.

When you consider the allocation of the tobacco settlement dollars, remember these figures:

1. Wisconsin taxpayers currently spend $200 million in Medicaid dollars alone for tobacco related disease.
2. Tobacco companies spend $100 million in Wisconsin promoting their products.
3. TRUST is asking for $80 million in tobacco settlement dollars to prevent the social and economic expenses associated with smoking- the most important, most preventable, health problem in Wisconsin.

Please support the TRUST campaign. Please dedicate $80 million to preventing our children from becoming addicted to tobacco. Please dedicate $80 million to preventing premature death due to heart disease and cancer.

Wisconsin Public Health Association

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March 11, 1999

Senator Rodney Moen
Health, Utilities
Veterans & Military Affairs
PO Box 7882
Madison, WI 53707-7882

WRITTEN TESTIMONY
ON
GOVERNOR'S PROPOSED BUDGET
3-10-99
BY
KATHLEEN M NEWMAN, PRESIDENT

On behalf of the Wisconsin Public Health Association (WPHA) representing over 350 public health professionals throughout the State, I wish to express concern regarding the ***tobacco settlement.*** The Governor's proposal allocates less than 2 % of tobacco settlement monies to help smokers quit or on measures to keep our young people from taking up the deadly, addictive habit.

We urge the Legislature to take a hard look at what the Governor is proposing. By committing so few dollars to anti-smoking, the taxpayers of Wisconsin will continue to ***pay out $200 million a year in Medicaid expenses*** to treat people with tobacco related illnesses. In addition, we will all continue to pay higher insurance rates and higher prices for products due to the high cost of illness care.

This is a ***once-in -a-lifetime opportunity to prevent*** our young people from getting hooked on tobacco, to reduce the high cost of illness care, and to prevent premature deaths due to heart disease and cancer.

The tobacco settlement is meant to be directed against the Number 1 preventable health problem. ***WPHA supports the TRUST campaign and requests $80 million be dedicated annually to the comprehensive prevention plan*** outlined in the TRUST campaign.

Department of Health

Diane S. Muri, DPA, MPH
Public Health Administrator

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City of Racine, Wisconsin

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DEDICATION OF TOBACCO SETTLEMENT DOLLARS TO TOBACCO CONTROL AND PREVENTION INITIATIVES

City of Racine Board of Health Resolution March 8, 1999

WHEREAS, Wisconsin has actively participated in a national coalition of states involved in the historic $206 billion lawsuit settlement with the tobacco industry; and

WHEREAS, the settlement money will be allocated to states on a per capita basis over the next 25 years; and

WHEREAS, Wisconsin's total share of the settlement is expected to total $5.9 billion; and

WHEREAS, Wisconsin's tobacco settlement provides a once-in-a-lifetime opportunity to invest in prevention to significantly reduce the harmful consequences of tobacco; and

WHEREAS, the Centers for Disease Control and Prevention (CDC) has made state-specific recommendations to fund an innovative, long-range, broad-based plan of action that will prevent and reduce tobacco use in Wisconsin; and

WHEREAS, a coalition of Wisconsin citizens are joining together behind the TRUST campaign, (Tobacco Reduction Using the Settlement) in support of funding for statewide, comprehensive programs of services that will reduce the addiction, disease, disability, and premature death caused by the use of tobacco; and

WHEREAS, TRUST requests the dedication of $80 million annually, or approximately 50 percent of Wisconsin's settlement funds, to preventing and reducing tobacco use in Wisconsin; and

WHEREAS, the City of Racine Board of Health, supports the TRUST campaign and funding of the four cornerstones of the campaign:

- counter-advertising to de-glamorize the image of tobacco
- community-based programs and initiatives,
- services to help people quit, and
- tobacco-related research and evaluation

THEREFORE, BE IT RESOLVED, that the City of Racine Board of Health supports the dedication of $80 million annually to fund a comprehensive plan to reduce and prevent tobacco use in Wisconsin.

BE IT FURTHER RESOLVED, that the City of Racine Board of Health forward this resolution to Assembly Members Lehman and Turner, Senator Plache, Secretary Leean, and Governor Thompson for their review and support.

Alderman Bette J. Lasch
President Board of Health

Alderman Mary Kaprelian

Dr. William J. Little

Alderman Frank Tingle

Mr. John Berge

Alderman Gary E. Becker

Ms. Sherri King

"Caring for the Community"

TOBACCO FACT SHEET

PREVALENCE AMONG YOUTH

- More than 75% of cigarette smokers become addicted to nicotine before the age of 17. Tobacco addiction is a childhood disease.
- 40% of Wisconsin children age 14-17 are smokers - higher than the national average.
- 115,000 Wisconsin adolescents are regular smokers -- yet they are under the legal age for purchasing cigarettes.
- Wisconsin adolescents consume approximately 14.4 million packs of cigarettes per year. This represents 3.1% of the packs sold in the state and about 29 million dollars in gross sales to minors.

AVERAGE AGE OF INITIATION

- 75% of current adult smokers started smoking before their 18th birthday. The younger a child begins using tobacco, the more likely s/he will be unable to quit. [Office of the Inspector General]
- Nationally, among high school students who had ever smoked, about 25% smoked their first cigarette by the 6th grade, 50% by the 8th grade, 75% by the 9th grade, and 94% by the 11th grade.
- In Wisconsin, 9% of eleven year olds and 34% of seventeen year olds were smoking cigarettes in 1991.

YOUTH ACCESS

- 85% of youth 12-17 years of age, who buy their own cigarettes, buy them at convenience stores and gas stations.
- Minors working with an undercover buying operation conducted in Wausau in 1994 were able to illegally purchase cigarettes in 34 of 48 attempts.

END RESULT

- 7,800 Wisconsin people died prematurely last year from smoking-related diseases.

Lon Newman, Public Affairs Committee
Wisconsin Public Health Association
719 N Third Ave, Wausau, WI 54401
(715)675-9858 fax (715)675-5475

TRUST CAMPAIGN RECOMMENDATIONS

Based on Centers for Disease Control research; use one-half of the projected tobacco settlement:

- $25,000,000 for advertising to counter the effects of the $100,000,000 the tobacco industry spends in Wisconsin each year promoting its products

- $22,000,000 for cessation services to help more than 1,000,0000 Wisconsinites stop using a drug which is more addictive than heroin or cocaine . . . a drug which takes most users more than five attempts to quit before they are successful.

- $25,000,000 for local community-based health promotion efforts for proven programs to reduce tobacco use.

- $8,000,000 for research and evaluation so Wisconsin has the best information, the most current programming, and the most effective means to reduce the deadly effects of tobacco addiction.

THE ADMINISTRATION'S RECOMMENDATION

- The Centers for Disease Control recommends a range of $28,000,000 to $80,000,000 for an effective prevention program for Wisconsin. This is a per capita range of $5.50 per person to $15.70. The administration's recommendation is roughly fifty cents per capita.

- There is no public health official with credibility or integrity who believes that the administration's funding recommendation is adequate, equitable, or rational because there is no public health basis for the funding recommendation. The public health community without exception supports the CDC recommendations because they are based on solid evaluation, research and experience.

- The argument that the settlement money will go to fund Medicaid and Medicare expenses related to tobacco use is simply an accounting deceit. Badgercare, for example, was funded prior to the tobacco settlement. Claiming that the tobacco settlement is targeted to those programs simply supplants dollars previously committed to Medicaid with tobacco dollars. Most importantly, playing this shell game will not reduce the need to continue to spend millions of state dollars on tobacco-related health care. Playing the shell game will not reduce the number of teens who start smoking next year and end up dying all too early. Playing the shell game will not help even one community reduce its tobacco use or implement a successful tobacco prevention program.

- The public overwhelmingly supports the targeting of funds to health promotion and tobacco prevention.

JOINT FINANCE COMMITTEE ACTION

Sufficient tobacco settlement dollars must go for health promotion and prevention efforts. This is an opportunity for courage and farsightedness. It is not the time for financial shell games or trickery. $56,000,000 is the **minimum** biennial CDC recommendation for an effective prevention program. There is simply no constituency or rationale for any less.

STATE OF WISCONSIN : CITY OF FRANKLIN : MILWAUKEE COUNTY

RESOLUTION NO. 99- 4846

A RESOLUTION SUPPORTING THE T.R.U.S.T. (Tobacco Reduction Using the Settlement) COALITION

WHEREAS, Tobacco-related diseases account for 17 percent of all deaths in Wisconsin, claiming nearly 8,000 lives per year; and

WHEREAS, Tobacco use is the single most preventable cause of premature death and disability in the State and is associated with significant public health problems including asthma, heart disease and cancer; and

WHEREAS, Youth smoking in Wisconsin is higher than the national average with nearly 2 out of 5 children aged 14 to 17 currently smoking, one-third of whom will eventually die of smoking-related illness; and

WHEREAS, Wisconsin residents spend close to $1.4 billion a year for treatment of tobacco-related diseases, according to the National Centers for Disease Control and Prevention; and

WHEREAS, The tobacco settlement reimburses Wisconsin for past smoking-related costs borne by the State and the terms of the settlement preclude the State and local governments from recovering future costs related to tobacco use; and

WHEREAS, The City of Franklin in Milwaukee County bears significant costs attributed to the effects of tobacco use including lost productivity and disability, higher insurance premiums and health care costs, and

WHEREAS, The City of Franklin and all Milwaukee County taxpayers will continue to bear costs due to the health effects of tobacco use unless the State acts to reduce those cost;

NOW, THEREFORE, BE IT RESOLVED that the Franklin Board of Health and the City of Franklin Common Council does hereby support the request by Tobacco Reduction Using the Settlement (TRUST), a coalition supported by the American Cancer Society, American Heart Association, American Lung Association, Aurora Health Care, State Medical Society of Wisconsin, Tobacco Free Wisconsin Coalition, Wisconsin Education Association Council, Wisconsin Association of Local Health Departments and Boards and Wisconsin Public Health Association, and many other community organizations to protect taxpayers from future expenses by investing a significant portion of settlement dollars in innovative and effective programs to reduce and prevent tobacco use by children and to assist smokers who want to quit.

Introduced at a regular meeting of the Common Council on the 5th day of April, 1999 by Alderman Magyar.

Passed and adopted by the Common Council on the 5th day of April, 1999.

APPROVED:

Patrick F. Murray, Mayor

ATTEST:

James C. Payne, Business Administrator

AYES 6 NOES 0 ABSENT 0

T · R · U · S · T Campaign

Tobacco Reduction Using the SettlemenT

A number of health organizations, including the American Cancer Society, American Heart Association, and the American Lung Association have formed a partnership to ensure that a fair share of the money gained from Wisconsin's tobacco settlement is used to reduce and prevent tobacco use. To do this, we have formed the TRUST Campaign, which stands for ***Tobacco Reduction Using the SettlemenT.***

The TRUST asks for three things:

1. $80 million, or half of the settlement dollars, be set aside annually and directed toward efforts that will help smokers who want to quit and prevent children and young people from ever starting to smoke or use tobacco.

