Proposal

Overall Aims & Objectives

The mission of the American Academy of Pediatrics (AAP) Julius B. Richmond Center of Excellence (RCE) is to improve child health by eliminating children's exposure to tobacco and secondhand smoke. This is accomplished by changing the clinical practice of pediatrics through the development and dissemination of practice tools and research, and improvement of community health. The overall goals of this project are to improve counseling by pediatricians and child health care clinicians about secondhand smoke exposure and tobacco use, improve prenatal/family-based cessation interventions, and implement adoption of clinical practice systems changes to ensure that the right questions are asked at every visit to reduce exposure to secondhand smoke and increase cessation rates.

The specific aims for this project are:

1. Educate pediatricians and child health care clinicians about messages, tools, and counseling protocols to screen and counsel patients and families about cessation and secondhand smoke exposure during pediatric clinical encounters. This will be accomplished by training pediatricians and clinicians to integrate these practices into existing practice systems.
2. Accelerate the adoption of consistent secondhand smoke and tobacco use screening and counseling into all pediatric clinical settings.

To achieve these aims, the following objectives are proposed.

1. By the end of the 2-year project period, train 60 pediatricians and child health care clinicians on counseling patients and families about secondhand smoke exposure, tobacco use, and cessation through participation in one of three in-person training sessions.
2. By the end of the 2-year project period, educate 60 pediatricians and child health care clinicians about integrating practice systems change to ensure patients and families are counseled about secondhand smoke exposure and tobacco use and referred to cessation services, through participation in one of three in-person training sessions.
3. By the end of the 2-year project period, 50% of trained pediatricians will have implemented systems changes related to secondhand smoke and tobacco use screening, counseling and cessation in their practices by completing the EQIPP on-line quality improvement module "Tobacco Use and Exposure".
4. By the end of the project period, 500 patients and family members will be screened for tobacco use and secondhand smoke exposure, and those for whom it would be appropriate will have been referred to cessation services.

Current Assessment of Need in Target Area

Smoking and exposure to secondhand smoke causes approximately 443,000 deaths in the United States each year, making tobacco use the leading preventable cause of death (1).

Smoking and tobacco use are associated with many adverse outcomes in adults, including lung cancer and respiratory disease, coronary heart disease, cancers, infertility, and children, including Sudden Infant Death Syndrome (SIDS), asthma, ear infections, and respiratory infections. The Centers for Disease Control and Prevention (CDC) estimates that 88 million non-smokers in the United States are exposed to secondhand smoke annually; 53.6% of these are young children aged 3-11 years (2).

Table 1 shows data from the AAP Richmond Center 2009 Social Climate Survey of Tobacco Control (an annual cross-sectional survey of adults' attitudes, behaviors, and beliefs about tobacco) showing that only 17.3% of adults reported their physicians asking about secondhand smoke exposure in the home and 27.2% of children's physicians inquiring about exposure to secondhand smoke exposure in the home during office visits (3). Regarding advice to quit smoking, 66.7% of smokers were advised by their primary care provider to quit and 19.6% of smoking parents were advised by their child's primary care provider to quit (3). A report by the Association of American Medical Colleges (AAMC) about physician behavior related to smoking cessation shows that only 63% of physicians assess patients' willingness to quit; 13% usually refer to appropriate treatment; and 17% usually arrange a follow-up visit to address smoking issues (4).

Table 1: Proportion of Visits to Primary Care Clinicians by 1,082 Adults and 359 Children in Which Questions about Secondhand Smoke Were Asked or Relevant Advice Was Given, 2009 Social Climate Survey of Tobacco Control (3)

Intervention	Visits
	%
For adult patients	
Asked whether household members smoke	23.2
Advised to keep home smoke-free	17.3
Advised to keep car smoke-free	15.5
Advised smoker to quit	66.7
For parent of child	
Asked whether household members smoke	43.6
Asked whether smoking allowed in home	27.2
Asked whether smoking allowed in car	19.5
Advised to keep home smoke-free	20.8
Advised to keep car smoke-free	18.2
Advised smoking parent to quit	19.6

