PIDS PD Meeting

2018 ID Week Meeting, San Francisco, California

PEDIATRIC INFECTIOUS DISEASES SOCIETY

Agenda

- Welcome
- Increasing interest in Peds ID applicants: Wendy Armstrong from Emory
- Investigator Award announcement-Dave Hong
- New ACGME subspecialty requirements, NRMP, & ERAS data
- MOC at ID Week
- Quick update on next SPIN study-Angie
- Barbara Pahud-CoVER vaccine curriculum
- Doran Fink- FDA job openings
- AS experience for fellows-Zach Willis
- Feedback from Fellows' day/Happy Hour
- PIDS/Horizon Pharma Fellowship Award
- Update from last year/PIDS Community forum

PEDIATRIC INFECTIOUS DISEASES SOCIETY

Increasing Interest in Pediatric ID

- Recent increase in Adult ID applications
- Multi-pronged approach
- Future goals/strategies
- Challenges in pediatrics

PEDIATRIC INFECTIOUS DISEASES SOCIETY

KARIUS®

Announcing the Karius Clinical Investigator Award for Applied Pediatric Infectious Disease Genomics

Up to $50,000 will be awarded for a novel pediatric application of the Karius cell-free DNA test for infectious diseases.
Applications are due December 21, 2018

Learn more and submit your application at kariusdx.com/ciawards

Proposed ACGME Changes

- Must have:
  - Adolescent
  - Neonatal/perinatal
  - Cardiology
  - Critical care
  - Rheumatology
  - Pulmonology
  - EM, GI, Heme/Onc, Nephrology
- Specialists w/Ped experience
  - A/I, Anesthesia, Child Psych, Pathology, Radiology
  - Dermatology, Genetics,
  - Surgeons (neuro, cardiac, ortho, ENT, plastics, urology)
  - Adult ID available for transitions of young adults

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Proposed ACGME Changes

- Pediatric personnel
  - Child life, SW, school liaisons
  - Dieticians, home health, mental health, pharmacists
  - IC nurses, public health liaisons
  - PT/OT, RT, speech pathology
- Must have ASP and IC at fellow primary site
  - Fellows must demonstrate competence in promoting ASP based on microbiological data and pharmacology principles

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Proposed ACGME Changes

- Fellows must demonstrate competence in providing or coordinating care with a medical home for patients with complex and chronic diseases
- Rotations must be of sufficient length to provide a quality educational experience & minimize transitions
  - Continuity of care, supervision, longitudinal relationships with faculty for meaningful assessment and feedback

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Proposed ACGME Changes

- Structured clinical experiences to facilitate learning in a manner that allows fellows to function as part of an effective interprofessional team longitudinally to work on goals of patient safety and QI
- Longitudinal outpatient care experience

- Fellows must have 12 months of clinical experience
- Fellows must have 12 months dedicated to research and scholarly activity, including developing skills, completing a project, and presentation to SOC

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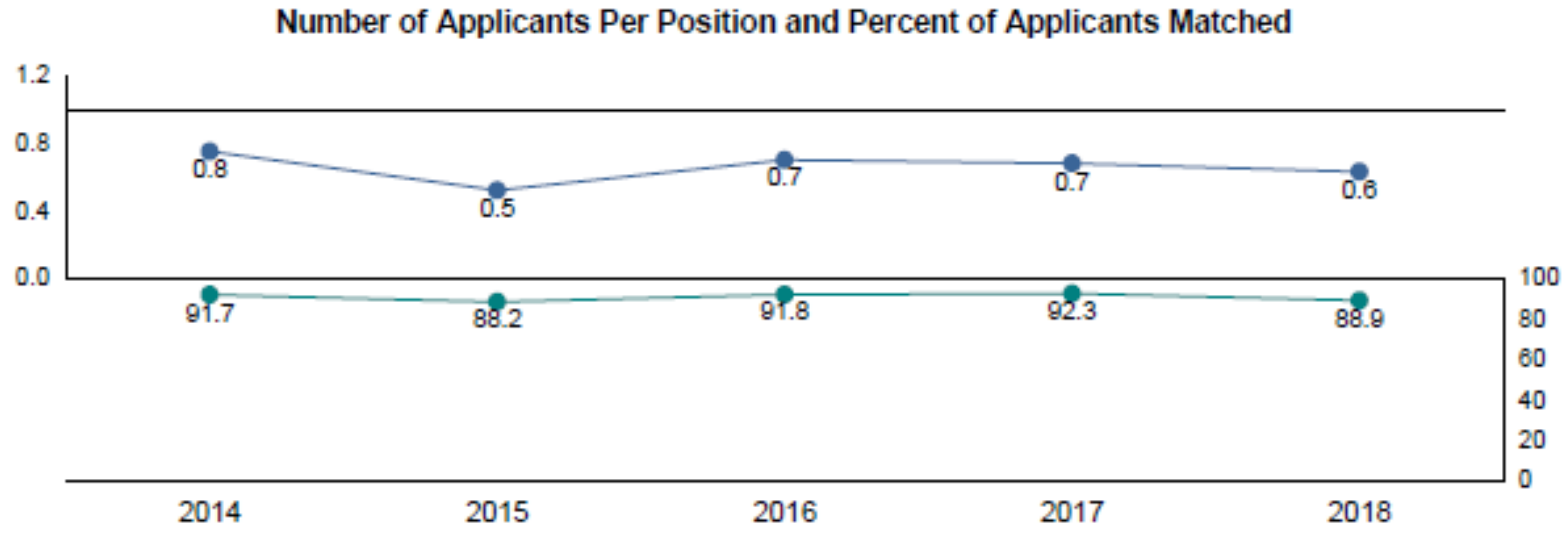
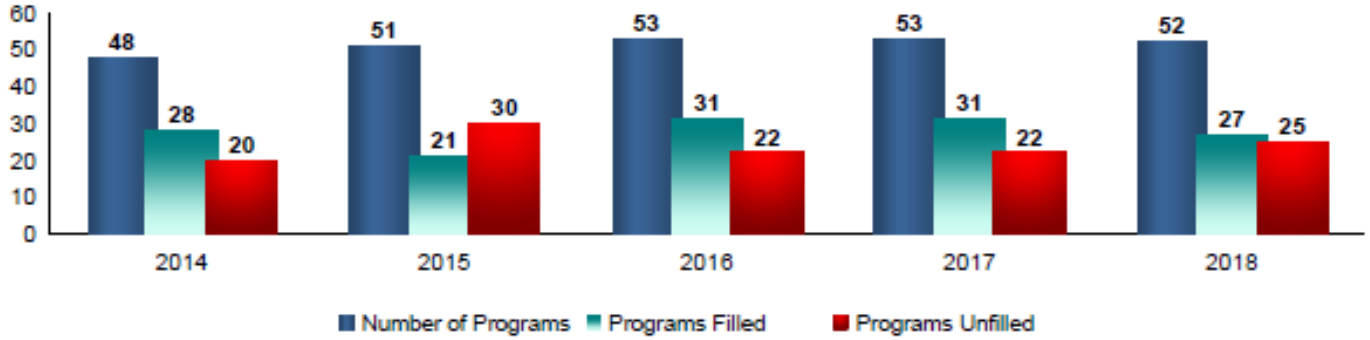
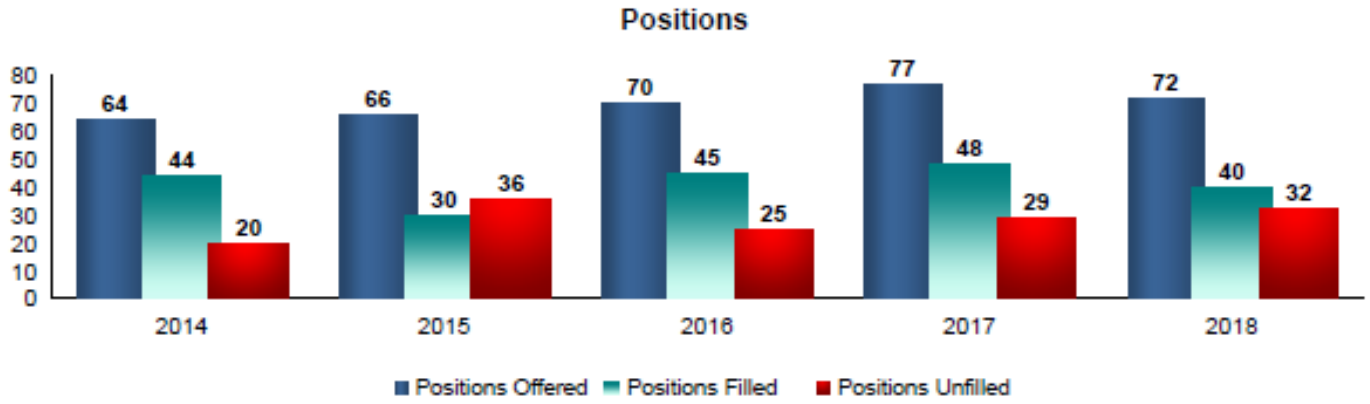
NRMP Data 2018