2. The money we be used to support a comprehensive program that contains four essential components 1) Advertising to counter the use of tobacco 2) Community-based programs and initiatives 3) Services to help people quit using tobacco, and 4) Evaluation and research to make sure the dollars are being used to support programs that are effective and science-based.

3. The money be set aside and used to form a Foundation, or a public/partnership between the State's leading health organizations and the Legislature. This approach is to ensure that the dollars are committed to tobacco prevention over time, isolated from interference from the tobacco industry, not subject to political censorship, and do not go to support or grow a governmental bureaucracy.

TO ACCOMPLISH THIS WE NEED YOUR HELP ! TO SHOW YOUR SUPPORT OF THE TRUST CAMPAIGN PLEASE SIGN YOUR NAME BELOW.

If you would like more information call 1-800-947- 0487.

PO Box 902 · Pewaukee, WI 53072 · 800-947-0487 · 414-523-5533 fax

Saving Dollars • Saving Lives

T · R · U · S · T Campaign

Tobacco Reduction Using the Settlement

Campaign Endorsers:

American Academy of Pediatrics - Wisconsin
American Cancer Society, Green County
American Cancer Society, Midwest Division
American Heart Association
American Heart Association, Marathon County
American Lung Association
Association of Wisconsin HMOs
Aurora Health Care
Brown County Tobacco-Free Coalition
Care Foundation, Inc
Children's Health Alliance of Wisconsin
Children's Health System, Inc.
Consortium for Primary Care in Wisconsin
Dean Health System
Dodge County Health Department
Dodge County Medical Society
Family & Sports Orthopedic Center, Ltd.
Family Resource Center of Iowa County Inc.
Fond du Lac County Tobacco Control Coalition
Glaxo Wellcome
Greater Lacrosse Health Plans, Inc.
Greater Milwaukee County Tobacco Free Coalition
Green County Tobacco-Free Coalition
Green County Board of Supervisors
Green County Health Department
Green County United Prevention Professionals for Youth
Highland Dental Health
Juneau County Tobacco-Free Coalition
La Crosse County Health Department
La Crosse Health Initiative
Manitowoc-Two Rivers YMCA
March of Dimes Birth Defects Foundation
Marshfield Clinic
Medical Associates Health Plans
Medical College of Wisconsin
National Honor Society - Beaver Dam
Northeastern Wisconsin District Nurses
Oshkosh Confront Addiction Now
Oshkosh Confront Addiction Now
Ozaukee Council, Inc.
Pierce/St.Croix Tobacco-Free Coalition
Rock County Tobacco-Free Coalition
Sauk County Tobacco Free Coalition
Southwestern Wisconsin Community Action Program
St. Clare Hospital
St. Joseph School
State Medical Society of Wisconsin
The Terrace at St. Francis
Tobacco Free Manitowoc Co Coalition
Tobacco Free Wisconsin Coalition
Tobacco Free Wood Co Coalition
Tobacco-Free Iowa County Coalition
Tobacco-Free Portage County Coalition
Twin Ports Youth and Tobacco Coalition
Waukesha County Tobacco Free Coalition
Wisconsin Academy of Physicians Assistants
Wisconsin Alcohol, Tobacco and Other Drug Education Network, CESA One
Wisconsin Association of Local Health Departments and Board
Wisconsin Association of Pediatric Nurse Associates and Practitioners
Wisconsin Association of School Nurses
Wisconsin Breast Cancer Coalition
Wisconsin Cancer Council
Wisconsin Education Association Council
Wisconsin Initiative Smoking and Health - Green Bay Chapter
Wisconsin Nurses Association
Wisconsin Primary Health Care Association
Wisconsin Public Health Association
Wood County Health Department
YWCA of Waukesha

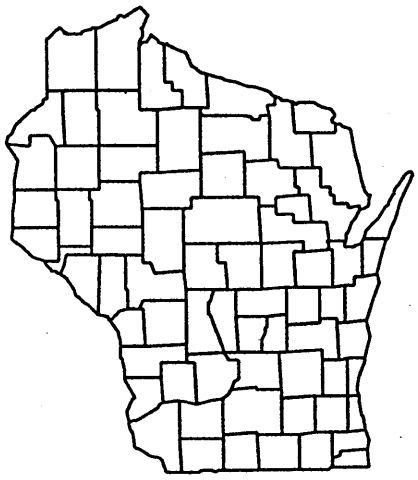
PO Box 902 · Pewaukee, WI 53072 · 800-947-0487 · 414-523-5533 fax

Saving Dollars • Saving Lives

The Burden of Tobacco in 1997 in

AMERICAN CANCER SOCIETY
Wisconsin Division, Inc.

Wisconsin



Number of Smokers	**1,034,400**	
Adults (18+)	919,200	24%
Children (14-17)	115,200	37%
Mothers of Newborns	12,735	19%
Cause of Death (% Due to Smoking)	**Total Deaths**	**Due to Smoking**
Lung Cancer (80%)	2,554	2,048
Other Tobacco-Related Cancers (39%)	1,581	621
Heart Disease (18%)	9,547	1,718
Stroke (12%)	3,578	422
Respiratory Diseases (51%)	3,573	1,808
Perinatal Diseases (12%)	220	26
Burns (46%)	57	26
All Causes (17% statewide)	45,037	7,725
Total Cigarette Packs Sold		**465,356,800**
Adults (18+)		449,073,000
Children (14-17)		16,283,800
Direct Health Care Costs of Smoking		**$1,000,000,000**

- In Wisconsin, 24% of all adults and 37% of children 14 to 17 years old are current smokers. The use of tobacco is the single most important preventable cause of disease and premature death in Wisconsin.
- There are over one million smokers in Wisconsin, including over 115,000 children ages 14 to 17, and over 12,000 women who gave birth in 1995.
- Women who smoke often have infants who have lower birth weights than infants born to non-smokers. Smoking during pregnancy also contributes to premature delivery and a wide variety of health problems.
- In 1995, over 7,700 Wisconsin residents died from smoking related illnesses and injuries. Of all deaths, 17% in Wisconsin were due to smoking.
- In an average year, over 465 million packs of cigarettes are sold in Wisconsin, of which over 16 million packs are consumed by children ages 14 to 17.
- The direct health care costs of smoking (e.g., physician visits, hospitalizations, etc.), are estimated at $1 billion annually in Wisconsin.
- In Wisconsin, total annual Medicaid costs attributed to smoking are estimated to be $113 million.

ENURESIS CONTROL IN PRIMARY CARE

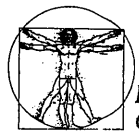
A GUIDE TO CARE

Cover illustration: After *Tumbling, Winged Putto*, Workshop of Peter Vischer the Elder (c1508-10); Vienna, Kunsthistorisches Museum, Sammlung für Plastik und Kunstegewerbe.

This illustration from a statue of a falling angel represents the struggle of a child to overcome the problem of nocturnal enuresis. Modern methods of enuresis control presented in this monograph give physicians, parents, and children the tools to overcome this problem.

Illustrations:
Cover concept, Elizabeth Alderman; 30, Paul Singh-Roy.

Photographs:
3, 21-24, Jim Ziv.



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ENURESIS CONTROL IN PRIMARY CARE

Proceedings from a Symposium on the Control of Uncomplicated Primary Nocturnal Enuresis

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ENURESIS CONTROL IN PRIMARY CARE

Mission

To advance the recognition of primary nocturnal enuresis (PNE) and to improve the care of children with uncomplicated PNE by providing a balanced, practical, and comprehensive perspective on management that comprises both pharmacologic and nonpharmacologic approaches to enuresis control.

Learning Objectives

After reading this monograph, the primary care clinician should be able to:

1. Define primary and secondary nocturnal enuresis.
2. Diagnose uncomplicated PNE.
3. Incorporate the current understanding of PNE as a sleep disorder into a management plan.
4. Recognize the indication for treatment when a child has uncomplicated PNE.
5. Evaluate pharmacologic therapies used most often in managing PNE.
6. Compare and contrast the relative advantages and disadvantages of these agents.
7. Describe and evaluate roles for nonpharmacologic therapies in managing PNE.
8. State concise guidelines for diagnosis and therapy in PNE.
9. Formulate a practical individualized approach to effective control of PNE that utilizes pharmacologic and nonpharmacologic therapeutic components in an appropriate and cost-conscious manner for optimal patient care.

EXECUTIVE SUMMARY

Primary nocturnal enuresis (PNE) is nighttime bed-wetting that is not associated with daytime incontinence, that occurs in a child who has never had nighttime control over urination, and that persists after the age at which the child is expected to be able to achieve nocturnal control. It occurs in approximately 5 million children in the United States. Between 10% and 15% of 5-year-old children have PNE, but only 1% to 2% of 15-year-olds do.

Early intervention to achieve control is important because a child's self-image is at stake and because family stress can be severe when bed-wetting is chronic. Waiting for the child to simply "grow out of" habitual bed-wetting is usually not indicated, but it may be appropriate in selected situations.

Diagnostic investigation needs to be thorough enough to identify or rule out certain medical, behavioral, and developmental conditions. Usually, historical and physical findings indicative of PNE are sufficient for diagnosis. Urinalysis should always be done, although results are rarely abnormal. Imaging and invasive methods are rarely indicated. Culture is appropriate when there is burning or pain on urination or other indications of infection are present.

The highest control rates are achieved through comprehensive programs that educate the child and family members; demystify the problem; offer behavior modification and motivational counseling; provide age-appropriate imagery and relaxation techniques accomplishing, in effect, self-hypnosis; do not require long-term medications for control; and absolve blame and guilt. Medication with imipramine or desmopressin is most appropriate when absolute dryness must be achieved immediately but not permanently, such as times when a child has a sports trip or visit with a friend or relative that involves overnight accommodation away from home.

INTRODUCTION

Nocturnal enuresis is the most common childhood urologic complaint encountered by pediatricians and family physicians.[1] Children with enuresis who are brought to the attention of primary care physicians, however, may represent only a portion of the actual number of cases because families are often disinclined—through embarrassment or shame—to mention the problem.

To help primary care physicians make appropriate management decisions, this monograph provides guidelines for the diagnosis and treatment of uncomplicated primary nocturnal enuresis (PNE). To physicians, patients, and family members alike, PNE is among the most frustrating disorders of childhood. Despite its prevalence—and the fact that physicians' attempts to manage the problem have been recorded since at least the time of Pliny the Elder in 77 AD—the problem is poorly understood, fraught with myth, and all too frequently ignored or belittled.