These data indicate that counseling for secondhand smoke exposure and tobacco use is not a routine part of clinical practice, providing missed opportunities for early detection of exposure, and for interventions to help parents/families quit using tobacco. The 2008 United States Public Health Service Clinical Practice Guideline, *Treating Tobacco Use and Dependence: 2008 Update*, strongly recommends that clinicians screen all patients for tobacco use and provide cessation

interventions for those who use tobacco products (5). The Guideline recommends that patients receive both medications and counseling as components of treatment. Additionally, the *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents – Third Edition* (2008) includes routine tobacco use and secondhand exposure screening by pediatricians in the anticipatory guidance for well child visits at all ages (6). Healthy People 2020 objectives and the 2012 Surgeon General report *Preventing Tobacco Use Among Youth and Young Adults* also encourage tobacco cessation screening and counseling in the office setting, emphasizing the importance that primary care physicians play in helping patients quit (7, 8).

Seventy percent of smokers see a primary care physician annually (5), therefore primary care physicians (including pediatricians) are uniquely positioned to help patients and families quit. Approximately 68.8% of current smokers in the United States report that they want to quit (9) and approximately 44% have made at least one recent quit attempt (5). However, only 4%-7% are successful each year (5). A recent study by Land, et al which looked at the effect of a systematic clinical intervention on quit status found that the sites that had implemented a "systems change" involving regular screening for smoking showed an 80% increase within 9 months in identification of their patients who smoked (10).The study also found that patients received more clinical interventions at the sites that had implemented systems changes, and each clinical intervention where smoking status was assessed increased the likelihood of quitting by 2.6% (10). Appropriate use of pharmacotherapy further increased successful quitting rates (5).

A study by Kruger, et al about the most trusted venues by physicians for health-related information for physician referrals to smoking cessation services showed that 76.4% of physicians preferred to receive information from other physicians and 75.2% preferred to receive this type of information from medical societies (11). This same study also found that physicians who "obtained their most trusted health-related information from professional societies had an increased likelihood of referring patients to smoking cessation services" (11). Thus, the American Academy of Pediatrics is perfectly poised to effectively reach pediatricians and other child health care providers about making systems changes in practice to increase tobacco use and secondhand smoke exposure screening and cessation referral.

Many treatments are effective in helping smokers quit including brief clinical interventions, counseling, behavior cessation therapies, and treatments with more person-to-person contact and intensity. Additionally, tobacco cessation counseling should be provided to parents and families of pediatric patients, as both the child and adult benefit from a reduction of secondhand smoke exposure. Although barriers exist to implementing clinical interventions, quitlines and coverage for pharmacotherapy are widely available, and access to cessation resources can and should be offered during all clinical encounters with smokers. However, pediatricians and child health care clinicians often lack knowledge about the resources available for patients, parents, and families.

The proposed project builds upon pediatric and child health care professional trainings

convened in 2005, 2007, 2009, and 2011 by the AAP which have primarily addressed clinical goals, and have trained pediatricians in strategies to implement practice changes to ensure systematic counseling interventions. These curricula included policies to protect children from tobacco and secondhand smoke, quality improvement techniques to drive change, strategies for engaging stakeholders, resources for local tobacco and secondhand smoke control efforts, increased physician involvement in advocacy for tobacco control policies and better access to and coverage and payment for cessation and counseling services. Over 100 applications were received for the 50 spots available for the 2011 training from physicians across the country who were looking to become actively engaged in tobacco control clinical systems changes and advocacy in their states and communities.

Evaluations from the 2005, 2007, and 2009 trainings show that more than half of prior participants implemented at least one advocacy or clinical change initiative within a year after their participation in the event. Evaluation results from 53 attendees participating in the most recent training in 2011 show a 50% increase, between pre- and post-test, in preparedness to advocate for tobacco cessation and pharmacotherapy services to be included in their insurance coverage of other preventive services, and 96.5% of the participants felt prepared or well-prepared to modify their clinical practice to improve tobacco cessation counseling for patients and families. Additionally, qualitative results showed that trainees have already been engaged as advocates and educators in their communities and clinics. One participant, a pediatrician in the military, made changes in her clinic: *"I (already) approached our clinic commander and smoking is no longer allowed in front of our clinic or in the parking lot. The large ashtray has also been removed. I will also be giving a lecture on third-hand and second-hand smoke to the clinic providers ..."* As a result of participating in these past trainings, more than 200 physicians and child health clinicians are working on making clinical systems changes and/or advocating for better services.