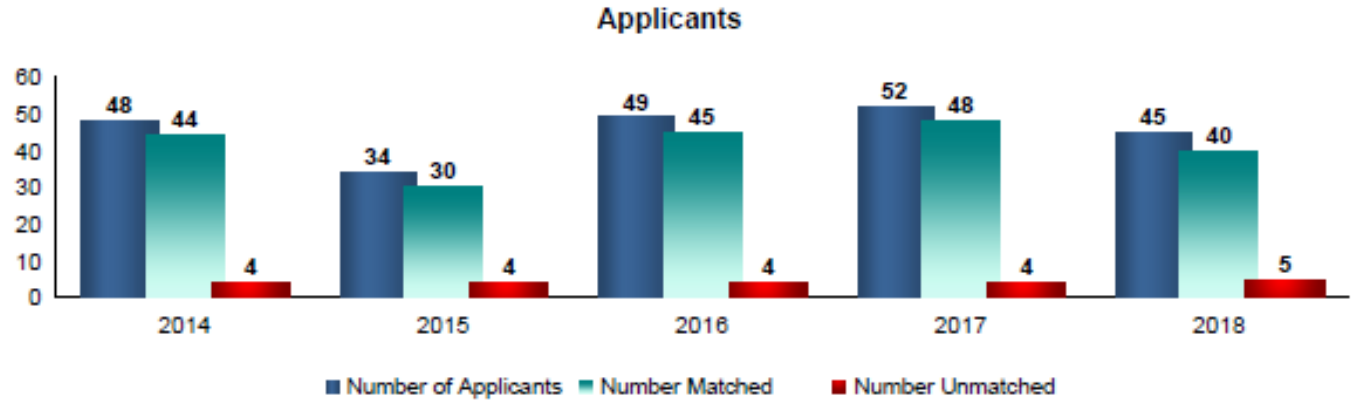


PEDIATRIC INFECTIOUS DISEASES SOCIETY

Pediatric ID NRMP Data 2014-2018







NRMP Data 2018

Specialty	2018			2017			2016			2015			2014		
	No. of Pos.	% Filled		No. of Pos.	% Filled		No. of Pos.	% Filled		No. of Pos.	% Filled		No. of Pos.	% Filled	
		U.S.	Tot		U.S.	Tot		U.S.	Tot		U.S.	Tot		U.S.	Tot
Pediatrics															
Adolescent Medicine	31	48.4	67.7	32	62.5	81.3	31	71.0	83.9	36	55.6	77.8	35	45.7	60.0
Child Abuse	27	37.0	51.9	26	38.5	46.2	19	21.1	26.3	20	60.0	65.0	19	52.6	63.2
Developmental and Behavioral Pediatrics	49	30.6	67.3	44	47.7	70.5	48	33.3	54.2	41	34.1	73.2	38	39.5	68.4
Neonatal-Perinatal Medicine	263	53.2	87.1	254	53.5	92.1	252	50.8	90.5	242	59.9	98.3	241	51.0	95.0
Pediatric Cardiology	145	66.2	96.6	142	75.4	97.9	139	69.8	96.4	141	68.1	97.2	141	70.9	94.3
Pediatric Critical Care Medicine	184	63.6	96.2	187	63.1	95.7	175	65.7	93.7	168	70.2	95.2	169	56.8	92.3
Pediatric Emergency Medicine*	180	65.6	98.9	180	66.1	98.3	177	72.9	100.0	162	64.2	98.1	163	71.8	96.3
Pediatric Endocrinology	96	42.7	66.7	88	39.8	68.2	83	36.1	65.1	85	49.4	76.5	84	38.1	73.8
Pediatric Gastroenterology	104	66.3	93.3	92	55.4	93.5	93	54.8	92.5	85	64.7	96.5	84	52.4	92.9
Pediatric Hematology/Oncology	170	63.5	90.0	166	68.1	98.2	164	73.2	97.0	162	54.3	94.4	157	65.0	96.2
Pediatric Hospital Medicine**	50	76.0	96.0	44	75.0	86.4	38	63.2	84.2	30	63.3	90.0	--	--	--
Pediatric Infectious Diseases	72	33.3	55.6	77	36.4	62.3	70	45.7	64.3	66	31.8	45.5	64	46.9	68.8
Pediatric Nephrology	58	48.3	62.1	59	30.5	54.2	62	25.8	43.5	58	17.2	36.2	61	32.8	54.1
Pediatric Pulmonology	69	37.7	68.1	67	31.3	70.1	66	39.4	65.2	61	29.5	49.2	56	30.4	51.8
Pediatric Rheumatology	41	39.0	53.7	40	50.0	72.5	37	43.2	67.6	40	30.0	55.0	38	39.5	68.4
Pediatric Sports Medicine	26	61.5	100.0	25	64.0	92.0	22	63.6	81.8	20	60.0	95.0	20	75.0	100.0

Number of Applicants and % Unfilled Programs by Subspecialty, July 2018 Start Date

THE MATCH
NATIONAL RESIDENT MATCHING PROGRAM®

Subspecialty	# Applicants				% Filled			
	US Grads	All Applicants	Positions Offered	# Programs	US Grads	All Apps	# Unfilled Programs	% Unfilled Programs
Pediatric Nephrology	28	39	58	40	48.3	62.1	19	48
Child Abuse	12	18	27	25	37.0	51.9	13	52
Pediatric Endocrinology	42	65	96	64	42.7	66.7	29	45
Pediatric Infectious Diseases	25	45	72	52	33.3	55.6	25	48
Pediatric Pulmonology	26	48	69	46	37.7	68.1	21	46
Developmental and Behavioral Pediatrics	17	35	49	35	30.6	67.3	14	40
Pediatric Rheumatology	17	24	41	31	39.0	53.7	17	55
Adolescent Medicine	17	25	31	24	48.4	67.7	9	38
Pediatric Hospital Medicine	53	66	50	35	76.0	96.0	2	6
Neonatal-Perinatal Medicine	144	243	263	96	53.2	87.1	22	23
Pediatric Critical Care Medicine	134	204	184	65	63.6	96.2	6	9
Pediatric Gastroenterology	71	100	104	59	66.3	93.3	7	12
Pediatric Hematology/Oncology	115	163	170	71	63.5	90.0	15	21
Pediatric Emergency Medicine	146	232	180	77	65.6	98.9	2	3
Pediatric Cardiology	104	161	145	57	66.2	96.6	4	7

ERAS Data 2018

ERAS Data 2018						
Year	2013	2014	2015	2016	2017	2018
USG applicants	40	0	28	43	39	36
IMG applicants	20	0	18	19	22	24
Total applicants	60	0	46	62	61	60
apps/person (USG)	7.2	0.0	7.6	9.1	11.1	12.4
apps/person (IMG)	20.0	0.0	13.4	19.5	25.1	13.0

PEDIATRIC INFECTIOUS DISEASES SOCIETY

ABP Content Outline

Thank you for participating in the Pediatric Infectious Diseases Content Outline survey. Your feedback is extremely important and will be used to shape the content of both the initial certification and maintenance of certification (MOC) exams.

This survey should take approximately 15-20 minutes to complete and consists of four major sections:

1.Demographic and Practice Setting Questions
2.Content Domain Ratings - Frequency and Criticality
3.Content Domain Exam Weights
4.Universal Task Weights

Please note that your responses to this survey (including demographic information) will be kept confidential, and only summary data will be reported. You do not have to complete this survey in one sitting. Your progress will be automatically saved, and you can return to the survey at any time by clicking on the original link in your invitation email.

The survey is scheduled to close on **October 21, 2018**.

If you have any questions about the survey, please contact Andrew Dwyer, PhD, Director of Psychometrics at JTASurveys@abpeds.org or 919-929-0461.

PEDIATRIC INFECTIOUS DISEASES SOCIETY

MOC Part II at ID Week

- Available again this year
- Earn up to 15 MOC points
- All interactive sessions

<u>Example of a Response with Insufficient Detail for MOC Credit</u>

I learned that that several different rotavirus vaccines are being studied.

<u>Example of Good Response with Required Detail for MOC Credit</u>

Norovirus is a common cause of gastroenteritis. A low infectious dose (18 viral particles), a short incubation time, resistance to common disinfectants and prolonged viral shedding after illness contribute to the outbreak potential of norovirus. While illness is generally self-limited (1-4 days), immunocompromised hosts can have prolonged illness. Treatment is generally supportive and a number of candidate vaccines are being studied. I used to tell parents of kids with mild to moderate gastroenteritis they likely just had a virus. When my local hospital started offering a GI PCR panel, I started testing kids, confirming that they had norovirus. I have a better understanding after this talk that this practice is not good diagnostic stewardship for previously healthy kids. I'm going to order fewer tests. I'm also going to emphasize hand washing with soap and water to parent of kids with gastroenteritis and to my office staff.