Medical care for the condition has come a long way since Pliny advocated a specialized dietary supplement: boiled mice, wood lice, and urine of spayed swine.[2] The simplest, safest, and most successful treatment regimens for nocturnal enuresis are based on behavioral and developmental approaches. Pharmacotherapy has a more limited role.

Uncomplicated PNE is defined by the following criteria:

- Urinary discharge occurs nocturnally, not diurnally.
- The child must not have been dry at night previously for any significant period.
- The child has passed the age at which nocturnal control is usually achieved.

By definition, whether bed-wetting occurs nightly or several nights a week, the child with primary enuresis does not attain nocturnal dryness consistently by the age of 5 or 6 years. The underlying cause of PNE remains unclear. It is important to remember, however, that enuresis is a symptom, not a disease in itself. Once underlying causes of secondary or complicated enuresis are ruled out, the family physician or general pediatrician has ample opportunity to help the child achieve control without needing to consult with other specialists or engage in complex and expensive treatment regimens.

THE SCOPE OF THE PROBLEM

Prevalence

By most estimates, between 10% and 20% of 5-year-old children will have PNE. This equates to approximately 5 million children in the United States.[3-5] After age 5, the number of children with enuresis drops by about 1% per year.[2,3] By age 15, only 1% to 2% of adolescents continue to wet the bed.[3,5] About 1% of adults have PNE.[2]

Psychological and Sleep-Related Factors

Several studies have shown that the majority of enuretic children do not have major psychiatric disorders. Although enuretic children have abnormally high rates of behavioral problems, this is probably a result of, rather than a cause of, PNE.[3] A large New Zealand study showed no correlation between psychosocial problems and PNE.[6]

The role of sleep dysfunction in the pathogenesis of enuresis is both complex and controversial. Although most earlier studies show no clear evidence of sleep disturbances in PNE,[1,3,5] recent research suggests a link between disordered sleep and enuresis exists. Symposium faculty member Alexander Z. Golbin, MD, PhD, for example, thinks the link with disordered sleep is central to understanding why enuresis occurs and may provide a handle for effective nonpharmacologic therapy (see "Disordered Sleep and Enuresis: A New Understanding?" page 25).

Complicated Enuresis

Children are classified as having complicated enuresis if they have a positive urine culture, a history of urinary tract infection (UTI), abnormal neurologic findings, any significant daytime voiding dysfunction (infrequency, severe frequency, urgency, urge incontinence, or poor urinary stream), encopresis, or constipation.[5]

Consequences of PNE

The faculty members for this symposium—comprising both pediatric subspecialists and primary care physicians—are unanimous in their clinical observations on consequences of PNE: Children with primary enuresis often suffer from poor self-image, low motivation, social withdrawal, and lack of success in school. Ignorance and misunderstanding about the true nature of PNE can adversely affect intrafamily dynamics, create marital stress, and even provide the proximal cause of—or excuse for—child abuse. These factors sometimes combine, leading to a cycle of further stress and a deteriorating psychosocial situation. Even in the best circumstances, faculty members agree, PNE creates barriers to a child's participation in camping, competitive sports, or any other activity involving an overnight stay. For these reasons alone, the faculty advocates early intervention.

DEVELOPMENTAL MILESTONES IN URINARY CONTROL

At what age is it appropriate to intervene for PNE? Age 5 is the typical benchmark when bed-wetting is considered abnormal, but the child's and family's attitudes toward bed-wetting will guide the physician's decision to intervene.

Essential to the definition and diagnosis of PNE is an appreciation of the normal developmental milestones leading to adult urinary patterns (Figure 1). In newborns, reflex voiding occurs with small volumes about 20 times per day. After 6 months, the volume of urine increases, while the frequency of reflex voiding drops. By 1 to 2 years of age, the ability to recognize the sensation of bladder fullness has usually been acquired. Complete daytime control is attained by most children at approximately age 3. By 4 years of age, most children have an adult pattern of urinary control, and they have dry nights nearly all the time.[5]

Distinction between biologic and chronologic age may be important. Most children are neuromuscularly and physiologically capable of attaining nighttime bladder control at about the age they begin walking. Bladder capacity in young children correlates approximately with chronologic age. A simple way of calculating normal capacity—in ounces—of a child's bladder is by adding 2 oz to the child's numeric age. For example, a 5-year-old child should be able to fill a 7-oz cup. By puberty, this correlation no longer applies. Bladder capacity reaches approximately 10 to 15 oz in adults.

Implicit in the definition of PNE is that nighttime wetting continues beyond the age at which the society, the family, or the child determines that bed-wetting is acceptable. This age varies from culture to culture around the world. Some Asian parents, for example, expect nighttime dryness by the age of 1, and some Russian parents expect it by age 3. In the United States, 5 years of age is the generally accepted benchmark for achieving nocturnal dryness, and approximately 81% of 5-year-olds are able to remain dry essentially every night (meaning they wet the bed no more than once a month).[2] By age 7, the proportion of dry children climbs to 90%, and by age 10 it reaches 95%.[2]

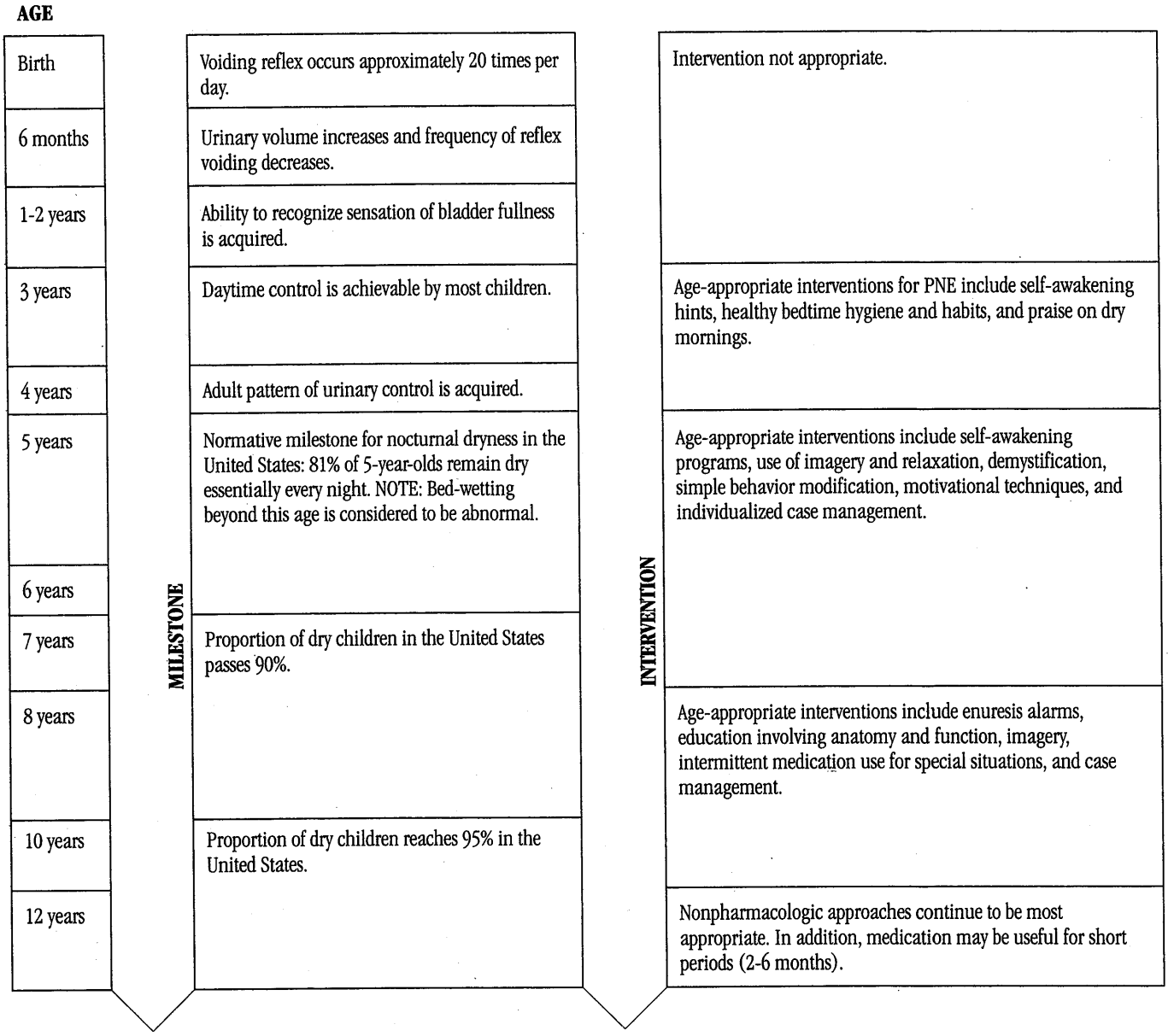

Figure 1 — Developmental milestones in urinary voiding control. The techniques used for enuresis control can be matched to the age of the child, so that the enuresis management program is individualized and therefore maximally effective. Programs developed by behavioral/developmental pediatricians and reputable private agencies account for these milestones in their age-appropriate diagnostic evaluations and interventions.

ETIOLOGY OF ENURESIS

In more than 95% of children with enuresis, the cause is unknown (no pathology is demonstrable), and the bed-wetting is attributable to PNE. Most physicians agree that the cause of PNE need not be determined in every case. A treatment program for PNE may be initiated safely once the common causes of secondary or complicated nocturnal enuresis have been ruled out by simple office-based methods.

Although no conclusive evidence of a generally applicable or broad-based etiology exists,[7] recurrent themes appear in the literature of general pediatrics, developmental and behavioral pediatrics, pediatric nephrology, pediatric urology, and medical genetics. These reflect an understanding of PNE as a product of one or more of the following conditions in certain children:

- **Sleep disorder** Some sleep specialists have found sleep anomalies in children with enuresis, and parents often report that their children with enuresis are unusually heavy sleepers (see "Disordered Sleep and Enuresis: A New Understanding?" page 25). The etiologic and clinical ramifications of putative sleep-enuresis connections remain to be elucidated.
- **Hormonal imbalance** A number of studies have implicated the lack of a nighttime peak in secretion of antidiuretic hormone (ADH) from the posterior pituitary. It appears that because enuretic children produce less ADH in the evening, urine production continues at a high rate throughout the night, exceeding bladder capacity.[3,8,9] While an association between such polyuria and low ADH is demonstrable, the lack of a nighttime peak in ADH fails to explain why children with enuresis do not wake when they have a full bladder.
- **Small bladder** Other studies implicate small bladder capacity in a minority of enuretic children.[1,5,10] As with the ADH hypothesis, however, a small bladder does not provide a reason why the enuretic child fails to awaken when the bladder becomes full.
- **Delayed maturation** Some researchers have postulated that PNE results from delayed maturation of the central nervous system, precluding age-appropriate acquisition of nocturnal bladder control.[3,11] Although this explanation has achieved considerable popularity among clinicians, it is not well supported by data.[5]

In fewer than 5% of children with enuresis, however, the problem is secondary to a medically treatable or surgically correctable condition. The common medically treatable causes are diabetes mellitus, diabetes insipidus, fecal impaction, constipation, and urinary tract infection. Surgically correctable causes include bladder calculus, foreign body in the bladder, ectopic ureter, lower urinary tract obstruction, neurogenic bladder, and sleep apnea associated with adenoidal hypertrophy.