Technical Approach, Intervention Design, and Methods

To achieve the aims and objectives, the AAP proposes to hold three trainings each with approximately 20 participants from three regions of the United States (US). The proposed trainings are intended for pediatricians and child health care clinicians who are interested in implementing evidence-based clinical systems change practices to impact tobacco screening, counseling, and referral to cessation resources in their practices, and who are interested in engaging in educating others about tobacco prevention and control, including about the need for coverage for cessation services. The AAP will organize and convene the trainings, and will work closely with AAP chapters and districts (identified during the planning process) to select the regions from which training participants will be recruited, and to identify applicants who are primed to implement practice change.

The AAP will establish a small planning group of practicing pediatricians who are familiar with evidence-based clinical systems change practices, cessation resources, counseling patients and families, and quality improvement. The Richmond Center has several existing networks of pediatricians and child health care clinicians from which to draw members for the planning

group. These include: 1) Faculty Expert Panel, a group of pediatricians and child health care clinicians who provide outreach and education for the Richmond Center by supporting brief, clinical interventions to reduce and eliminate children's exposure to tobacco and secondhand smoke; 2) members of the newly-formed Provisional Section on Tobacco Control (PSOTCo), an AAP member group for pediatricians interested in all aspects of tobacco control and secondhand smoke exposure prevention whose goal is to increase education about tobacco control for practicing pediatricians, including successful clinical interventions; and 3) AAP Richmond Center Principal Investigators who are leaders in their fields working on research projects related to secondhand smoke exposure funded through the Richmond Center, many of whom are also practicing pediatricians and routinely screen, counsel, and refer patients and families to cessation services.

The project Principal Investigator and Project Director will also participate in the planning group. The Project Manager will provide day-to-day management of this group. The planning group will develop the agenda, invite faculty, develop the recruitment application, screen and determine attendees based on their applications, and assist in securing CME for the activity. It is anticipated that the planning group will meet regularly via conference call and will also communicate via e-mail.

Each of the three trainings will be a live course delivered as a 1 ½ day session. Twenty-five participants will be trained at each of the three sessions resulting in 60 total trained pediatricians and child health care clinicians. To maximize the available budget, trainings will be held at AAP headquarters in Elk Grove Village, IL (a suburb of Chicago near O'Hare International Airport). AAP has a recently renovated conference facility with state-of-the art audio-visual equipment, comfortable conference rooms, on-site catering, and hotel next door. By holding the trainings at AAP, more funds can be allocated to travel cost for each participant. AAP will take a regional approach to recruiting attendees. More details about the attendee recruitment plan are found below.

In-person training sessions will include lectures and interactive skill-building sessions by national child health and tobacco control experts. Lectures will focus on the impact of tobacco use and secondhand smoke exposure on children's health with customized data for the area from which the trainees practice; overview of the principles of tobacco dependence treatment; and discussion about counseling on secondhand smoke protection for non-smokers and on cessation for adolescent tobacco users. Attendees will participate in interactive cessation role-playing exercises focusing on brief motivational interviewing techniques applied to the PHS 5A model, and on integrating the AAP Clinical Effort Against Secondhand Smoke Exposure (CEASE) program into their practices. CEASE is a clinic-based program based in extensive research that helps pediatricians implement practice systems change to screen for tobacco use and secondhand smoke exposure in three easy steps. CEASE offers ready-made state-specific materials that are freely available on the web.

Additionally, attendees will participate in a session about using a Plan-Do-Study-Act (PDSA)

cycle quality improvement practice to create, implement, and evaluate effective clinical systems changes to support tobacco prevention, control, and cessation interventions. The planning group will invite expert faculty based on past training evaluations, interest from regional attendees and leaders, and availability of faculty. It is anticipated that Continuing Medical Education (CME) credits will be offered to all attendees.

By allowing participants to engage in skill-building activities and interactions with expert faculty, it will further engage, encourage, and empower their efforts to make clinical systems changes. Additionally, having a live in-person training with a regional focus for recruiting attendees will allow participants to network and create relationships with colleagues in their states and communities who are also committed to tobacco control screening, counseling, and cessation in their practices.

