New Pediatric Vaccines Add Up To Costly Burden

BY BETSY BATES
Los Angeles Bureau

HONOLULU — A complex regimen of 21 vaccines added to the vaccine childhood immunization schedule since 2000 has left many health care providers shaking their heads.

Dr. Andrew D. Racine took his frustration one step further, and took out his calculator.

By his calculations, administration of the new vaccines recommended for pediatric patients from infancy through adolescence by the Centers for Disease Control and Prevention’s Advisory Committee on Immunization Practices, the American Academy of Pediatrics, and the American Academy of Family Physicians has added up to 17.8 weeks of salary for a full-time nurse in a busy practice, as well an up-front inventory cost of $100,000-$200,000.

“The instigation for this study was just looking at our nursing staff,” said Dr. Racine following the oral presentation of his results at the annual meeting of the Pediatric Academic Societies.

“They were going crazy.”

Dr. Racine, chief of clinical pediatrics at Albert Einstein College of Medicine, New York, noted that 10 childhood vaccines were recommended in 1983. That number now stands at a mean 27 vaccines per healthy child, depending on their gender and risk profiles.

Added to the schedule since 2000 are pneumococcal 7-valent conjugate vaccine (PCV7) at 2, 4, 6, and 12 months; influenza vaccine at 6 and 7 months, then annually to all patients up to 5 years and to 50% of 6- to 21-year-olds; meningococcal polisaccharide conjugate (MCV4) vaccine and tetanus/diphtheria toxoid/acellular pertussis (Tdap) vaccine at 11 years; hepatitis A vaccine at 18 and 24 months; rotavirus vaccine at 2, 4, and 6 months; 3 human papillomavirus (HPV) vaccines to girls at 11 years; and a second varicella vaccine at 3 years.

To find out how much staff time was needed to administer these added inoculations, Dr. Racine conducted an observational time-flow analysis of nurses in a busy urban academic practice as they simulated the tasks required to deliver one childhood inoculation.

He then multiplied the mean time to deliver a shot by the number of vaccines required per one pediatric patient over the course of childhood and calculated the total time cost to practices of various sizes.

The study was designed to be widely applicable to many types of practices: large or small, private or academic, staffed by experienced or relatively inexperienced nurses.

Tasks in the simulation included checking the chart for a vaccine order, obtaining the vaccine from storage and drawing up the medication, accessing the examination room, counseling parents, administering the shot and, finally, recording the immunization on the child’s personal immunization card and on the chart.

The analysis used conservative assumptions. Dr. Racine noted.

Even so, the time added up to a substantial burden, even for a small panel of 1,000 patients, he reported.

“We’ve got anywhere from about 4.5 weeks of nursing time for a small panel that gave shots quickly to almost 18 weeks for a full-time equivalent nurse just to give these vaccines to a large panel of patients,” said Dr. Racine. (See box.)

“The potential implications of the study are profound, he added.

“We think this incremental cost in terms of nursing time and up-front outlays for vaccine stock presents significant challenges for the pediatric community and to the public policy goal articulated in Healthy People 2010 of increasing the proportion of all children and adolescents who receive all of their recommended vaccines,” he said.

Genomic Medicine

Keep an Eye on Direct-to-Consumer Testing

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A number of companies have moved to make these markers available to consumers through genome-wide scans that can be obtained over the Internet at a cost of $1,000-$2,500. The companies emphasize that can be obtained over the Internet at a cost markers available to consumers through genome-wide scans

The core questions are not new to medicine: First, when is a new technology ready for clinical use; and second, how much regulation is appropriate to ensure its safe and effective application while fostering innovation and minimizing the risk of disparities?

One side of this debate argues that consumers should be empowered with every possible bit of information about their health and that to deny them direct access to their genetic make-up through overly strict regulation is dated and paternalistic. The other side argues that this type of genome-wide scanning is still a research tool and that to offer it in a loosely regulated manner might substantially mislead the public and health care providers and incur costs in terms of morbidity and inadequate health care resources. Both sides have valid points.

The American Medical Association and the American College of Medical Genetics have developed official positions that are critical of DTC genomic testing. Much hinges on consumer demand and opinion—and, to some extent, the ability to shape that demand rests in the hands of health care providers.

Dr. Feero is a family physician with a doctorate in human genetics from the University of Pittsburgh. He is a senior adviser for genomic medicine in the Office of the Director at the National Human Genome Research Institute.

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