DIAGNOSIS IN PRIMARY CARE

Ideally, the first step in the diagnosis of PNE comes before the primary care physician ever hears a complaint from the child or parents about bed-wetting. The key is to be proactive in history taking and patient interviewing. Many families may be reluctant or embarrassed to talk about bed-wetting and may require prompting because they think nocturnal bed-wetting is normal, acceptable, or something their child will outgrow.

For children who have persistent bed-wetting beyond age 5 years or who have not achieved daytime dryness by age 3 years, evaluation comprises a medical history, voiding history, and physical examination. Urinalysis is always indicated, but results are rarely abnormal (Figure 2). Urine culture is indicated when a child has urgency, pain or burning on urination, or other evidence of possible infection. Pinworm studies may also be indicated.

History

Inquiry about toilet habits is appropriate for children age 3 years and older. Include specific questions about urinary and nocturnal habits, even in routine well-baby and well-child visits. Once it is determined that a child is wetting the bed at an inappropriate age, a complete medical history and physical examination will usually reveal any medical problems that require specific treatment or referral to a pediatric neurologist, endocrinologist, urologist, psychiatrist, or sleep specialist (Table 1).[9,12]

Essential elements of the history include questions about:

- Onset and pattern of bed-wetting
- Voiding behavior
- Family history of enuresis
- Psychological and psychosocial factors
- General behavior
- Sleep patterns and parasomnias
- Medical conditions (especially to elicit information on endocrine and neurologic disorders and urinary tract infections)
- The potential for child abuse and sexually transmitted disease

The onset, pattern, and severity of enuresis and the circumstances in which the child wets the bed usually provide the greatest insight.[12] To assess the severity of the enuresis, the physician must determine both the nocturnal urinary volume and the persistence of the problem. Is it nightly? More than once a night? Occasionally?

Bladder instability or small functional capacity is likely in the child with urge incontinence, squatting or posturing during urination, and small voidings. The child who

Table 1—Urinary Habits and History: What to Ascertain When Diagnosing Enuresis

Behavioral history

- Drinking habits (especially just before bedtime and use of caffeinated beverages)
- Environmental factors (such as preferred sleeping temperature)
- Other parasomnias (sleepwalking, sleeptalking, nightmares, night terrors, bruxism)
- Psychiatric symptoms (defiant or aggressive behavior, hallucinations, psychosis)

History that suggests medical etiology

- Abnormal findings on a basic neurologic examination (including gait, reflexes)
- Anatomic problems (posterior urethral valves, spinal cord lesions, spina bifida)
- Diabetes insipidus
- Diabetes mellitus (insulin-dependent)
- Encopresis or constipation
- Endocrine problems, such as hyperthyroidism
- Evidence of allergies or asthma
- Family history of PNE
- Heavy snoring (indicating possible sleep apnea)
- Kidney or bladder infection
- Lesions on skin, especially urethra or genitals
- Potential child abuse
- Previous lumbar punctures

Voiding history

- Full history of nighttime urinary behavior
- Presence of daytime enuresis
- Relative severity and constancy of enuresis
- Weakness or intermittency of urine stream

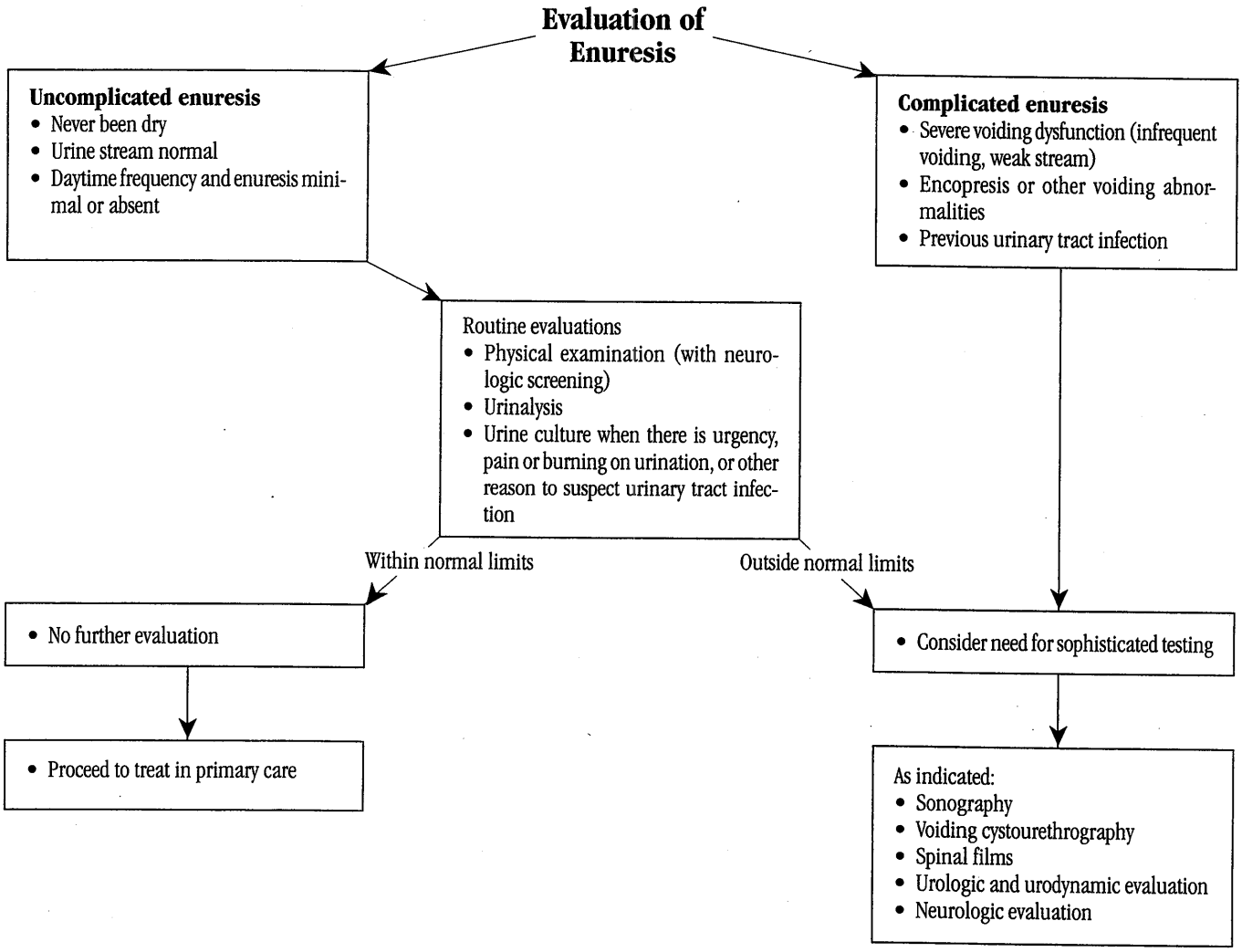

Figure 2. The evaluation of the child with enuresis can be simple and rapid, as in this sample algorithm. The results of the history and physical examination frequently are all that are necessary to conclude that a child has PNE and is therefore a candidate for enuresis control in primary care. Adapted from [5].

voids infrequently usually has a large bladder capacity, tends not to urinate when awakened in the morning, and has paradoxic urgency and urge incontinence when the bladder is full.

The voiding history includes both urinary and fecal elimination habits. Most significant in the voiding history are changes noted over time and whether the child has daytime enuresis. Frequency of bed-wetting is less important than changes in patterns or symptoms that accompany urination. The severity of the problem does not correlate with the frequency of bed-wetting; the child who wets only once or twice a week may experience as much or more adverse psychological or emotional distress as the child who wets every night.

The urinary voiding history may suggest anatomic bladder problems, including small capacity, valve defects, detrusor-sphincter dyssynergia, or bladder instability. Possible clues include diurnal enuresis, intermittent or weak urinary stream, frequency, urgency, or very infrequent voiding. It may be worthwhile to suggest that the parents or the child who is old enough maintain a voiding diary. When the child's history includes UTI, there is increased

likelihood that the child has an anatomic problem or bladder instability.

Burning or pain when urinating is an important finding, as is associated encopresis. If the voiding history includes bowel problems, the child may have constipation, neurologic disease, or a severe form of voiding dysfunction that requires specialized evaluation and care.[12]

The likelihood of PNE is only 15% when neither parent was enuretic; it rises to 44% when one parent had PNE and soars to 77% when both were enuretic.[12] In addition, many studies point to the correlation between PNE and either low socioeconomic level or family-related stress.

Physical Examination

The vast majority of children with nocturnal enuresis will have no physical abnormalities. Those with physical findings may require further assessment or referral because they may have complicated PNE or secondary enuresis. The comprehensive physical examination should include abdominal evaluation (especially for palpable distended bladder), genital evaluation (especially for bifid clitoris, ectopic ureter, signs of sexual abuse, such as distortion, scarring, or warts), and attention to the following:[5]

- Abnormalities during voiding (under direct observation)
- Anal sphincter tone
- Gait
- Perineal sensation
- Peripheral reflexes
- Physical appearance of the lower back (evidence of sacral dimpling, cutaneous anomalies)
- Pooling of urine within the vaginal vault

Laboratory Tests and Imaging

Urinalysis is the only laboratory test that can be justified without specific indications. A sterile midstream catch is sufficient; no catheterization is necessary. The absence of glucose rules out diabetes mellitus and a specific gravity of 1.015 or greater rules out diabetes insipidus as causes of nocturnal enuresis.[9] A dipstick and microscopic examination of the urine is a useful initial screen for underlying disorders.

When there is burning or pain on urination, urinalysis and urine culture are mandatory.

Indications for other testing are limited. Office ultrasonography has been reported to provide clinically significant information in 30% of enuretic children.[3] Such findings include bladder wall thickening, fecal impaction, residual urine, and hydronephrosis. Few clinicians recommend ultrasonography without at least a clinical suspicion to justify its use, however.

