Editorials

Rhett Butler And The Superior Physician

A 1975 study of Idaho private family practice and pediatric offices reported that only 44 percent of active patients were fully immunized with the vaccines then recommended for routine use: diphtheria and tetanus toxoids and pertussis vaccine (DTP), trivalent oral polio virus vaccine (OPV), and measles and rubella vaccines.[1] An accompanying editorial decried the "embarrassing failure" to achieve optimal immunization levels among 2-year-olds and noted the need to check immunization records on every visit, immunize susceptible patients when seen for minor acute illness, and remove economic barriers to immunization.[2] Two decades later, Zimmerman and colleagues have reported that only 62 percent of 2-year-olds vaccinated exclusively in Minnesota private pediatric and family practice offices are fully immunized with these same vaccines, and they noted the failure to immunize despite minor illness, failure to administer multiple vaccines simultaneously, and referral of patients to public clinics because of poor reimbursement.[3] Other recent studies also have reported inadequate immunization despite multiple physician visits during infancy.[4] Medical practice has been transformed in the past 20 years — by noninvasive imaging, organ transplantation, and information technology; by diagnosis-related groups, continuous quality improvement, and managed care — yet immunization practice is little changed.

To gain insight into the reasons for continued poor immunization practice, Zimmerman, et al. have studied physicians' knowledge and attitudes about immunization. They report that many physicians' knowledge of the appropriate use of measles-mumps-rubella (MMR), DTP, and OPV was deficient, although recommendations for use of these vaccines have been in place for more than 20 years. For example:

- Today 1 in 3 physicians *would not* give MMR to a child whose mother was 2 months pregnant — an invalid contraindication. The attenuated viruses of measles, mumps, and rubella vaccines are not transmitted by vaccinees to their susceptible contacts, even to those who are immunocompromised. Indeed, administering MMR to a child of a susceptible pregnant woman or to a household contact of an immunocompromised patient would offer that pregnant woman or patient some measure of protection against a likely source of exposure to these diseases.
- One out of 5 physicians *would* administer OPV to a child whose mother was receiving chemotherapy for leukemia — a valid contraindication. Because the polio vaccine virus is shed in the stool of vaccinees for weeks, OPV immunization of a child puts the immunocompromised household contact at some risk for acquiring vaccine-associated poliomyelitis. Furthermore, a safe and effective alternate vaccine is available to immunize the patient — enhanced-potency inactivated poliovirus vaccine (eIPV).

These two examples indicate a worrisome deficit in the most basic knowledge required to utilize effectively and safely these two presumably familiar vaccines. Most responding physicians accurately estimated the efficacy and safety of these vaccines, but many had less understanding of the communicability, severity, and complications of these vaccine-preventable diseases.

What is the problem? Why has immunization practice remained poor among US primary care providers who presumably espouse prevention? Is it that, like Rhett Butler, US primary care physicians "frankly . . . don't give a damn"? Scholarly investigations of physicians' knowledge and beliefs, while providing needed and potentially useful insight, suggest interventions that, while necessary, are not sufficient to change physicians' behavior, at least not rapidly. Very rapid improvement in immunization practice is required if the United States is to realize the wonderful promise of modern vaccines to prevent costly disease and disability and achieve our national immunization goal of immunizing 90 percent of 2-year-old children with all routinely recommended vaccines.[5]

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Current immunization practices are a manifestation of attitude, which in turn reflects contemporary societal values. Immunization is undervalued. Because vaccines prevent — as opposed to detect, treat, or cure — disease, vaccines actually produce health. From an economic viewpoint, these vaccines do not add to the cost of medical care, but reduce it (J. Leighton Read, MD, 1994, unpublished observation). Such value is not reflected in the price of either vaccines or immunization services. A suture, radiograph, or enema generally generates higher fees than does administering a vaccine.

Furthermore, responsibility for immunization of US children is ill-defined. The costs of vaccine-preventable disease are borne by an entire community through costly outbreak control, hospitalization, lost wages, special education, disability, and deaths. Nonetheless, in most US communities it is not clear how responsibility is apportioned among parents, providers, and payers. For example, if an infant immunized at age 2 months has not returned by age 6 months, what is the physician's responsibility? At what point does outreach become a public health responsibility? Do payers have a role in monitoring their providers' immunization practice? If responsibility is vague, so, too, is accountability. To what degree should providers be held accountable for failing to offer needed vaccines to an unimmunized child?