PEDIATRIC INFECTIOUS DISEASES SOCIETY

SPIN is a Collaboration

- Council of Pediatric Subspecialties (CoPS)
- American Board of Pediatrics (ABP)
- Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network (APPD LEARN)
- APPD Fellowship Director Committee
- 1-2 representatives from each subspecialty
- *Many* fellowship program directors!

Great Participation in Previous Studies

- Assessing the Association between EPAs, Competencies and Milestones in the Pediatric Subspecialties (fellow assessments)
  - ~80 institutions
  - 208 programs
  - ~1000 fellows at two time points
- Determining the Minimum Level of Supervision Required for Graduating Fellows (survey)
  - Response rate 82%
- Residency Milestones in Fellowship: What's the Use? (*survey*)
  - Response rate 68%

SPIN is Productive

- Abstract Presentations at ACGME, PAS, APPD
  - 14 to date
- Publications
  - 3 including Scholarship EPA
  - published in *Academic Medicine* & *Journal of Pediatrics*
  - 5 under development
- Participating FPDs are collaborators and are listed on published papers

Next SPIN Study!

- Longitudinal Evaluation of the Required Level of Supervision for Pediatric Fellows
  - rate level of supervision for **all fellows for 3 years**
  - assess all EPAS (common and subspecialty-specific)
    - similar to first SPIN study but milestones NOT included (except for Scholarship EPA)
  - opportunity to see when a fellow achieves minimum level of supervision
  - **FPDs are collaborators and will receive MOC Part 4 credit** (highly likely but pending ABP formal approval)

Data to be Collected

At each of the 6 data collection periods:

1) CCC
   - assigns a level of supervision rating (NO milestones) for each fellow for all of the common and relevant subspecialty-specific EPAs, *except* for the Scholarship EPA
   - Complete brief questionnaire to better understand how the CCC used case complexity (simple vs. complex) in assigning their level of supervision rating and demographics

Peds ID Level of Supervision Scales

***Management of healthy patients with pediatric infectious diseases**	
1	Trusted to **observe only**
2	Trusted to execute with **direct supervision and coaching**
3	Trusted to execute with **indirect supervision** and discussion of information conveyed for selected **simple and complex cases**
4	Trusted to execute with **indirect supervision** and may require discussion of information conveyed but only for selected **complex** cases
5	Trusted to execute **independently without supervision**

*Same scale for patients with complex medical problems

Promoting Antimicrobial Stewardship Based on Microbiological Principles	
1	Trusted to **participate only**
2	Trusted to lead with **direct supervision and coaching**
3	Trusted to lead with **supervisor occasionally present** to provide advice
4	Trusted to lead **without supervisor present** but requires **coaching** to improve **member and team performance**
5	Trusted to lead **without supervision** to improve **member and team performance**

Peds ID Level of Supervision Scales

Prevention and containment of infection	
1	Trusted to **observe only**
2	Trusted to **contribute** to advocacy and educational activities for the subspecialty profession with **direct supervision and coaching** at the **institutional** level
3	Trusted to **contribute** to advocacy and educational activities for the subspecialty profession with **indirect supervision** at the **institutional** level
4	Trusted to **mentor** others and **lead** advocacy and educational activities for the subspecialty profession at the **institutional** level
5	Trusted to **lead** advocacy and educational activities for the subspecialty profession at the **regional and/or national** level

Management and prevention of infections associated with medical/surgical devices, surgery and trauma	
1	Trusted to **observe only**
2	Trusted to **contribute with direct supervision and coaching** as a member of a collaborative effort to improve care at the **patient and institutional** levels
3	Trusted to **contribute without direct coaching** as a member of a collaborative effort to improve care at the **patient and institutional** levels
4	Trusted to **lead** collaborative efforts to improve care for populations and improve systems at the **institutional** level
5	Trusted to **lead** collaborative efforts to improve care at the level of populations and systems at the **regional and/or national** level

Scholarship EPA:Data to be Collected

At each of the 6 data collection periods:

2) FPD
   - assign milestones for each of the 8 competencies of the Scholarship EPA and the level of supervision rating
   - complete questionnaire about remediation
3) Fellows
   - assess their own performance on each of the common and relevant subspecialty-specific EPAs

Procedure for Data Collection

- FPD generates a LEARN ID for each fellow
  - unique to fellow
  - based on last 4 digits of SSN and birth date
  - easy to do; short video available
- Generation of LEARN ID provides links to the 3 data collection tools (CCC, FPD, Fellow)
- FPD uses CCC, FPD links to enter data
- FPD forwards appropriate link to fellow
  - FPD will not know if fellow provides data
  - FPD will NOT have access to fellow data

Longitudinal Evaluation of Fellows

- Data collection to begin in **Fall 2018**
- Only ***ONE*** IRB approval needed for each institution
  - should be an exempt study
- MOC part 4 credit for **FPDs** if submit data for 3 cycles (potential for 50 points)
- Contact your subspecialty representative if interested or rmink@ucla.edu

Interested Programs

Subspecialty	ACGME approved programs (as of 8/17/18)	Recruited programs	%
Adolescent	29	10	34.5
Cardiology	60	22	36.7
Child Abuse	31	16	51.6
Critical Care	67	21	31.3
DBP	41	28	68.3
Emergency Medicine	78	26	33.3
Endo	72	14	19.4
GI	64	16	25.0
Hemoc	74	28	37.8
ID	65	21	32.3
Neonatology	100	45	45.0
Nephrology	44	11	25.0
Pulmonology	54	23	42.6
Rheumatology	36	10	27.8
Total	815	291	35.7
			Minimum goal is 20%
			Optimal is at least 30%

SPIN
Subspecialty Pediatrics Investigator Network

Collaboration for Vaccine Education and Research

Barbara Pahud MD MPH

Associate Professor of Pediatrics

Children's Mercy Hospital, Kansas City

Resident training on vaccines

- Vaccine uptake is challenging for some populations (‘vaccine hesitant’ parents), and for some individual vaccines (HPV, influenza)
- There are no standard methods for training residents on important factors related to vaccines and vaccination
- Majority of pediatric program directors report that vaccine education is valuable and needed

[1]CDC, Ten Great Public Health Achievements, MMWR, 2011
[2]Williams, Formal training in vaccine safety to address parental concerns not routinely conducted in U.S. pediatric residency programs, Vaccine, 2014

What is CoVER?

- The Collaboration for Vaccination Education and Research
- Created to develop, evaluate and improve vaccine education for health care professionals and trainees
  - First project: create a comprehensive curriculum for FM and Pediatric residency programs
- Investigators include experts in vaccinology, vaccines, vaccine safety, and medical education

Objectives

- **Objective 1**: To establish the Collaboration for Vaccination Education and Research (CoVER), its structure, and plan for resident curriculum development.
- **Objective 2:** To design and develop a competency-based vaccine curriculum for pediatric and FM residents that will utilize a flipped learning approach and in–person training.
- **Objective 3:** To implement and evaluate the effectiveness of the vaccine curriculum.
- **Objective 4**: To analyze collected data from the project and disseminate the results.

CMH

Barbara Pahud, MD, MPH (Principal Investigator)-Children's Mercy Hospital, Pediatric Infectious Diseases bapahud@cmh.edu

Sharon Humiston, MD, MPH, FAAP (Co-Investigator)-Children's Mercy Hospital Emergency Medicine, Primary Investigator, AAP/CDC vaccine co-op agreements, Associate Director for Research, Immunization Action Coalition sghumiston@cmh.edu

Kadrive Lewis, Ed.D (Co-Investigator)-Children's Mercy Hospital, Director of Evaluation and Program Development, Graduate Medical Education kolewis@cmh.edu

STFM

Donald Middleton, MD (Co-Investigator)-University of Pittsburgh School of Medicine, Family Medicine, University of Pittsburgh Medical Center St. Margaret's Vice President of Family Practice Education, Society for Teachers of Family Medicine Immunization Education Chair middletondb@upmc.edu

Vanderbilt

Elizabeth Williams, MD, MPH (Co-Investigator)-Vanderbilt University School of Medicine, General Pediatrics, Vanderbilt Vaccine Research Program elizabeth.williams@Vanderbilt.edu

Most Important CoVER Members

Shannon Clark

- Clinical Trials Coordinator II

Will Findlay

- Instructional Technology

Brian Lee

- Biostatistician

Objectives

- **Objective 1**: To establish the Collaboration for Vaccination Education and Research (CoVER), its structure, and plan for resident curriculum development.
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CoVER Roundtable 2016

- Medical education experts, vaccine experts and residency program directors met to determine critical components and structure for optimal vaccine resident training

Roundtable, October 2016

Henry Bernstein, DO-Steven and Alexandra Cohen Children's Medical Center of NY, General Pediatrics Hbernstein@northwell.edu

Sean T. O'Leary, MD-Children's Hospital Colorado, Pediatric Infectious Diseases Sean.O'Leary@childrenscolorado.org

Mark Sawyer, MD (webex)-Rady Children's Hospital San Diego, Pediatric Infectious Diseases mhsawyer@ucsd.edu

