

Experts predict the next breakthroughs in pediatric research

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New vaccines and cancer immunotherapy for children are just a few of the medical breakthroughs that could be on the horizon in pediatrics.

Experts crafted a list of seven achievements in pediatric research they expect to see in the next few decades based on input from the Academy and other pediatric organizations.

“We ... recognize this is not an exhaustive list at all but wanted to generate discussion and thinking about the future and thinking about where research is going,” said Tina L. Cheng, M.D., M.P.H., FAAP, past chair of the AAP Committee on Pediatric Research (COPR) who co-authored the article “The Next Seven Great Achievements in Pediatric Research” (Cheng TL, et al. *Pediatrics*. April 21, 2017, <https://doi.org/10.1542/peds.2016-3803>).

The authors, who include COPR Chair Clifford W. Bogue, M.D., FAAP, predict the following achievements:

1. More pediatric immunizations prevent emerging and persistent diseases.
2. Cancer immunotherapy in pediatrics shows promise.
3. Genomic discoveries predict, prevent and more effectively treat disease.
4. Big life-course data recognize fetal and childhood origins of adult health and disease resulting in effective early interventions.
5. Knowledge of the interaction of biology and the physical and social environment leads to effective prevention for individual and population health.
6. Quality improvement science creates safe, efficient systems of care.
7. Implementation and dissemination research reduces global poverty.

The list is a follow-up to a campaign in which COPR surveyed pediatric groups and developed a list of the [seven great achievements in pediatric research](#) in the last 40 years. The achievements included reducing sudden infant death syndrome with the Back to Sleep campaign, curing acute lymphocytic leukemia and saving premature babies by helping them breathe. The authors used input from those surveys to create their new list.

Dr. Cheng, director of the Department of Pediatrics at Johns Hopkins University School of Medicine, said recent advances in electronic medical records and genomics will help move research forward.

“My belief is that really understanding the mechanisms of disease, we really need to start early because it’s early in the life course ... when a lot of disease processes are beginning,” she said. “It’s early in the life course that we have the best potential to prevent disease.”

To achieve these breakthroughs, researchers will have to overcome the challenges of including children in studies as well as declines in funding and staffing.

“We should not be taking for granted the research discoveries that have been made,” Dr. Cheng said. “And it’s really exciting to see where we are going and I’m sure that there will continue to be breakthroughs, but

we need to make sure we continue to support pediatric research.”

The authors are inviting discussion on their predictions at <https://doi.org/10.1542/peds.2016-3803>.

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