After the training session, participants will be enrolled in the online AAP EQIPP (Education in Quality Improvement for Pediatric Practice) course, "Tobacco Use and Exposure". The EQIPP module has been approved for part 4 Maintenance of Certification (MOC) credit since 2011 with approximately 250 people enrolled. As a participant in this module, concepts from the in-person training will be re-enforced and pediatricians will be able to put into practice what they learned in the in-person training by creating plans for practice improvement to address gaps in key activities of tobacco control. As they progress through the module, they will collect baseline and follow-up data on measures related to tobacco use, secondhand smoke exposure, counseling to quit smoking, and referrals to services and medications to aid in quitting. Participants will use PDSA cycles to plan and monitor their clinical practice improvement.

To complete the "EQIPP: Eliminate Tobacco Use and Exposure" course, participants will engage in online and offline work over 4-8 months, depending on the number of improvement cycles needed to reach the goals set for their practice. Online work consists of reviewing content presentations, researching information, and participating in guided activities. Offline work includes the performance activities that are conducted within the individual's practice to improve the care of patients. In order to fulfill all the requirements and claim MOC part 4 credit, participants must successfully enter baseline data into the online course and analyze the results, create an improvement plan that has a minimum of one aim statement, document a minimum of one idea for change, enter data into follow-up data sets, analyze the results, and submit a course evaluation. Information entered in the online module by participants will be part of the overall project evaluation plan, described below.

The target audience for the training is pediatricians who are in practice, seeing patients and families on a regular basis. According to the data presented in the needs section, by equipping pediatricians with the skills and resources to regularly screen for tobacco use and secondhand smoke exposure they can increase successful cessation attempts by patients and families and reduce non-smoker exposure to secondhand smoke. During the planning process, the planning group will work closely with AAP chapters and districts to identify the three regions in the United States from which training participants will be recruited. The planning group will

consider a variety of factors when determining these regions including, but not limited to readiness to support clinical systems change, tobacco use rates, and areas where gaps exist in the number of previously trained pediatric clinicians.

To identify participants who are primed for engaging in clinical systems change and advocacy for better coverage for cessation services, we will develop an application and selection process. Interested training participants will be asked to complete a short application that will include questions asking about their readiness to make clinical systems change, current tobacco use and secondhand smoke screening practices, goals for better screening practices, and ability to commit to both attending the training and fully completing the EQIPP module within six months of training. Applications will be reviewed and scored by members of the planning committee. Individual planning committee member scores will be aggregated and the final list of applicants will be reviewed and ranked to assure a diverse invitation list.

The call for applications will be widely distributed through e-mail lists, newsletters, AAP chapters and districts, and appropriate AAP committees, sections, and councils. Additionally, applicants from past trainings and other Richmond Center networks who live in the targeted regions will be contacted by the planning group to invite them to identify potential applicants. Based on prior experience, we expect these calls for applications will reach more than 100,000 pediatricians and other child health clinicians. Technical assistance will be available from the Project Manager for questions from potential applicants and invited trainees through the entire project period.

Based on the successes of our past trainings and the expected results of the proposed intensive in-person training and self-directed EQIPP module participation, it is anticipated that the AAP will continue to build on results showing the effectiveness of screening for tobacco use and secondhand smoke exposure and referring for cessation. If successful, we expect to expand the program and continue offering future trainings in other regions of the United States, as well as to promote the EQUIPP module for physicians interested in MOC part 4 credits.

Evaluation

Data will be collected in several ways to determine if the objectives of this project have been achieved. Information about each training participant's current clinical practice on screening for tobacco use and secondhand smoke exposure and referring to cessation services will be collected pre-training through the application questions asked at time of application and through a detailed pre-assessment which will be fielded via online immediately prior to attending the training. The pre-assessment will screen for information including, but not limited to current practices, barriers, knowledge of resources, and readiness for systems change. During the training session, attendees will participate in hands-on sessions that will encourage them to begin thinking about the clinical changes they will be implementing during their participation in the "EQIPP: Tobacco Use and Exposure" module. Participants will be asked to complete a commitment to change document, indicating the next step they will take within one week of completing the training in order to implement clinical systems change. Immediately

following the training, a post-assessment will collect information about the training content and how well this process has readied them to make clinical systems change.