Michael T. Brady, MD-Nationwide Children's, Pediatric Infectious Diseases Michael.Brady@nationwidechildrens.org

Gary S. Marshall, MD-University of Louisville Physicians, Pediatric Infectious Diseases gary.marshall@louisville.edu

Edgar Marcuse MD, MPH-University of Washington, Emeritus Professor, Pediatrics ekmarcuse@gmail.com

Tina Q. Tan, MD-Ann & Robert H. Lurie Children's Hospital of Chicago, Pediatric Infectious Diseases titan@luriechildrens.org

Ada M. Fenick, MD-Yale School of Medicine, General Pediatrics, Editor, Yale Primary Care Pediatrics ada.fenick@yale.edu

Pamela Georgia Rockwell, DO-University of Michigan, Family Medicine prockwel@med.umich.edu

Jonathan Temte, MD, PhD-University of Wisconsin School of Medicine and Public Health, Family Medicine jon.temte@fammed.wisc.edu

Melissa Klein, MD, MEd-Cincinnati Children's, Director, Residency Primary Care and Community Pediatrics, Associate Program Director, Education Section, General and Community Pediatrics melissa.klein@cchmc.org

Katherine Connor, MD, MSPH-Johns Hopkins University School of Medicine, General Pediatrics and Adolescent Medicine kconno14@jhmi.edu

Katie Milewski, MPH (webex)-AAP, Program Manager, Immunizations KMilewski@aap.org

Jasjit Singh, MD-Children's Hospital of Orange County, Associate Director, Pediatric Infectious Diseases jsingh@CHOC.org

Paul M. Darden, MD-University of Oklahoma Health Sciences Center, General and Community Pediatrics Paul-Darden@ouhsc.edu

Stacy Brungardt, CAE-Society for Teachers of Family Medicine, Executive Director sbrungardt@stfm.org

(Terri) Christine Phillips-Executive Director, Pediatric Infectious Diseases Society cphillips@idsociety.org

Raymond A. Strikas, MD, MPH, FACP-CDC, Lead, Education Team, Immunization Services Division ras8@cdc.gov

Andrew Kroger, MD, MPH-National Center for Immunization and Respiratory Diseases at the CDC, Medical Officer aok2@cdc.gov

Original Pilot Sites

Pia Pannaraj, MD, MPH (webex)-Children's Hospital, Los Angeles, Pediatric Infectious Diseases ppannaraj@chla.usc.edu

Shareen Kelly, MD-, St. Christopher's Hospital for Children, Continuity Clinic Director, Pediatric Residency Associate Program Director shareen.kelly@ drexelmed.edu

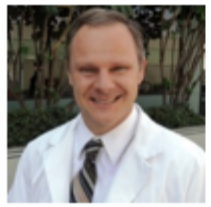
Laura S. Price, MD-Indiana University, Continuity Clinic Director, Pediatric Residency Associate Program Director lauprice@iu.edu

Dawn Tuell, MD-East Tennessee State University, Pediatric Residency Program Director TUELL@mail.etsu.edu

Ross Newman, DO-Children's Mercy Hospital, Pediatric Residency Program Director renewman@cmh.edu

Diana Heiman, MD-East Tennessee State University, Family Medicine Residency Program Director HEIMAN@mail.etsu.edu

Deborah Lehman, MD-University of California, Los Angeles, Pediatric Infectious Diseases DLehman@mednet.ucla.edu



David E. Michalik, DO-UC Irvine, Children's Hospital of California, Associate Director DMichalik@memorialcare.org

Christelle Ilboudo, MD-The University of Missouri, Columbia, Pediatric Infectious Diseases ilboudoc@ health.missouri.edu

Leon McCrea, MD, MPH-Drexel University College of Medicine, Family Medicine Residency Program Director Leon.McCrea@ DrexelMed.edu

The CoVER Curriculum

- 4 modules were developed using interactive e-learning software (Rise Articulate)
  - Vaccine fundamentals
  - Vaccine preventable diseases
  - Vaccine safety
  - Vaccine hesitancy and communication
- 1 in-person training guide developed
  - Focus on vaccine communication techniques for HPV and influenza vaccine

Children's Mercy | Cornerstone

Home Learning Reports Connect

Training Details

CoVER Curriculum

Curriculum • Children's Mercy • 1 hour • $0.00

Request

Curriculum

Module 1: Vaccine Fundamentals
If it's your first time here, click Request to create an account. Then click Launch to begin the module.

Module 2: Vaccine Preventable Diseases
Module 2 focuses on the clinical manifestations of Vaccine Preventable Diseases (VPDs), and will introduce you to the concepts of vaccine efficacy and vaccine effectiveness. This module uses clinical vignettes to enhance your understanding of select VPDs.

Module 3: Vaccine Safety
Module 3 provides a brief introduction to vaccine safety in the U.S. This module aims to increase your confidence in vaccine recommendations in order to accurately answer questions from patients and families.

Module 4: Vaccine Communication
Module 4 aims to provide communication methods and interpersonal skills on the subject of vaccines. The content covers the importance of high immunization coverage and of a strong provider recommendation on decision-making, including a presumptive approach to vaccination. You will get tips on preven... read more

- Optional Modules

Optional Module: Travel Vaccines
An optional module in the CoVER Curriculum that teaches about diseases associated with travel.

CoVER

The Modules

- Vaccine Fundamentals
- VPDs
- Vaccine Safety
- Vaccine Communication

Objectives

- **Objective 1**: To establish the Collaboration for Vaccination Education and Research (CoVER), its structure, and plan for resident curriculum development.
- **Objective 2:** To design and develop a competency-based vaccine curriculum for pediatric and FM residents that will utilize a flipped learning approach and in–person training.
- **Objective 3:** To implement and evaluate the effectiveness of the vaccine curriculum.
- **Objective 4**: To analyze collected data from the project and disseminate the results.

CoVER RCT

26 FM and Peds programs participated in an RCT to evaluate the impact of training on resident knowledge, attitudes and confidence related to vaccines

- July 2017: Pre-Survey
- August 2017 → Randomization
  - adjusting for residency type FM vs Peds
- September 2017-May 2018
  - 14 sites randomized to receive the CoVER Curriculum
  - 12 sites randomized to be **Controls**
- May - July 2018 : Post-Survey

Survey Pre and Post

Anonymous 29-item survey with items including

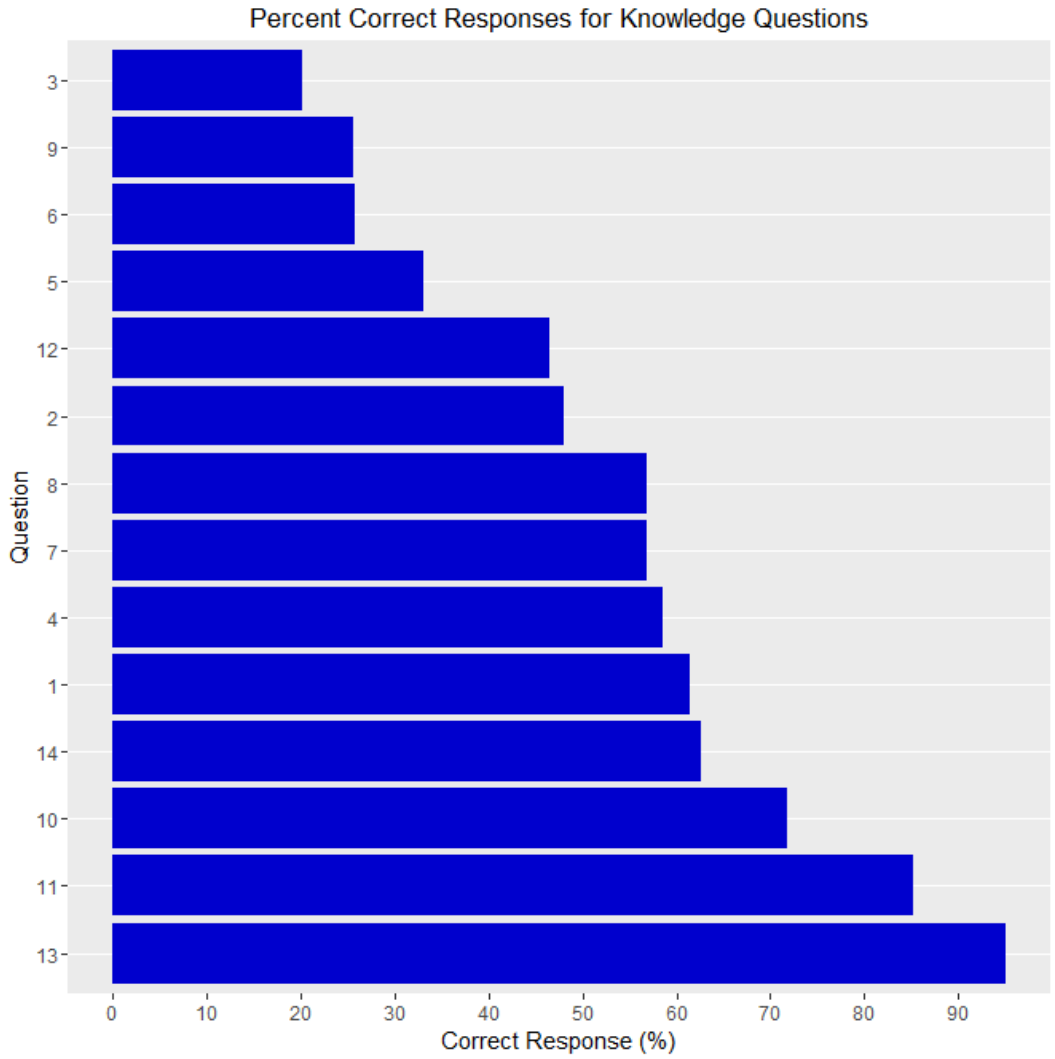
1) Vaccine ***knowledge*** *CoVER* n-14
2) ***Attitudes/hesitancy**** n-7
3) Vaccine **confidence** *CoVER* n-3
4) Demographics *CoVER* n-5