Urodynamic testing, voiding cystourethrography, and intravenous pyelography are rarely appropriate for an enuretic child. A sleep study may be a reasonable option when nocturnal enuresis is resistant to control and appears to be associated with sleep disturbances or parasomnias. These include night terrors and sleepwalking.

After ruling out anatomic and physiologic problems and exploring family dynamics, the primary care physician will still be left with many children who are physiologically and psychologically normal but wet the bed. Most patients with uncomplicated PNE are best managed by the primary care physician and usually should not require referral for further diagnostic evaluation or for treatment.

TREATMENT APPROACHES IN PRIMARY CARE

While PNE may not be a significant medical problem, a consensus has evolved among clinicians from numerous disciplines, ranging from general and behavioral pediatrics to pediatric urology and nephrology, that PNE should usually be treated, always explained, and certainly not ignored. Experts from many disciplines now understand that failure to intervene is not in the best interests of the child or the family. Even well-intended comments about the child outgrowing the problem to reassure the parents and child can sometimes be inappropriate.[9]

The primary care physician serves as the linchpin of a clinical support team that offers education about enuresis, demystifies bed-wetting and absolves the child of guilt and blame, provides motivational counseling and behavior modification, gives reinforcement when dryness is achieved, and devises a management plan including elements of hypnotherapy (such as imagery and relaxation techniques) that can readily be incorporated into primary care without special training. When the primary care physician desires, a developmental/behavioral pediatrician, child psychiatrist, hypnotherapist, enuresis case manager, or any combination of these can be added to the management team. If the physician chooses to delegate day-to-day care, a case manager or trained home care representative can take over much of the individualized care and report back to the physician. This approach has proved successful when the individual or agency assuming responsibility has the expertise and resources to provide such a service in the home.

The expectations for successful therapy using such an integrated, multifaceted approach to individualized management are legitimately high. For practical purposes, a primary care physician is in an ideal position to provide or oversee all the components of such a program.

Management Overview

Two approaches to treatment are available for the child with PNE—pharmacologic and nonpharmacologic. Quick and temporarily effective pharmacologic treatment can be considered for short-term control when appropriate. Nonpharmacologic options involving education, behavior modification, counseling, and case management are safe and effective, and most clinicians recommend them over medication. These approaches are not mutually exclusive and may be used in tandem as necessary.

In about 10% of children with PNE, bed-wetting may be cured simply by eliminating certain foods, such as milk or citrus products or beverages that contain carbonation or dyes.[3] Data on controlled studies of elimination diets are scant, however.[3] Although studies of postprandial fluid consumption are also lacking, the consensus is that changing drinking habits is unlikely to help PNE, except in cases of habitual heavy fluid consumption after the evening meal.

For the child with PNE, education and motivation to achieve control are at least as important as strict medical intervention. Since every family is different, however, the best treatments are tailored to the needs and abilities of the family and take into account the home environment of the child.[5]

Since enuresis is frequently secondary to emotional stress, posttraumatic stress disorder, or other illnesses, the treatment approach to PNE and some forms of secondary enuresis may be very similar. Once significant physical causes for wetting have been ruled out by the primary care clinician, a practical approach to control usually need not be delayed for diagnostic reasons.

In general, the faculty of this symposium is strong in its recommendation that clinicians opt for the safer, albeit slower, approach that combines education of the child and family, behavior modification, motivational counseling, elements of hypnotherapy, use of bed-wetting alarms as part of a multifaceted program, and other individualized components of therapy such as case management and home visits (Figure 3). The faculty further advises that drug therapy be considered primarily for short-term control of PNE and that bed-wetting alarms alone are not usually

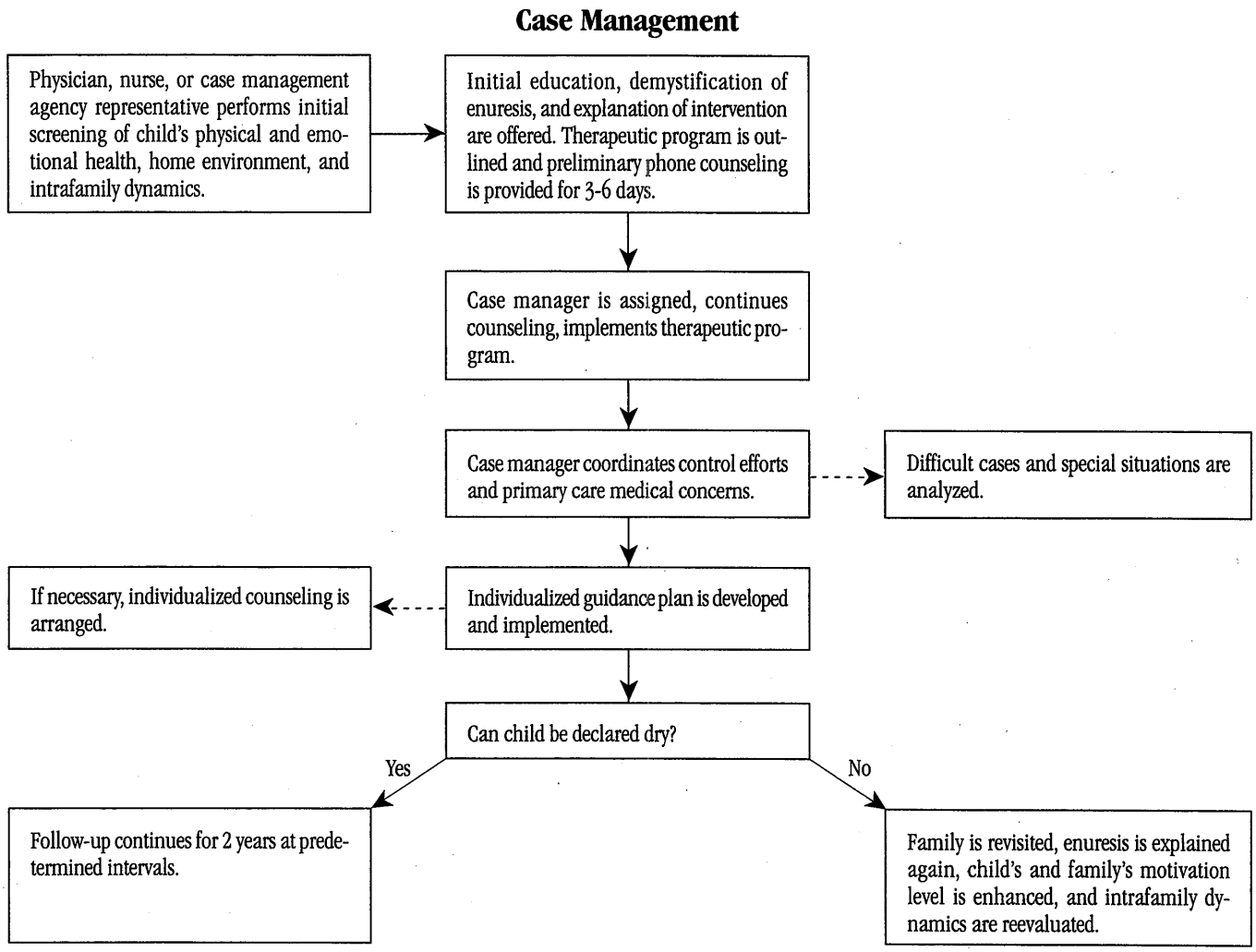

Figure 3. The case management approach, which involves individualizing therapy and combining educational and behavior modification techniques, helps the primary care clinician achieve effective control of PNE through home visits, analysis of recalcitrant cases, close monitoring of personal and family dynamics, and long-term follow-up. A sample algorithm for case management is shown, but others may be appropriate. An agency that provides case management should offer a multifaceted program that can intervene in whatever specific way the child needs to attain nighttime control of PNE.

effective and may be detrimental outside the context of a multifaceted educational program designed to alter behavior.

Pharmacologic Treatments

Three drugs are used in the treatment of PNE (Table 2). Two, imipramine and desmopressin acetate, offer effective short- to medium-term management of PNE. Both work best on an as-needed basis. A third, oxybutynin chloride, is used only when daytime urgency or wetting occurs.

Imipramine has been associated with potentially severe—even lethal—cardiovascular adverse effects, symposium faculty members warn, and desmopressin is expensive. Another drawback of both imipramine and desmopressin is a high relapse rate upon withdrawal of the drug. On the other hand, both can get a child dry quickly and thereby interrupt the cycle of bed-wetting and deteriorating intrafamily dynamics and psychosocial functionality. In certain families and situations, this intercession may provide just the break a child needs to achieve

Table 2—Pharmacotherapy for PNE*

Drug	Dosage	Taper	Caveats and comments
Imipramine	Age 6-8: 25 mg/d hs > age 8: 50-75 mg/d hs	By 25 mg q2wk	Safety is a primary concern; overdose can be fatal (signs include ventricular tachycardia, seizures, coma); patient education on safe use is essential for child and family.
Desmopressin	20 μg (1 10 μg spray/nostril) hs; children with recalcitrant enuresis may receive 40 μg (2 10 μg sprays/nostril) hs	1 spray (10 μg)/d	Child should reduce nighttime fluid intake to prevent hyponatremia; recommended for occasional short-term use.
Oxybutynin	5 mg bid or tid	—	Reserved for children with daytime enuresis or urgency.

*Based on recommendations by the symposium faculty.

the normal developmental step of becoming dry.

Imipramine Safety is the primary concern when imipramine is used to treat children with PNE. It is essential that parents and children be carefully and repeatedly instructed on the safe handling of imipramine. Some physicians refuse to consider imipramine as a treatment for PNE; others sanction its use but urge caution. A consensus would state that imipramine has a place in PNE treatment only if used sparingly and cautiously: Put imipramine on reserve as a treatment to be used only after giving safer behavioral approaches a trial of at least several months. The drug is not approved by the US Food and Drug Administration (FDA) for use in children younger than 6 years.

Imipramine is the most well-studied tricyclic antidepressant tested in PNE management. It works centrally and peripherally through a combination of anticholinergic and noradrenergic effects that increase bladder capacity and decrease detrusor muscle excitability.[3,9]

While the overall cure rate associated with imipramine therapy is reported to be only 25%, initial response rates exceed 50%, and the drug may work well enough temporarily to justify its application as a stopgap measure to reduce family stress and to keep a child dry long enough to develop nocturnal urinary control normally.[3,5] Combined with family counseling and either casual or formal psychological support, imipramine can achieve a high success rate in the hands of some physicians. It may, however, alter sleep patterns.