Attendees will be immediately enrolled in the "EQIPP: Tobacco Use and Exposure" online module. As a requirement of completing the course, participants must successfully enter baseline and follow-up data. Thus data from the completed EQIPP modules will show changes in the specific measures related to screening for tobacco use and secondhand smoke exposure, counseling to quit smoking, and referrals to services and medications to aid in quitting.

Additionally, 8-12 weeks following each training, participants will be contacted to assess their success in implementing clinical systems changes, barriers and successes, and any needs for additional resources to assist them. This follow-up will occur in two stages – first a short online survey will be sent. Once this is completed it will be followed-up by a short phone call from project staff to answer any questions and offer coaching and additional resources to assist the trainees in making practice changes (most resources are freely available on the Richmond Center Web site.) This 8-12 week follow-up will also allow the planning group and project staff to determine if any outside factors are affecting implementation of the intervention, and will help encourage completion of the EQIPP module.

Data from all three training cohorts through the pre- and post-assessment, EQIPP module, and the 8-12-week follow-up assessments will be analyzed to determine the impact of the training and EQIPP module participation on improvements in clinical practice.

While pediatricians and child health care clinicians are the target audience for the training and EQIPP module, the primary audience who will benefit directly from implementation of clinical practice systems changes for screening for tobacco use and secondhand smoke exposure and referring to cessation services will be the patients and families that these pediatricians treat. While we will not have power or measures to show a direct impact on cessation rates or behaviors to protect non-smokers from secondhand smoke, sites that implement systems changes and clinical interventions that assess smoking status have previously documented that these changes increase the likelihood of smokers quitting or changing secondhand smoke related behaviors Data from the CEASE pilot study show that, "in comparison to usual care practices implementing CEASE had a greater rate of identifying and documenting parents who smoke, as well as using materials with parents to stop smoking" (11).

AAP will leverage opportunities to disseminate and promote the results of this project's success to over 62,000 AAP members through regular member printed communications; e-mail lists; Web sites; Provisional Section on Tobacco Control; other AAP committees, sections, councils, and chapters; and national meetings (eg, National Conference and Exhibition and Annual Leadership Forum). AAP will also submit abstracts and disseminate results of this project in professional, peer-reviewed journals and professional conferences (eg, Pediatric Academic Societies, American Public Health Association).

References

1 Centers for Disease Control and Prevention. Smoking-attributable mortality, years of potential life lost, and productivity losses – United States, 2000-2004. MMWR 2008; 57:1226-8.

2 Centers for Disease Control and Prevention. Vital Signs: Nonsmokers' Exposure to Secondhand Smoke – United States, 1999-2008. MMWR 2010; 59(35):1141-6.

3 Winickoff JP, McMillen R, Klein JD. The Joint Commission's New Tobacco Cessation Measures. New England Journal of Medicine 2012; 366:2428-2429.

4 Association of American Medical Colleges. Physician Behaviors and Practice Patterns Related to Smoking Cessation: Full Report. Washington, DC; 2007.

5 Fiore MC, Jaen CR, Baker TB, et al. Treating tobacco use and dependence: 2008 update. Clinical practice guideline. Rockville, MD: US Department of Health and Human Services, Public Health Service; 2008.

6 Hagan JF, Shaw JS, Duncan PM, eds. 2008. *Bright Futures Guidelines for Health Supervision of Infants, Children, and Adolescents*, Third Edition. Elk Grove Village, IL: American Academy of Pediatrics.

7 US Department of Health and Human Services. Tobacco use objectives. Healthy People 2020. Washington, DC: US Department of Health and Human Services; 2011.

8 U.S. Department of Health and Human Services. *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2012.

9 Centers for Disease Control and Prevention. Quitting smoking among adults—United States, 2001–2010. MMWR 2011; 60:1513–19.

10 Land TG, Rigotti NA, Lev DE, et al. The effect of systematic clinical interventions with cigarette smokers on quit status and the rates of smoking-related primary care office visits. PLoS ONE 7(7): e41649. doi:10.1371/journal.pone.0041649

11 Kruger J, Trosclair A, Bruce C, Beistle D. How the most trusted venues for health-related information influence physician referrals to smoking cessation services. International Scholarly Research Network 2012; 2012. doi:10.5402/2012/256301

12 Winickoff JP, Hipple B, Drehmer J, Nabi E, Hall N, Ossip DJ, Friebely J. The Clinical Effort Against Secondhand Smoke Exposure (CEASE) Intervention: A Decade of Lessons Learned. Journal of Clinical Outcomes Management. 2012; 19(9): 414-419.