*Adapted from Parent Attitudes about Childhood Vaccines (PACV) Survey[1]

Created by CoVER

[1] Opel, Human Vaccines, 2011

Knowledge ? Distribution



Example ? Module 1

3. Which one of the following statements regarding vaccines and immunoglobulins is FALSE?

a. A dose of MMR will no longer be valid if antibody-containing blood products are given in the two weeks following vaccine administration.
b. After receipt of an antibody containing product, MMR or MMRV vaccination should be delayed between 3 and 11 months, depending on the indication/product.
c. After receipt of palivizumab monoclonal antibody, live vaccines should be delayed for at least for 28 days.
d. Passively acquired antibody in blood products or intravenous immunoglobulin preparations has not been shown to affect response to conjugate vaccines.

20% correct

Example ? Module 2

5. Which one of the following is a risk factor for meningococcal infection?

a. Having a cochlear implant
b. Being sexually active
c. Being HIV positive
d. Having IgA deficiency

30% correct

Example ? Module 2

8. A college student presents with the acute onset of fever, difficulty eating, and marked enlargement and tenderness of the parotid gland. Which one of the following is a complication of this suspected vaccine-preventable viral infection?

a. Congenital malformations
b. Permanent hearing loss
c. Intussusception
d. Aplastic anemia

60% correct

Example ? Module 3

9. Which one of the following conditions is a contraindication to receiving MMR vaccine?

a. HIV infection with 20% of total CD4+ cell count

b. Liver transplant

c. End stage renal disease on hemodialysis

d. Asplenia and persistent complement deficiency

25% correct

Example ? Module 4

13. Which of the following is the best way to approach discussions about teen vaccines with parents?

a. Recommend Tdap and meningococcal vaccines strongly and make a point to discuss HPV vaccine separately.
b. Recommend only the adolescent vaccines required for school attendance in your state.
c. Recommend HPV vaccination the same way you recommend Tdap & meningococcal vaccines.
d. Recommend HPV vaccine when a teenager is ready to be sexually active.

95% correct

Objectives

- **Objective 1**: To establish the Collaboration for Vaccination Education and Research (CoVER), its structure, and plan for resident curriculum development.
- **Objective 2:** To design and develop a competency-based vaccine curriculum for pediatric and FM residents that will utilize a flipped learning approach and in–person training.
- **Objective 3:** To implement and evaluate the effectiveness of the vaccine curriculum.
- **Objective 4**: To analyze collected data from the project and disseminate the results.

Survey Completion

26 Sites, N-1447 Residents			
	Pre-Survey	**Pre+Post Survey**	**Post-Survey**
Answered	N-737 (51%)	N-268 (19%)	N-540 (37%)
Excluded (no institution listed)	N-7		N-13
Total Included	**N-730 (50%)**	**N-268 (19%)**	**N-527 (36%)**
CoVER	N-400/730 (55%)	N-129 (48%)	N-233/527 (44%)
Control	N-330/730	N- 139 (52%)	N- 294/527

Demographics
Pre & Pre/Post

		Pre-Survey Only (N=469)	Pre/Post-Survey (N=268)
Study Arm			
0.006	**CoVER -- freq. (col%)**	271 (58.7%)	129 (48.1%)
Resident Year			
	PGY1	164 (35.5%)	98 (36.6%)
	PGY2	138 (29.9%)	92 (34.3%)
	PGY3	145 (31.4%)	74 (27.6%)
	PGY4	15 (3.2%)	4 (1.5%)
Resident Type			
	Pediatrics	273 (58.2%)	165 (61.6%)
	Family Medicine	129 (27.5%)	79 (29.5%)
	Med/Peds	46 (9.8%)	20 (7.5%)
	Other	21 (4.5%)	4 (1.5%)

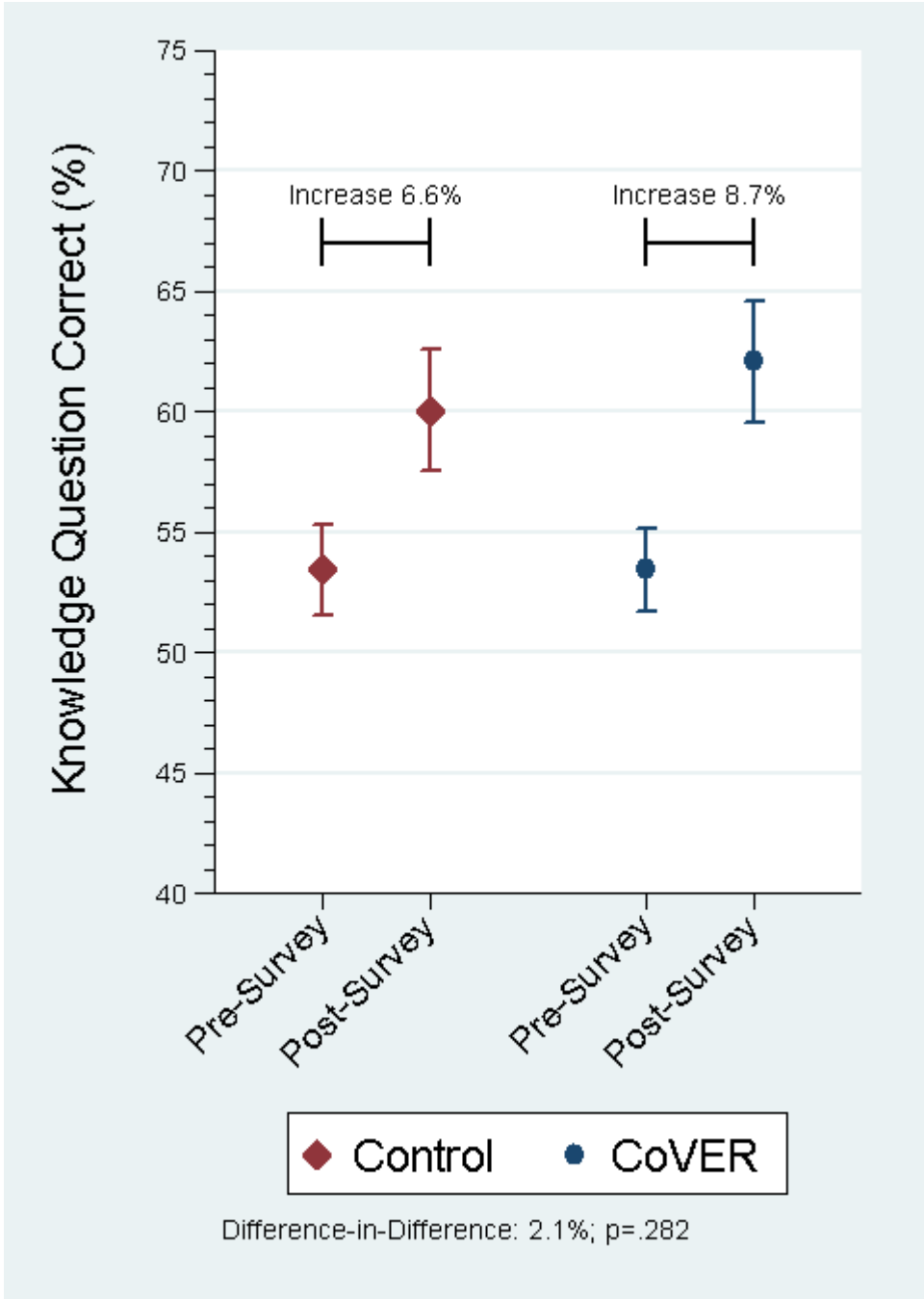
Demographics Pre and Pre/Post

		Pre-Survey Only (N=469)	Pre- and Post-Survey (N=268)
Age (in Years)			
	<30	328 (70.2%)	206 (76.9%)
	30-34	109 (23.3%)	54 (20.1%)
	35-39	19 (4.1%)	3 (1.1%)
	40+	3 (0.6%)	3 (1.1%)
	Refused	8 (1.7%)	2 (0.7%)
Gender	Female	313 (67.3%)	191 (71.3%)
Race	White	286 (61.0%)	179 (66.8%)
	Black	18 (3.8%)	11 (4.1%)
	Asian	86 (18.3%)	42 (15.7%)
	Hispanic	30 (6.4%)	9 (3.4%)
	Other	11 (2.3%)	4 (1.5%)
	Unknown/Refused	38 (8.1%)	23 (8.6%)