A commonly recommended dose is 25 mg nightly for children 6 to 8 years old and 50 to 75 mg for older children and adolescents.[5] When the drug works, its efficacy is apparent during the first week of treatment. Duration of therapy is usually 6 to 9 months, with a slow taper to discontinue the drug. Potential side effects include daytime drowsiness, tachycardia, blurred vision, flushing, hyperactivity, and behavioral changes, but these are not frequently encountered at low doses.[3]

The most serious obstacle to recommending imipramine use is the potential for overdose. Deaths have been reported with its use in children. More than 22 fatalities occurred in a 4-year period, according to one study.[3] In the view of many clinicians, few drugs are as toxic or potentially lethal even in low doses, and, in Great Britain, imipramine is among the most frequently cited causes of poisoning in children younger than 5 years.[9] Signs of overdose include ventricular tachycardia, coma, and seizures.[3,9]

Desmopressin acetate Desmopressin produces quick results with negligible side effects, but it is expensive and is associated with a high relapse rate.[3,5,13] Desmopressin is a synthetic analogue of ADH, and its use in PNE is based on the observation that some enuretic children lack the normal nocturnal rise in ADH production. The drug re-

duces urine production, avoiding a full bladder at night.

Desmopressin is administered as a nasal spray, given within 2 hours before bedtime. In some studies, desmopressin has produced a response rate of up to 70% with a dosage of 20 µg, or one spray containing 10 µg in each nostril.[3,5,9] Many studies, however, report lower success rates, and most also note relapse rates of between 60% and 100%.[3] In the absence of response, the dosage may be increased to 20 µg per nostril per night (40 µg total), in weekly increments of 10 µg. Higher doses should be tapered to 10 µg per nostril per night as soon as feasible.[5,9]

Side effects include epistaxis, transient headache, and, in isolated cases, hyponatremic seizures, but a review of numerous studies involving thousands of children in both the United States and Europe showed a favorable safety profile.[3,5,14-16] Parents should be cautioned to reduce evening fluid intake while the child is taking desmopressin to lessen the chance of hyponatremia.

Desmopressin can be immediately successful, making it useful for specific instances when a child needs to remain dry for a few nights, such as at summer camp, on an overnight sports trip, or during a sleepover visit to a friend or relative. The high relapse rate on cessation of the drug and high cost, however, tend to relegate desmopressin to only occasional and selective use.

Oxybutynin chloride Anticholinergic drugs have a role in reducing uninhibited bladder contractions and increasing bladder capacity.[3,5] Oxybutynin is an anticholinergic and antispasmodic agent sometimes used as a last resort for enuresis control, but it should be reserved for cases associated with daytime urgency or frequency.[8] Side effects include constipation (sometimes a cause of nocturnal enuresis), tremor, vasomotor facial flushing, hyperpyrexia and other manifestations of heat stroke (due to decreased ability to sweat), and blurred vision.[3,5]

The dosage for most children is two 5-mg tablets daily (or 0.1 mg/kg tid); occasionally, three 5-mg tablets may be given. Because of the paucity of clinical data, the drug is not approved by the FDA for use in children younger than 5 years.

Nonpharmacologic treatments

Approaches that do not rely on medications to control enuresis place the physician or other health care professional squarely in the dual role of educator and counselor.[17] Nonpharmacologic treatments usually form a cluster of therapies often used together, tailored to a child's specific situation, to produce a more effective strategy for enuresis control than any one therapy alone (Table 3).[17] Some, such as supportive counseling for the family and child, are part of every primary care physician's repertoire. Others, such as hypnotherapy techniques, may depend on availability of local therapists or the clinician's skills in hypnosis.[18] Most primary care physicians, however, can readily use some imagery, suggestion, and relaxation techniques after brief training (see "Hypnotherapy: Why Not Use Imagery and Relaxation in Primary Care?" page 29).[19]

Table 3—Components of Nonpharmacologic Therapy for PNE

Education for child and family
Demystification of enuresis
Behavior or conditioning therapy
Bed-wetting alarm use
Motivational counseling
Nighttime fluid intake control
Daytime urination postponement
Nocturnal self-awakening
Reinforcement
Relaxation techniques/imagery/hypnosis
Sharing responsibility for morning cleanup
Individualized case management
Elimination diets

Efficacy of nonpharmacologic approaches Contemporary thinking about nonpharmacologic therapy centers on behavior modification through a multifaceted approach that includes education, demystification, use of bed-wetting alarms, and counseling. This combination is widely regarded as the gold standard in therapy for PNE.[3] Although this therapeutic model has a 30-year history of safety and efficacy (alarms were introduced in 1948), it is used by only a minority of primary care physicians.[3]

Nonpharmacologic therapy provides the highest long-term cure rate (see "Educational Approaches to Behavior Modification," page 32).[7,9,20] By combining motivational counseling, behavior modification, use of a bed-wetting alarm and relaxation–imagery, a primary care phy-

sician can control PNE in 70% to 80% of patients. With individualized case management involving home visits, the success rate may climb to above 90%. This may be seen after only a few months of therapy. Even the child who voids infrequently may benefit more from a timed voiding schedule and psychological approaches based on behavior modification than from medication.[12]

The rate of recidivism may be significant when the case management intervention ceases. Relapse rates of 30% to 40% are not uncommon.[3] When relapse occurs, a second attempt to achieve control may be made within a few weeks. This often enables more than 90% of children who have relapsed to attain control.

For the child who makes good progress toward nighttime control but does not get "all the way dry" after a first course of nonpharmacologic therapy in primary care, it is reasonable to wait 6 to 12 months before attempting to re-treat. This is only an option, of course, if the education and behavior modification already employed have reduced anxiety and tension to the point where the child and family are more accepting of the situation. Then, waiting 6 months to a year for the child to mature before reinstituting a therapeutic program can result in a higher likelihood of cure. Children 7 to 8 years old may respond better than those age 6 or younger because of their more advanced understanding of the process of bladder control and increased autonomic nervous system maturity.

Practical implementation of nonpharmacologic enuresis control in primary care Treatment begins with the first office or clinic visit, during which the clinician can give support to parents. This includes explicit statements intended to relieve unfounded fears that PNE is abnormal or represents conscious or malicious "acting out" against them. The clinician can also help break the cycle of blame that becomes established between parents and child or between one parent and the other.

The primary care physician can demystify PNE through simple and clear explanations and drawings, and can provide hope to the family that PNE can be treated successfully with complete safety. These messages should be targeted at parent and child alike. Therapy continues with the establishment of a system for monitoring and rewarding success—such as stars on a calendar—to reinforce the training objective: dry nights. It's important also to delegate some responsibility to the child for the work incurred by enuresis, such as collecting and helping to launder the wet sheets. Punishment should not be the objective of this, however, and is never an aspect of treatment. Enuresis itself, with its attendant denigration of self-esteem and constellation of psychosocial and family problems, provides more than enough negativity for a child to bear. In fact, the recent discovery that a gene has been linked to persistent bed-wetting in some children should lay to rest the perception that an enuretic child should in any way be the target of blame or culpability in all but rare cases.[21]

The enuresis alarm is a key element in behavior modification, but it is not intended to be used alone (Table 4). The symposium faculty recommends that the alarm be viewed as a tool within a comprehensive program to monitor bed-wetting activity rather than as a therapeutic instrument in its own right. The roles of the alarm are to establish the baseline pattern of bed-wetting objectively, enable the parents to intervene, and allow objective monitoring of bed-wetting as the treatment program proceeds. The majority of children with PNE will sleep through the alarm if no other component of education or behavior modification is used. Typically, the alarm wakes the parents, who then awaken the child and implement the appropriate components of the treatment program.

When a bed-wetting alarm is used alone—without a comprehensive behavioral program—the relapse rate may be significant. Two kinds of safe and effective alarms are available, each of which is relatively inexpensive at under $60. The traditional older type of alarm consists of two conductive screens separated by a towel. These older alarms have been largely replaced by newer types of alarms that are worn on the body.[9,22]

In nonpharmacologic regimens, a significant commitment to high-quality care, which may involve time and personal effort, is required by the physician, the case manager (if utilized), and the parents. Parental education is the sine qua non for success. Parents need to understand that they are to wake the child completely when the enuresis alarm goes off and must take him or her to the bathroom. Goals of a "becoming dry program" include achieving a specified number of dry nights during the first month of treatment and gradually increasing the "dry

Table 4—Getting the Most From a Bed-wetting Alarm

Note: A bed-wetting alarm should be used within the context of a comprehensive approach to enuresis control that provides demystification, education, counseling, and behavior modification.

Tell the child:

1. Respond to the alarm quickly.
2. Connect and test the alarm yourself.
3. Use a nightlight or keep a flashlight handy at night.
4. Try to wake up before the alarm sounds.
5. Stand immediately and hurry to the bathroom when the alarm sounds.
6. Cover the wet spot on the bed and put on dry pajamas.
7. Go back to sleep, reminding yourself to respond to the alarm immediately.

Tell the parent:

1. Help your child awaken as quickly as possible.
2. Lead your child to the bathroom and see that he or she is fully awake at the toilet.
3. Make sure your child doesn't go to bed too late.
4. Track all data about the bed-wetting episode according to instructions from the physician or case manager.

night quota" for the next several successive months.

Achievement of more "dry beds" over time deserves to be celebrated. Using a hypnotherapy-based approach, the physician can suggest that the child imagine he is asleep in his bed. When the child is relaxed and comfortable with his imagery, a suggestion can be made that the child imagine feeling the urge to urinate but to then "see" himself getting up from the bed and walking to the toilet, followed by urinating in the toilet. Alternatively, the child can be asked to imagine keeping the urine inside his bladder comfortably all night. The child can complete the imagery exercise by experiencing how good it feels to be dry all night (see "Hypnotherapy: Why Not Use Imagery and Relaxation in Primary Care?" page 29).

Because combined treatment programs require continuous and consistent follow-up, some experts suggest that families with enuretic children be referred to agencies that provide a full spectrum of education and individualized case management for the child and family plus the panoply of behavior modification and motivational counseling techniques that can fit any family and clinical situation (see "Enuresis Control Through Case Management," page 34, and "Reasonable Expectations and a Time Line for Home Care," page 35). Such agencies can provide age-appropriate education about enuresis for the child, remove issues of blame and guilt from the intrafamily dynamic, provide the alarm, ensure correct instruction in its use, and enable the child and the family to obtain whatever additional education on PNE is necessary. They are also equipped to offer individualized case management and long-term follow-up.

The cost for such services through a specialized outside agency is about $1,500. In contrast, the primary care physician can—by devoting effort and time—reduce the cost of a dry beds program to about $400 (assuming four follow-up visits) through the use of age-appropriate explanations, hypnotherapy-based techniques, counseling, and other behavioral approaches. (This estimated cost is exclusive of the physician's phone call management time.)