As more disease becomes preventable by new vaccines, the real cost of suboptimal immunization practice increases. Make no mistake, optimal immunization practice in 1995 is a formidable challenge. In the past decade invasive *Haemophilus influenzae* type b, hepatitis B, and recently varicella have joined the list of vaccine-preventable diseases, adding 7 to 9 "shots" to the schedule, depending on the age of the child and the vaccine used. Today 10 diseases can be prevented that were an unavoidable hazard of childhood and added substantially to the burden of parental worry; however, 18 to 20 doses of vaccines are required, of which 15 should be administered prior to the age of 2 years. Adding to the challenge are a geographically mobile population, multiple providers for each patient due in large measure to changes in insurance coverage, and a health care system in turmoil. Modern information technology offers a valuable tool for managing immunization practice, but the logistics are overwhelming, the cost considerable, and issues of privacy controversial. While the 1986 National Childhood Vaccine Injury Act resolved most liability issues, concern about vaccine safety continues to complicate practice.

Because of the rapid pace of vaccine development, almost all published studies of US immunization practice have reported only on the use of DTP, MMR, and OPV. Such studies, therefore, understate the true, current scope of our nation's immunization practice problem, because they do not assess utilization of hemophilus conjugate and hepatitis B vaccines.

Referral of children needing immunization from one provider to another because of economic barriers compounds the problem.[6] To achieve our national immunization goals, an integrated public-private partnership must eventually remove all incentives for deferring routine immunization through referral.

Vaccines have eradicated smallpox from the world and polio from the Western hemisphere, made diphtheria and tetanus medical oddities, and eliminated invasive *Haemophilus influenzae* type b as a common cause of meningitis and resulting disability. New knowledge of the molecular biology of the human immune system and new vaccine technology together hold almost unimaginable promise for disease prevention. Sadly the vaccine practice of US physicians is far from optimal. Whether it be immunizing a preschooler against measles, an adolescent against hepatitis B, or an older adult against influenza, countless opportunities to prevent costly disease are overlooked. Current US immunization practice accurately reflects the low priority and low relative economic value in this country of vaccines and immunization services.

What defines a superior physician? An old Chinese proverb states: "The superior physician prevents illness; the mediocre physician treats incipient illness; the inferior physician treats acute illness." Unless and until we accord disease prevention its true value economically and medically, the full promise of modern immunization will continue to elude us. To achieve our national immunization goals, we must address not only knowledge but also attitude.

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Comprehensive Geriatric Assessment: Is It Too Comprehensive For Compliance And Cost-Effectiveness?

Comprehensive geriatric assessment (CGA) has been defined as ". . . a multidisciplinary diagnostic process intended to determine a frail elderly person's medical, psychosocial, and functional capabilities and limitations in order to develop an overall plan for treatment and long-term follow-up."[1] CGA has steadily grown in importance in the United States since the pioneering work of Dr. T. Franklin Williams in the early 1970s.[2] Dr. Williams found that a comprehensive outpatient screening of patients who had been referred for nursing home placement was effective in determining those patients for whom the placement could be avoided. In 1984 Rubenstein, et al. published a landmark report of a randomized clinical trial of an inpatient geriatric evaluation unit.[3] Patients in the acute hospital who were expected to have a delay in a discharge home were randomized to the geriatric evaluation unit or to usual care. Patients in the geriatric evaluation unit group were more likely than controls to experience and retain gains in functional status, to have fewer nursing home days, and to have a dramatic decrease in mortality at 1 year. The authors reported overall costs for the first year that were lower for the intervention group, but this estimate was based on limited cost-finding that did not include the added costs of geriatric evaluation unit treatment above those of intermediate care.

The Department of Veterans Affairs, which had provided extensive support for research, education, and clinical work in geriatrics with the formation of geriatric, research, and education clinical centers in the late 1970s and early 1980s, fostered the development of geriatric evaluation units at VA medical centers in the late 1980s.[4] With increasing recognition of the need to include management along with evaluation, the geriatric evaluation unit was retitled the geriatric evaluation and management (GEM) unit. The GEM approach to care, with its emphasis on caring for the whole patient, addressing all dimensions of health including the psychosocial and functional, specifically seeking the patient's wishes regarding the aggressiveness of treatment, and working with multidisciplinary or interdisciplinary teams, is now a fundamental component of geriatric clinical care. It is an approach compatible with the biopsychosocial model that is fundamental to family practice. Departments of family practice have been closely involved in the development of geriatric programs in many institutions.

While the value of the GEM approach for a select group of frail elderly is not in question, controversy continues about the appropriate selection of elders for GEM care and about the components of GEM care that are most effective. In 1989 the Department of Veterans Affairs, the National Institute on Aging, and the Robert Wood Johnson Foundation sponsored a conference to establish consensus on the research agenda for work related to geriatric assessment.[5] An overview of the evidence for the impact of GEM care on survival, diagnostic accuracy, placement, functional status, use of hospital services, and costs of medical care supported the effective-

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