Resident Knowledge

Knowledge by Arm

- Randomization worked
- Knowledge increased in both groups
  - Cover > control
- Effect based on “intention to treat”



Knowledge by PGY-Year

PGY1 < PGY2 < PGY3

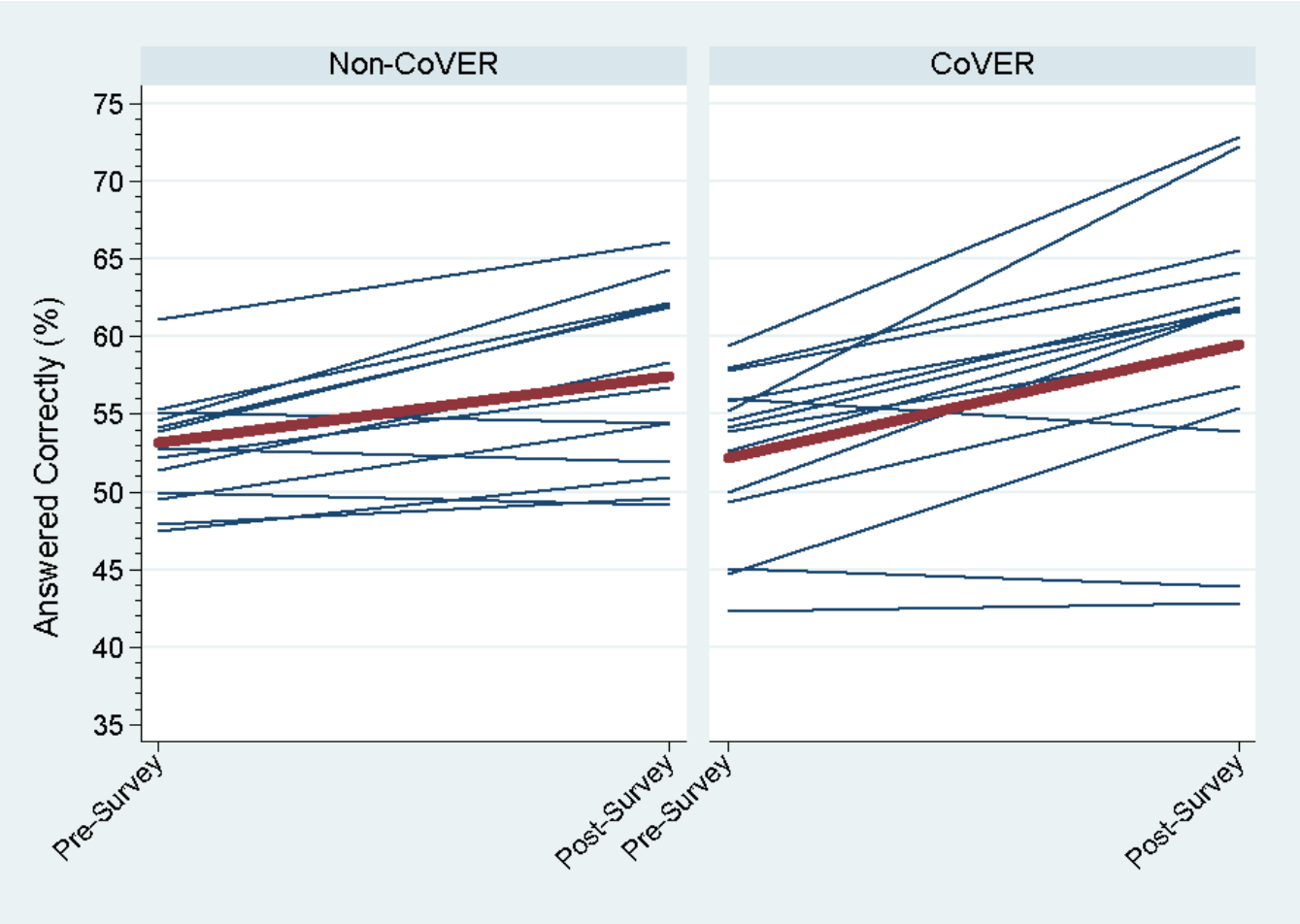
Resident Year	*Arm*	*Pre-Survey*	*Post-Survey*	*Delta*	*Difference-in-Difference*
PGY1					
	Control	49.4%	59.3%	9.9%	-0.9%
	CoVER	49.2%	58.2%	9.0%	
PGY2					
	Control	53.2%	58.1%	4.9%	3.4%
	CoVER	56.1%	64.4%	8.3%	
PGY3					
	Control	55.8%	60.9%	5.1%	1.9%
	CoVER	52.9%	59.9%	7.0%	

Knowledge by Program Type

Resident Type	*Arm*	*Pre-Survey*	*Post-Survey*	*Delta*	*Difference-in-Difference*	*p-value*
Pediatrics						
	Control	54.9%	63.1%	8.2%	1.7%	0.4695
	CoVER	56.2%	66.1%	9.9%		
Family Medicine						
	Control	51.1%	52.5%	1.4%	6.5%	0.0809
	CoVER	47.9%	55.8%	7.9%		

- FM started with lower knowledge than Peds
- Greater benefit in FM programs with Cover

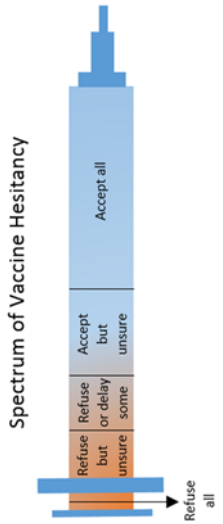
Knowledge by Programs+Arm



Resident Attitudes/Hesitancy

Hesitancy

Overall, how hesitant about childhood vaccines would you consider yourself to be?



ot at all hesitant

ot too hesitant

ot sure

omewhat hesitant

e.very hesitant

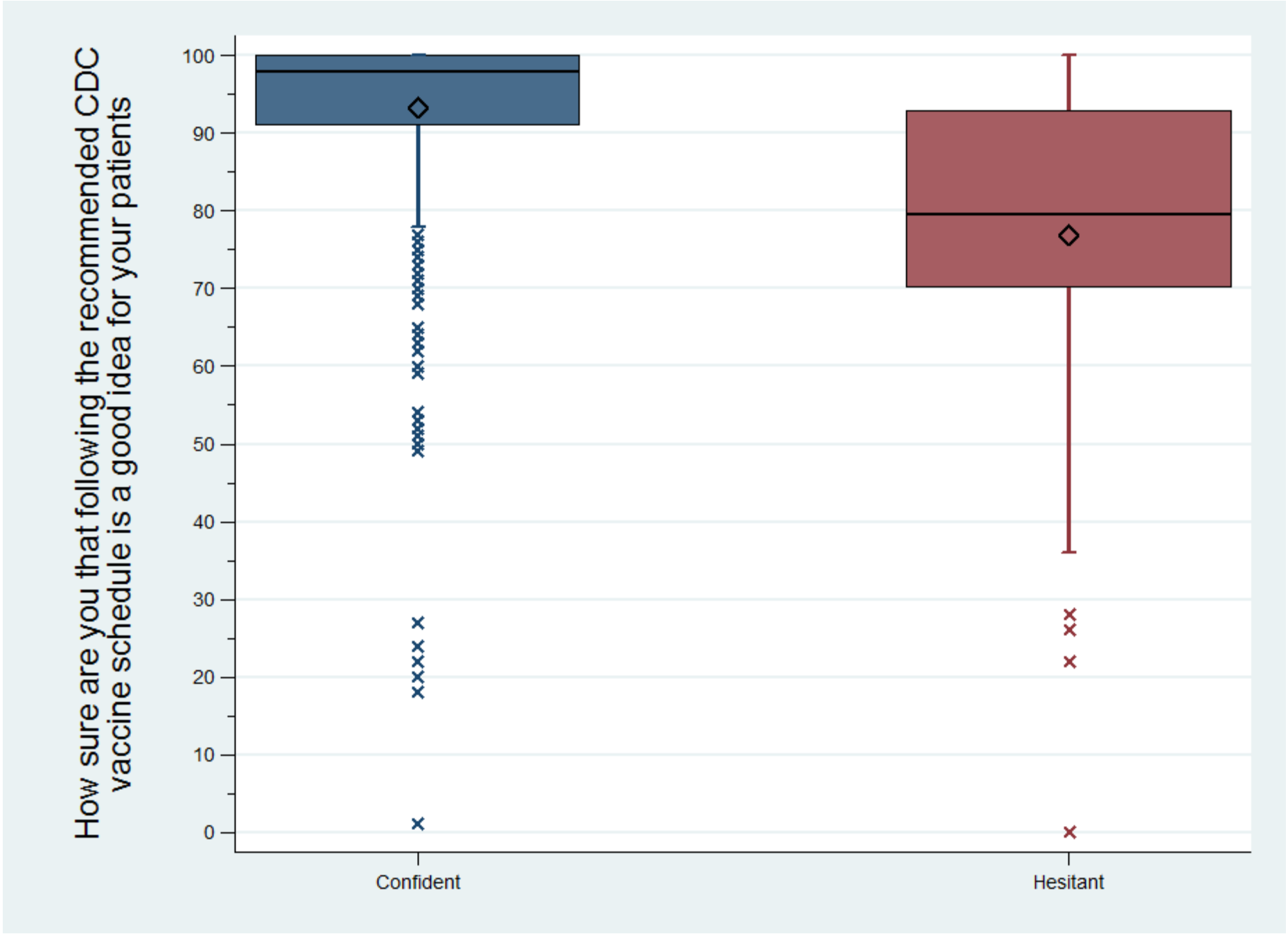
'The response category "not sure" was used in the Likert scale formats because we felt that this was an answer that reflected vaccine hesitancy'[1]