Many insurance plans reimburse expenses and managed care organizations include coverage for enuresis control programs, sometimes including the cost of any necessary alarms, home care, and case management. The chance of partial or complete reimbursement is greatest when the program or its individual components are prescribed specifically by the primary care physician. In some insurance or managed care plans, the likelihood of coverage is increased further when the primary care physician remains close to the program, either through hands-on management or regular updates from the service that provides the care.

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COUNTERPOINT & COMMENTARY

The multidisciplinary faculty of the symposium tackles some of the controversial aspects of diagnosing and treating children who have primary nocturnal enuresis.

When to evaluate an enuretic child...

Dr. Jacobs: Is there a lower limit of age for which this faculty agrees that a child needs to be evaluated for enuresis?

Dr. Golbin: We have to differentiate between the physiologic age at which a child is capable of bladder control and the age at which society perceives wetting is a problem. This determination is culturally biased. In the United States, age 5 is probably a reasonable cut-off; that is the age at which many children enter school or day care, even though the neuromuscular capability for control exists long before that time.

Dr. Saltzman: For many of us in primary care pediatrics, the age to begin routine questioning about toilet habits is usually 3 years, though voiding histories are routinely obtained from early infancy. If the child is not dry during the daytime at that age, then he or she cannot attend nursery school.

Dr. Kogan: This is a crucial issue. If the child has PNE, there may be no age at which intervention is necessary on a strictly medical basis. When to evaluate and treat a child depends not only on cultural factors but on the individual family. Families have brought 3-year-old children to me and demanded that something be done about their wetting, and I have also been involved with families of 12-year-old enuretics who were not at all concerned, at least overtly. When the family is not interested in controlling the bed-wetting, there is little point in attempting to treat the child. If you raise the issue, parents may become involved, but without adequate concern on their part, the follow-through is poor.

The need to distinguish between primary and secondary enuresis...

Dr. Faber: In real-world medicine, how much evaluation is necessary? In my experience it is not always necessary to distinguish between primary and secondary enuresis for effective control.

Dr. Golbin: True. The differentiation between primary and secondary enuresis is neither practical nor reliable. Sometimes, when you question parents who claim that a dry child has begun wetting, you learn that the child was not truly dry in the first place, so the new wetting is not really secondary.

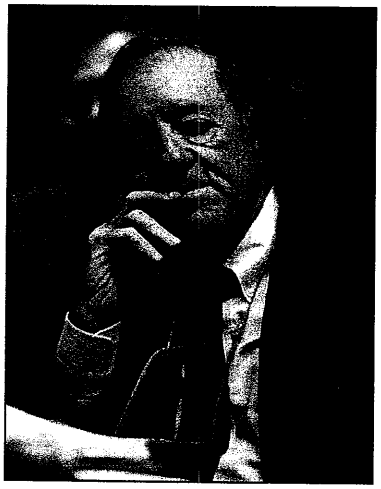
Dr. Jacobs: Parental education is essential, and the need for it can be reflected in surprising ways. For example, I have in my practice a 4-year-old girl who is both obese and enuretic. Her mother was more concerned about her rapid weight gain than about her wetting. When I took the history, I was amazed to learn that the child drank a six-pack of 16-ounce sodas—complete with sugar and caffeine—each day after school. Her mother had no idea that this could be the cause of the problem. When the child stopped drinking so much soda, though, she stopped wetting and lost weight.

The need to treat...

Dr. Jacobs: When is therapy necessary in PNE?

Dr. Saltzman: The need for intervention is based on intrafamily dynamics and the child's psyche. The major reasons boil down, one way or another, to the health of the child's ego, the child's motivation, the social acceptance or rejection of the wet child, school-related imperatives, the stability of the family's marriage, and the ability of the family and the child to tolerate stresses incurred by constant wetting in addition to the stresses of daily life.

Dr. Golbin: For some children, bed-wetting is a compensatory mechanism that is necessary for healthy sleep. In some cases, enuresis may be linked to other parasomnias and more serious medical conditions. Therefore, the decision to treat has to take into account the degree to which enuresis is a problem for the child alone and for the family as a unit. If enuresis is perceived as a problem—for whatever reason—evaluation and treatment should be initiated.



Dr. Faber: Because PNE is a developmental problem, it is a family issue. Good care requires an intuitive pediatrician or family physician who will serve as the rock of support for the family. Nothing of significance can be accomplished in therapy unless the family's emotional needs are addressed.

Dr. Saltzman: My approach as a general pediatrician must be simple, almost simplistic. I need to know the basic elements of the history, the essential laboratory workup, and the most direct and effective means of enuresis control. Do I write a prescription for imipramine, which takes me minutes and causes little financial burden to the family? Do I write a prescription for desmopressin, which also takes me only a few minutes but will cost the family more? Or do I take the time to provide an in-depth session about alarm systems, behavior modification, motivational counseling, comprehensive education, and case management that keeps them in the office for 45 minutes?

I know the comprehensive approach is what they need, but as a busy clinician I may not have the time to impart all the information as often as may be necessary. I'm certainly not able to give them case management in the home or any other individualized long-term follow-up. Therefore, I frequently refer the family directly to a specialized agency with appropriate expertise. If I make a specific referral with explicit prescribing instructions, some or all of the cost will usually be covered by an insurer or managed care organization.

Dr. Golbin: For primary care physicians, we propose a simple and practical approach. I ask three questions. Is there a family history of enuresis? Does the child sleep deeply or restlessly during the first half of the night? Can you awaken the child from slumber at the time of wetting? The answers to these are enough to enable me to place an enuretic child into one of the five categories that predict the efficacy of pharmacologic and nonpharmacologic interventions (see page 26).

On hypnotherapy and enuresis control...

Dr. Jacobs: Should hypnotherapy techniques be part of a management program?

Dr. Faber: Using education, reinforcement, and relaxation–imagery, combined with close case management, the primary care clinician can achieve success in more than 75% to 80% of children with PNE.[18] A general pediatrician or family physician can use hypnotherapy-based methods of enuresis control fairly easily by helping the child relax, encouraging him or her to focus on an internal image, and then going through a sequence of imagery and suggestion that appeals to the child (see "Hypnotherapy: Why Not Use Imagery and Relaxation in Primary Care?" page 29).

POINT OF VIEW: THE TAKE-HOME MESSAGE

Each faculty member expresses his bottom-line view of how to approach enuresis control practically and cost-consciously in primary care

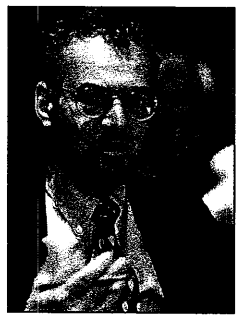
Dr. Faber: Primary care physicians are well equipped to handle virtually all cases of PNE and most children with secondary enuresis. Ruling out significant disease is straightforward if one looks for evidence of urinary tract infection, diabetes insipidus, diabetes mellitus, hyperthyroidism, neurologic disease, developmental delay, and constipation. The physician's unique responsibility is to explain enuresis and dispel the myths that surround it.

Drawings help children understand what is happening in their bodies, and techniques such as charting their dry nights, reinforcing their successes, hypnotherapy with relaxation and imaging, assigning responsibility for clean-up without punitive implications, and simple, inexpensive alarm systems are effective. The challenge of enuresis provides a wonderful opportunity for children to learn about controlling their own bodies. This alone increases self-esteem. Office management of PNE also allows primary care physicians to enhance their skills in training children in self-regulation and relaxation techniques, behavioral approaches that are useful in pain management, anxiety reduction, and other common challenges.

Dr. Golbin: Enuresis is a common problem, but its pathogenesis is difficult to explain. While the problem is usually self-limited and primary care physicians can treat most enuretic children, the connection between enuresis and disordered sleep is too strong to ignore. Use of alarms and forced awakening alone can cause more problems than they solve in certain children. A comprehensive program based on education, behavior modification, judicious medication use, and individualized case management is often the most effective cost-saving approach.

Dr. Jacobs: It is incumbent on the primary care physician to teach the family that along with achieving control of nighttime urination there is anger and hostility that needs to be defused and damage to the child's self-esteem that needs to be repaired. When drug therapy is used for short-term control by a physician cognizant of the risks, it is appropriate and safe. There is no place for high-technology evaluation and therapy in PNE, but comprehensive enuresis education and behavior modification programs with individual case-management follow-up can be worth their expense for certain families.

Dr. Kogan: Treatment programs need to be individualized. I have no doubt that, in certain families, an alarm-based approach works well, and that in others, the effective solution will be comprehensive education and intensive case-management support. I also think that in carefully selected situations, there is no reason not to use imipramine or desmopressin. The child with any type of daytime voiding problem, however, is a candidate for closer evaluation and follow-up. The key is to look for patterns in the history and physical examination findings, voiding episodes, and behavior of the child and family.



Dr. Saltzman: First, it is imperative that by the time a child reaches 3 years of age, the pediatrician or family physician ask about bed-wetting during routine office visits and take steps to promote the alleviation of family and marital stress when enuresis is uncovered. Helping the enuretic child understand the problem is appropriate and productive; casting blame by the parents—on the child or on each other—is not. Second, try to raise the enuretic child's self-esteem and normalize intrafamily dynamics. Third, consider age-appropriate interventions that are most beneficial and least harmful.

After the results of history-taking, physical examination (including pelvic evaluation for children of both sexes), and some simple laboratory work are reviewed to rule out complicated or secondary enuresis, the therapy of choice is a comprehensive approach that includes education for the child and the family, a bed-wetting alarm used correctly, reinforcement when dryness is achieved, assignment to the child of some responsibility in morning cleanup, and some form of counseling or individualized attention. It's not easy for a child to help with the laundering of the wet bedding and to take a bath every morning on a school day, but it is important that the enuretic child have responsibility without guilt.

This usually requires no more than 6 months of a physician's attention, and the time and the effort spent are well rewarded by the happiness of the child and family. Even if an outside agency is consulted to provide comprehensive education, behavior modification, motivational counseling, and close case management, the overall cost is far less than would be incurred through inappropriate referral to medical subspecialists, psychiatric therapy later in life to repair damaged self-esteem, and divorce attorneys.

APPENDIX

DISORDERED SLEEP AND ENURESIS: A NEW UNDERSTANDING?

At the Sleep & Behavioral Medicine Institute in Chicago, Alexander Z. Golbin, MD, PhD, and his colleagues have made significant advances in the understanding of the pathophysiology of PNE and how PNE may be a form of disordered sleep.[23] They have developed a means of classifying enuretic children into categories that may be useful for determining which interventions are likely to be effective.