Work Plan and Deliverables Schedule

Over the 2-year project period, the AAP will convene three in-person trainings for pediatricians and child health care clinicians. A planning group will be convened at the start of the project period in order to develop the agenda, application and application process, CME application, and training materials. The trainings are planned for September 2013, January 2013, and April 2014. It is anticipated that recruitment for the first training will begin early in 2013. For each training a call for applications will be issued, applicants accepted, and pre-and post-surveys implemented. After each training, attendees will be enrolled in the EQIPP course with an anticipated completion time within 6 months. Additionally, 8-12 weeks after each training, participants will receive a follow-up qualitative assessment of their progress, barriers, and successes. Time at the end of the grant period will be devoted to the final project evaluation and dissemination activities described in the proposal.

The following table shows the major deliverables and expected timeline

	Year 1												Year 2											
AAP Deliverables	**12/2012**	**01/2013**	**02/2013**	**03/2013**	**04/2013**	**05/2013**	**06/2013**	**07/2013**	**08/2013**	**09/2013**	**10/2013**	**11/2013**	**12/2013**	**01/2014**	**02/2014**	**03/2014**	**04/2014**	**05/2014**	**06/2014**	**07/2014**	**08/2014**	**09/2014**	**10/2014**	**11/2014**
Planning																								
Invite planning group members																								
Planning group conference calls																								
Agenda, application, & training materials																								
Invite faculty																								
CME applications/reports																								
Trainings																								
Training #1																								
Call for applications open																								
Applications reviewed																								
Trainees invited																								
In-person training occurs																								

	Year 1												Year 2											
AAP Deliverables (con't)	**12/2012**	**01/2013**	**02/2013**	**03/2013**	**04/2013**	**05/2013**	**06/2013**	**07/2013**	**08/2013**	**09/2013**	**10/2013**	**11/2013**	**12/2013**	**01/2014**	**02/2014**	**03/2014**	**04/2014**	**05/2014**	**06/2014**	**07/2014**	**08/2014**	**09/2014**	**10/2014**	**11/2014**
Training #2																								
Call for applications open																								
Applications reviewed																								
Trainees invited																								
In-person training occurs																								
Training #3																								
Call for applications open																								
Applications reviewed																								
Trainees invited																								
In-person training occurs																								
EQIPP Module																								
Training #1 participants																								
Training #2 participants																								
Training #3 participants																								
Evaluation																								
Pre- and Post- training surveys																								
8-12 week follow-up																								
Final project evaluation																								
Dissemination activities																								

155. McMillen, R, **Klein, J**, &Hill, A (2010). Social Climate Survey of Tobacco Control: A mixed-mode approach. Poster to be presented at the 138th Annual Conference of the American Public Health Association, Denver, CO.

156. Zimet GD, Weiss T, Rosenthal S, Brenneman S, **Klein JD**. Physicians' Sexual Health Discussions with Adolescent Males and Attitudes about HPV Vaccination. To be presented at the Society for Adolescent Health and Medicine, March 29-April 1, 2011 in Seattle, WA. *J Adolesc Health* 2011 Feb 48,(2):S27-S28.

157. McMillen R, Winickoff J, Wilson K, Gottlieb M, **Klein J**. Predictors of Public Support For Smoke-Free Multi-Unit Housing. Presented at the 2011 Pediatric Academic Societies' & Asian Society for Pediatric Research Joint Meeting, April 30-May 3, 2011, in Denver, Colorado.

158. McMillen R, Wilson K, Winickoff J, Gottlieb M, **Klein J**. Predictors of Public Support for Smoke-Free Outdoor Public Places. Presented at the 2011 Pediatric Academic Societies' & Asian Society for Pediatric Research Joint Meeting, April 30-May 3, 2011, in Denver, Colorado.

159. Wilson KM, Gates SC, Best D, **Klein JD**. Caregiver Smoking Behavior and Attitudes Following Children's Hospitalization. Presented at the 2011 Pediatric Academic Societies' & Asian Society for Pediatric Research Joint Meeting, April 30-May 3, 2011, in Denver, Colorado.