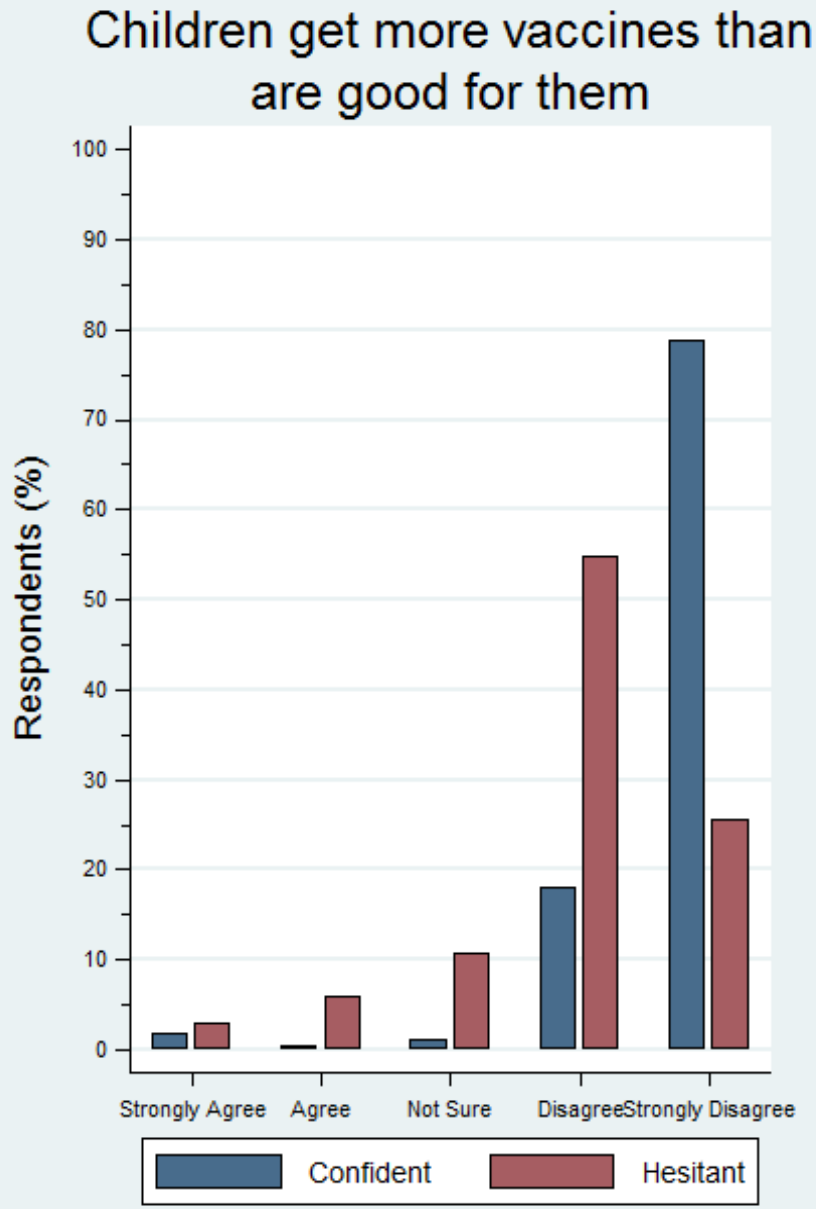
1 Opel, Development of a survey to identify vaccine-hesitant parents, Human Vaccines, 2011

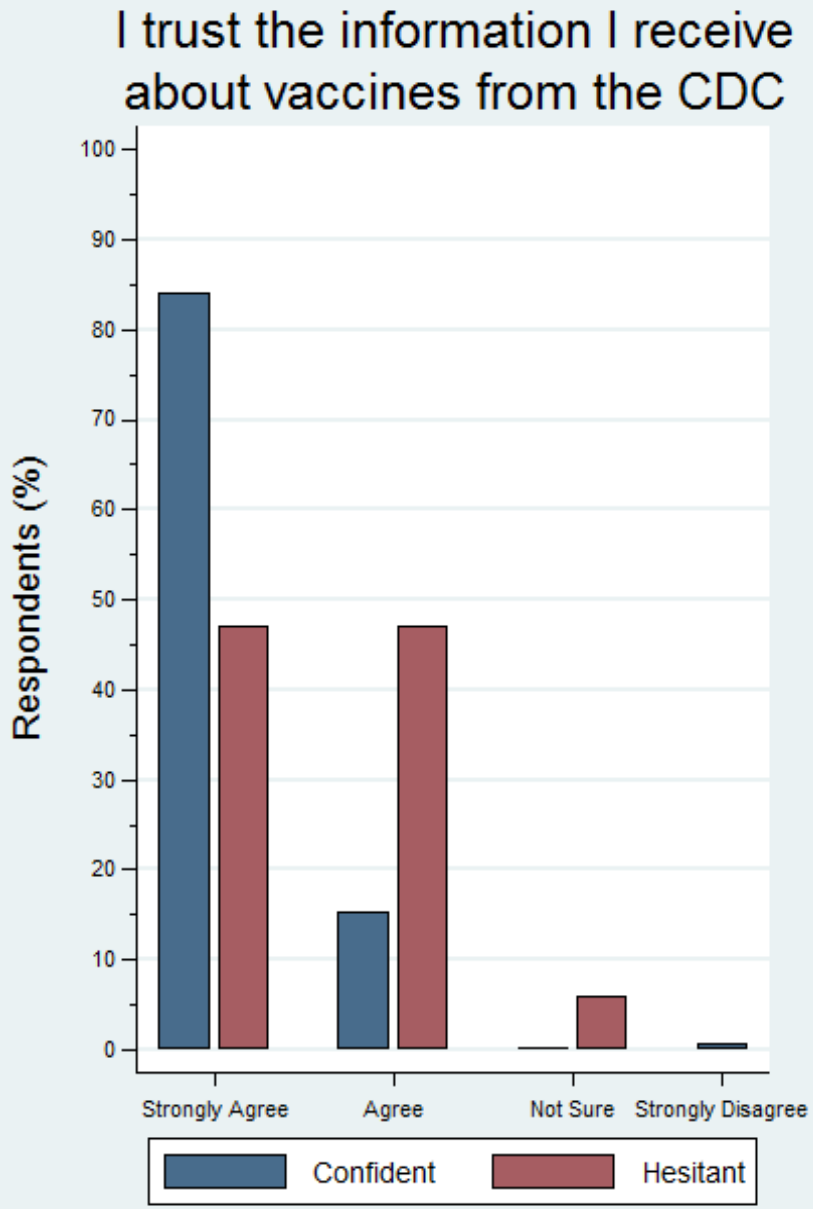
Overall, how hesitant about childhood vaccines would you consider yourself to be?