Characteristics of Enuretic Children

Enuresis is a complicated syndrome that comprises a broad constellation of signs and symptoms. Not all signs and symptoms are displayed by every child who wets. The essential spectrum of symptoms includes:

- **Spontaneous, involuntary urination during sleep** This differs from voluntary urination when awake in that nocturnal enuresis is a paroxysmal (sudden) brief outburst, usually of a large quantity of urine, without movements of pelvic muscles.
- **Deviation of sleep patterns** Enuretic children display a wide variety of sleep disturbances that can be witnessed clinically at home and that can be registered and documented in a sleep laboratory.
- **Deviation of daytime alertness and/or motor behavior** Changes in levels of alertness include hyperactivity, motor retardation, clumsiness, emotional instability, fears, inattention, daydreaming, tantrums, daytime sleepiness, and oppositional defiant reactions.
- **A very sensitive attitude toward the affliction, or, paradoxically, a totally indifferent attitude** Some children, even those over age 10, appear not to care about their bed-wetting, or exhibit complete denial of any problem. Others react painfully, to the point of making suicide attempts.
- **Therapeutic resistance and spontaneous resolution** Some enuretic children resist the most seemingly appropriate or typically effective therapies, then suddenly exhibit a spontaneous disappearance of PNE.

Enuresis and Sleep Stages

Dr. Golbin finds that the act of bed-wetting is associated with switching of sleep stages and that enuretic children commonly exhibit other parasomnias. These may include an increase or decrease in sleep latency (period of falling asleep), abnormally deep or restless sleep, and other parasomnias such as sleepwalking, sleeptalking, bruxism, confusional arousals, night terrors, and nightmares. These sleep deviations develop before bed-wetting. Dr. Golbin's findings support the idea that sleep deviations are the primary factor producing PNE, not the other way around.

When enuretics undergo sleep studies, wetting tends to occur during the so-called paroxysmal delta stage of sleep, which may be deeper and more prolonged than it usually is in children who do not wet. Nocturnal wetting partially arouses the child (Figure 4). This observation provides clinical corroboration for parental reports that their enuretic children are deep sleepers.

After the wetting episode, sleep architecture improves, with more normal sleep stages. This cycle may repeat, with another segment of abnormal (extra deep and extra long) delta sleep, followed by partial arousal and normalization of sleep structure.

Therapies that help normalize sleep architecture are capable of reducing or eliminating PNE. Alarms, for ex-

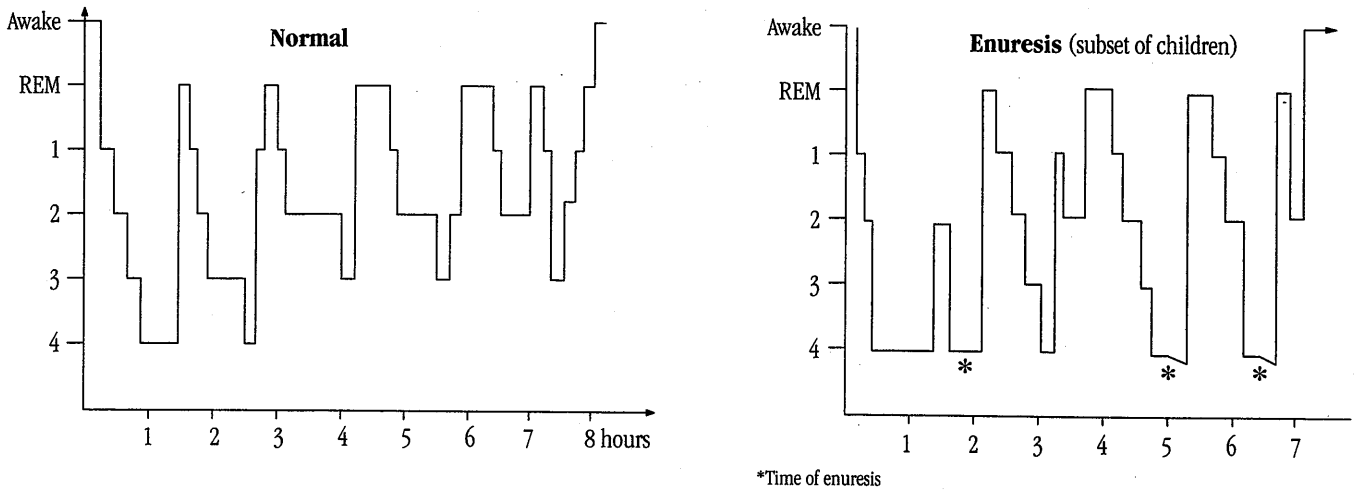


Figure 4—Enuresis may be a compensatory reaction to a long and deep paroxysmal delta stage of sleep, as this somnogram suggests. According to ongoing research into the link between disordered sleep and enuresis, involuntary voiding occurs at the end of the first stage of delta sleep, which in some enuretic children is abnormally long and deep. Many enuretic children pass directly into stage 4 sleep without the brief plateauing at each level that characterizes normal sleep, and they do not enter the rapid-eye-movement (REM) phase of sleep as often as children who sleep normally and are not enuretic.

Nocturnal voiding partially rouses the child, normalizing sleep architecture at least to some extent. If enuresis is prevented in children whose sleep is disordered in this way, other parasomnias can develop to serve the same compensatory function. Alarms may be beneficial as part of a comprehensive treatment program because they magnify the effect of the enuresis itself, ensuring the full awakening of the child. Alarms by themselves are frequently ineffective and may be harmful. Source: Alexander Z. Golbin, MD, PhD.

ample, help arouse the child from abnormal deep sleep, and their mechanism of action can be interpreted within the context of manipulating abnormal sleep architecture. Imipramine also acts to normalize delta sleep. On the other hand, treatments that initially decrease enuresis, such as desmopressin or alarms used alone, have a short-term impact but no effect on sleep architecture. In fact, according to Dr. Golbin, drugs and alarms used alone may induce other parasomnias.

The pathophysiology of PNE, in Dr. Golbin's view, lies in abnormal biorhythms in sleep. Enuresis might be the body's compensatory reaction to abnormally long and deep delta stages of sleep. This compensatory model posits that wetting produces a partial arousal that tends to normalize the pattern of sleep. The key to management of PNE, therefore, may lie in the regulation and normalization of sleep architecture.

These data suggest that some bed-wetters should not be awakened completely from sleep because a forced awakening will not correct the distortions in the sleep pattern. Rather, it will lead to ever greater disorganization of the child's sleep pattern. This is the reason the awakened child typically urinates again as soon as he or she falls asleep. This is also the reason PNE disappears spontaneously when the sleep mechanism matures—its compensatory function is no longer needed.

Clinical Implications

PNE needs to be treated differently in different children, depending on the specific symptom complex, genetic pattern, and sleep disturbance that are involved. Dr. Golbin's research suggests that five forms of enuresis exist, based on the clinical picture, type of sleep architecture, and the patient's response to treatment:

1. Familial enuresis This is the most common category, affecting predominantly boys between 9 and 10 years of age who are deep sleepers. The family history will turn up many bed-wetters. Familial enuretics may fall

Table 5—Differences in Treatment Responses Among the Different Types of Enuresis

Treatment	Procedures	Types of Enuresis*				
		1	2	3	4	5
Behavior modification	Calendars with stars and stickers	–	+	++	–	–
	Bed-wetting alarm	–	–	++	+	–
	Bladder exercises	+	+	++	–	+
	Autosuggestion	+	++	++	+	–
	Hypnotherapy	+	++	++	+	+
	Psychotherapy	–	–	++	–	–
Medication	Imipramine	++	–	–	++	–
	Desmopressin nasal spray	++	+	+	++	+

***Types of enuresis:**
1. Familial
2. Diathetic
3. Reactive
4. Endocrinopathic
5. Organic

Symbols:
– Not effective
\+ Effective
++ Highly effective

Source: Alexander Z. Golbin, MD, PhD

deeply asleep almost instantly. They may be somewhat hyperactive and respond well to imipramine and desmopressin but react poorly to enuresis alarms. Hypnotherapy, autosuggestion, and bladder exercises may be helpful for familial enuretics.

2. "Diathetic" enuresis Diathetic enuretics are predominantly girls without a family history of enuresis. They are often very thin. They may present with numerous psychosomatic symptoms, allergies, and histories of recurrent urinary tract infections. Their frequency of bed-wetting can depend on the weather and water intake. They also may have smaller than normal bladder capacities and be restless sleepers, with unusually long first stages of sleep. They usually respond mildly to therapy with imipramine but not to alarms. Desmopressin is partially effective for short-term control. Autosuggestion and hypnotherapy are usually effective, and reinforcement from calendars with stickers may help, as may warm covers and a hot bath.

3. "Reactive" enuresis Usually, reactive enuresis is a secondary rather than a primary form of enuresis, and often develops after a reaction to emotional trauma, such as may occur at residential schools or sleepaway camps. Reactive enuretics' sleep is characterized by reduced deep delta sleep, a predominance of light sleep, and reduced rapid-eye-movement (REM) sleep. Children prone to reactive enuresis are restless sleepers who urinate frequently and respond particularly well to a program that includes a bed-wetting alarm, but not to imipramine. They also respond well to psychotherapy, education about enuresis, reinforcement techniques, and bladder exercises. Desmopressin may be helpful for short-term control.

4. "Endocrinopathic" enuresis This is related to patients who are overweight. Deep sleepers with reduced but paroxysmal delta sleep, they typically urinate frequently. They respond well to imipramine and desmopressin for short-term control, less well to alarms, autosuggestion, and hypnotherapy. Restriction of salt and water before bed may be helpful.

5. "Organic" enuresis Patients with a history of neurologic problems (such as epilepsy, head trauma, and those associated with craniofacial dysmorphisms) are called organic enuretics. These patients are predominantly boys who

are restless sleepers with markedly reduced REM sleep and who resist attempts at control both by alarms and by medication with imipramine. Desmopressin, bladder exercises, and hypnotherapy may produce partial success in these children.

The practical implication of this classification scheme, according to Dr. Golbin, is that once the physician and parents have identified which category most closely describes the enuretic child, they can initially select the pharmacologic and nonpharmacologic interventions most likely to help the child achieve nighttime control.

Dr. Golbin's clinical correlations are summarized in Table 5. His advice is to try several strategies. For example, if the child has a family history of wetting and appears to fall deeply asleep rapidly, consider changing the child's position approximately 60 to 90 minutes after the onset of sleep. If the child is repositioned at that time to lying on one side instead of lying on the back or stomach, sleep may be switched to lighter stages, reducing the likelihood of enuresis. Alternatively, the child with reactive enuresis is likely to benefit from a program that includes a bedwetting alarm and psychotherapy but may not do well with imipramine. The goal of treatment is to stabilize the patient's sleep patterns.