

Laudatory Review

The University of Washington Children's Environmental Health Risks Research Center thanks the NIEHS Review Panel for their comments and recent review of the Children's Centers. We especially thank the reviewers for their kind words emphasizing the strengths of the Centers in using population-based studies to answer research questions directly relevant for children's health. We were pleased to hear that the Review Panel lauded the Centers for their multidisciplinary strengths and ability to tackle health problems in vulnerable populations. Yes, as the report suggested, the Centers' key emphasis includes identifying critical pathways of exposure and early response due to differential life stage susceptibilities. And as the Panel notes, the Centers have been instrumental in developing successful primary prevention and intervention approaches rather than waiting for the development of serious disease. We were also proud to hear the Panel Reviewers emphasize the instrumental role that the Children's Centers have played in raising the visibility of children's health research. We concur with the Review Panel discussions on the need to support strong cutting edge science and recognize that this requires a sustained commitment to research funding.

Suggested Organizational Redesign

Our Children's Center investigators were surprised to read the new proposed Center structure as it is difficult to imagine that the new structure will provide any advantages. The requirement of three interlinked and previously funded RO1s will decrease flexibility, impose new barriers, and decrease opportunities to integrate and attract cutting edge scientists by removing incentives to integrate and collaborate. The structure of linked RO1s will also eliminate the ability of Centers to obtain "matching" funding from our home institutions, which, over the past 10 years in our Center, have provided significant facility core funds allowing for the expansion of genomic analyses. Logistically, obtaining three simultaneously funded RO1s which overlap for sufficient time for integrated studies will be quite challenging and will negate the very strengths that the Review Panel lauded. Although the Review Panel discussed approaches such as adding supplemental funds/pilot projects to institutions requiring collaboration with Centers, these creative suggestions did not appear in the review. Also it was noted that although the Review Panel was to review all of the funded Children's Studies in NIEHS, the portfolio of RO1 and P21 grants was not reviewed. If these RO1 and P21 grants had been compared to the Center grants, the successes of the Children's Centers in translating research for children's health protection would have even been more notable.

Children's Center Focus

The Center investigators were surprised to hear the comments regarding the narrow "focus" on local concerns as most of the Centers have a strong disease-based research focus and these health issues extend across national and international populations. Exposures contributing to disease are frequently local and hence require local knowledge and focus (for example, our study on pesticide exposure in Eastern Washington) in order to determine mechanisms of susceptibility. Such mechanistic studies, however, have provided insights on other similarly exposed populations, both in the United States, and

internationally. We were pleased to hear the recommendation that more basic science should be included in the Centers and would be pleased to request additional funds. In most cases the very modest Center funding and numerous RFA requirements left little room to fully explore and apply new emerging techniques to address children's health.

Center Mechanisms

Unique characteristics of the Center grants versus RO1s are their ability to mount large scale, coordinated, integrated and multidisciplinary research efforts to address significant public health diseases. This explains the successes of the Children's Centers lauded in the Panel's report. Our Centers also draw on many other leveraged resources (see large number of additional "spin-off" grants that have been obtained by the Centers). At my university, an investigator with a new RO1 is always encouraged. However, because Center applications affect so many researchers and departments, the University will not only strongly encourage these applications, but will also contribute to the Center infrastructure by providing additional research and/or salary contributions. This hints at one of the advantages of Centers that has not been recognized by the reviewers.

The increased visibility of the Center versus an RO1 occurs not only in our external communities as discussed below, but also in our universities and among our colleagues. We have successfully recruited cutting edge senior and junior researchers from other fields to work on children's health based on internal Center visibility. This recruitment of talented new and senior scientists has been another hallmark of the Centers' success and rarely occurs with RO1s. NIEHS and EPA have successfully partnered thanks to the Center mechanism and the need for integrated research in order to successfully address children's health.

Community Partners

As recognized in the report, the Centers have had phenomenal successes that have been dependent upon their partnerships with our communities. In our case, the community partners helped from the start of the study with design and implementation. In fact, their involvement in expanding our sampling strategy to include vehicle dust facilitated our ability to identify and characterize significant exposure mechanisms for children.

In summary, we thank the review panel for the laudatory comments about the importance and impact of the Centers in improving children's health.