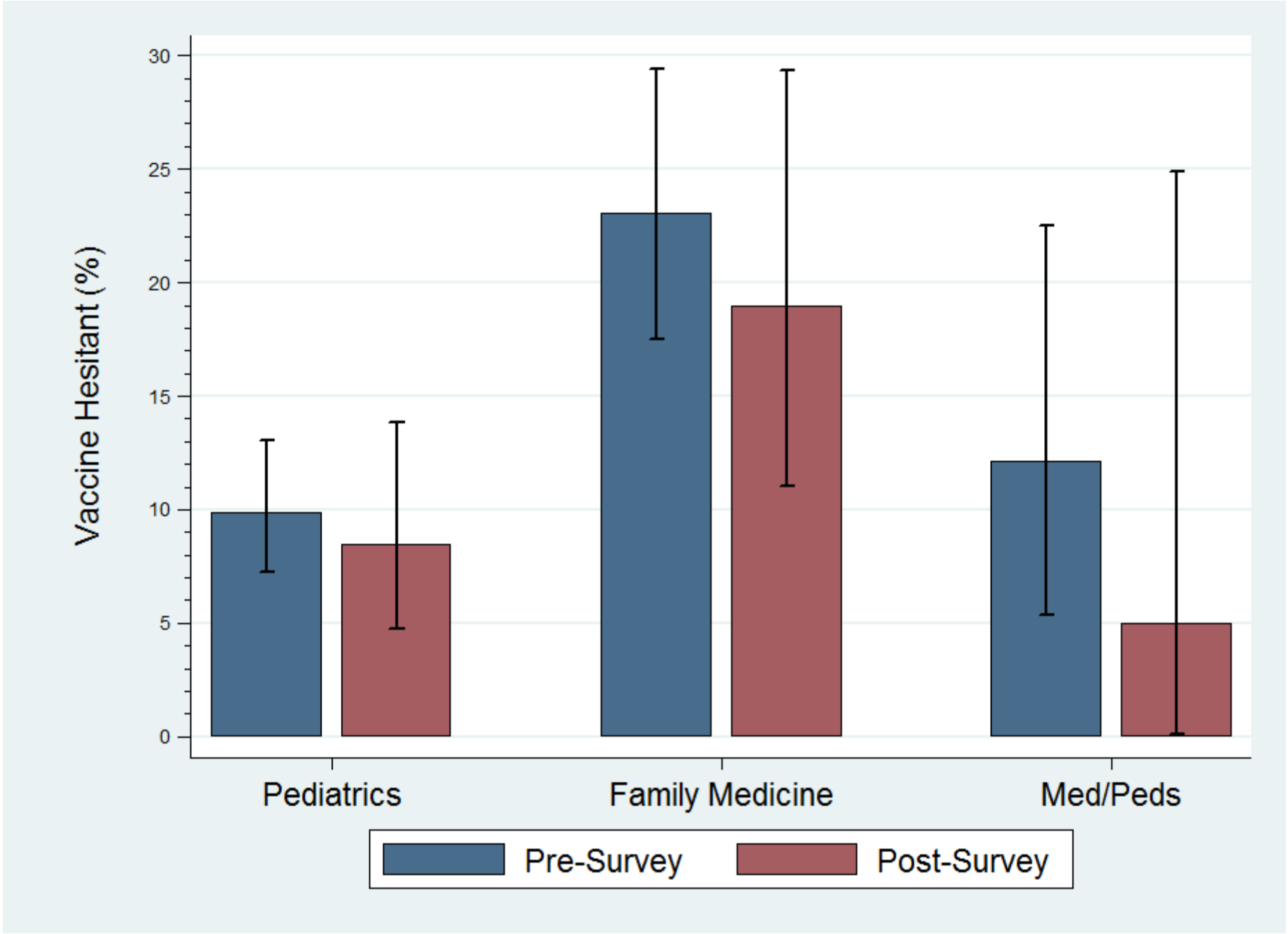
	Freq (N=730)	*Percent*
Not at all hesitant	627	86.1%
Not too hesitant	79	10.9%
Not sure	8	0.1%
Somewhat hesitant	14	1.9%

**there are two respondents who didn't answer this question*


How sure are you that following the recommended CDC vaccine schedule is a good idea for your patients
100
90
80
70
60
50
40
30
20
10
0
Confident
Hesitant


Children get more vaccines than are good for them
Respondents (%)
100
90
80
70
60
50
40
30
20
10
0
Strongly Agree
Agree
Not Sure
Disagree
Strongly Disagree
Confident
Hesitant


I trust the information I receive about vaccines from the CDC
Respondents (%)
100
90
80
70
60
50
40
30
20
10
0
Strongly Agree
Agree
Not Sure
Strongly Disagree
Confident
Hesitant


Vaccine Hesitant (%)
30
25
20
15
10
5
0
Pediatrics
Family Medicine
Med/Peds
Pre-Survey
Post-Survey

Hesitancy Among Residents who completed both pre and post-survey

- There were 101 hesitant residents in the pre only (12.9%)
- There were 44 resident that completed the pre-post defined as hesitant
  - FM 24/44 (54.5%)
  - One third of them (n-14/44) moved to the confident category in the post.
    - 9/14 were FM (64%)

Resident Confidence

Confidence

On a scale of [1-100] do you consider yourself a vaccine novice or expert ?

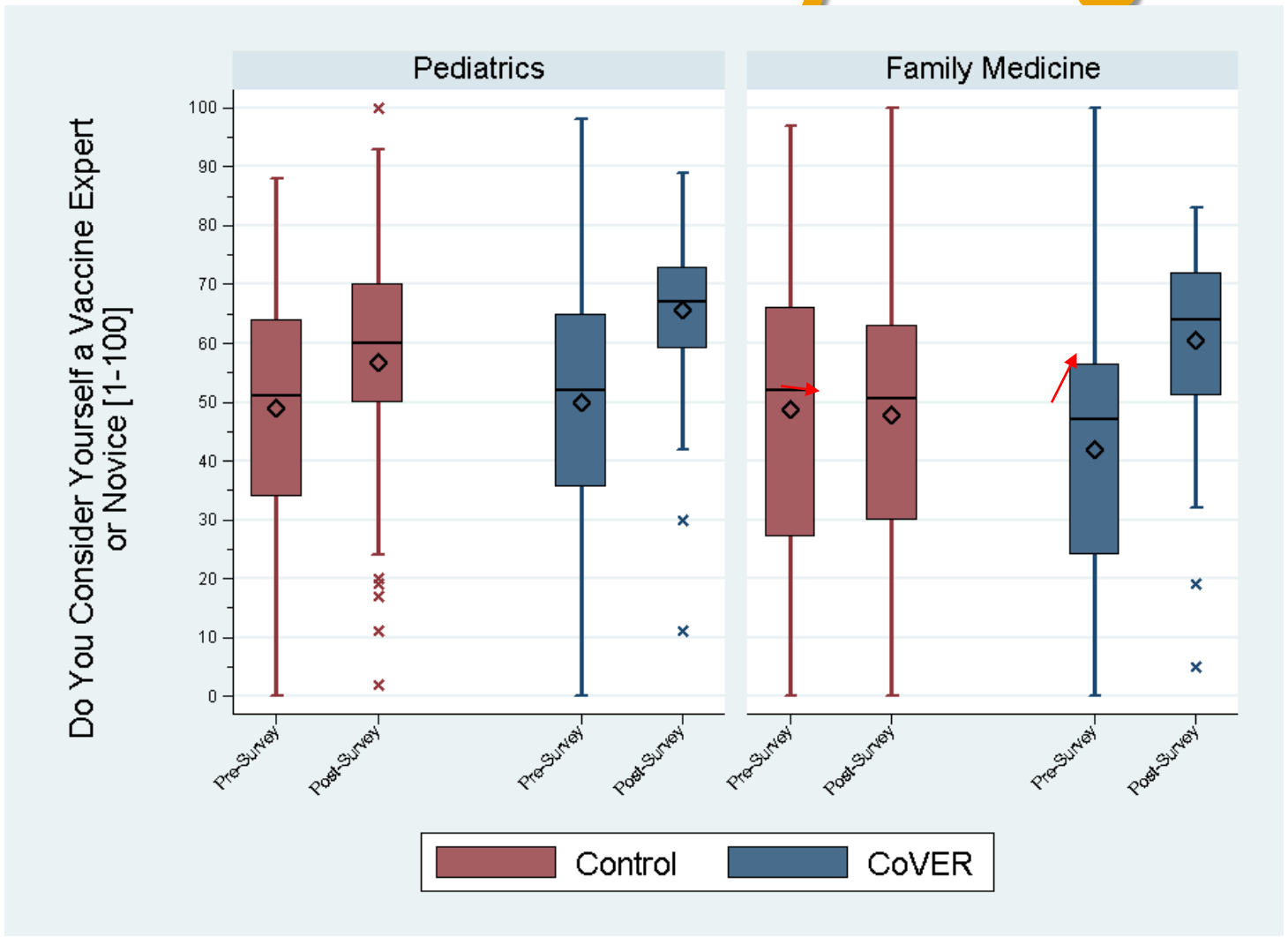
	Adjusted [a]					
Factor	***Pre-Survey***	***Post-Survey***	***Change***	***p-value***	***Difference-in-Difference***	***p-value***
Non-CoVER	48.97	56.71	7.73	0.0001	8.95	0.001
CoVER	47.06	63.74	16.68	<.0001		

[a] *After adjusting for residency year and type*

Vaccine Scale by Program

Resident Type	Arm	Pre-Survey	Post-Survey	Delta	Difference-in-Difference	p-value
Pediatrics						
	Control	49.03	56.81	7.78	7.96	0.0278
	CoVER	49.84	65.59	15.74		
Family Medicine						
	Control	48.78	47.71	-1.06	19.51	0.0012
	CoVER	41.93	60.38	18.45		
Med/Peds						
	Control	52.98	63.47	10.49	11.84	0.335
	CoVER	50.00	72.33	22.33		
Other						
	Control	47.88	79.25	31.37	---	---
	CoVER	36.00	---	---		

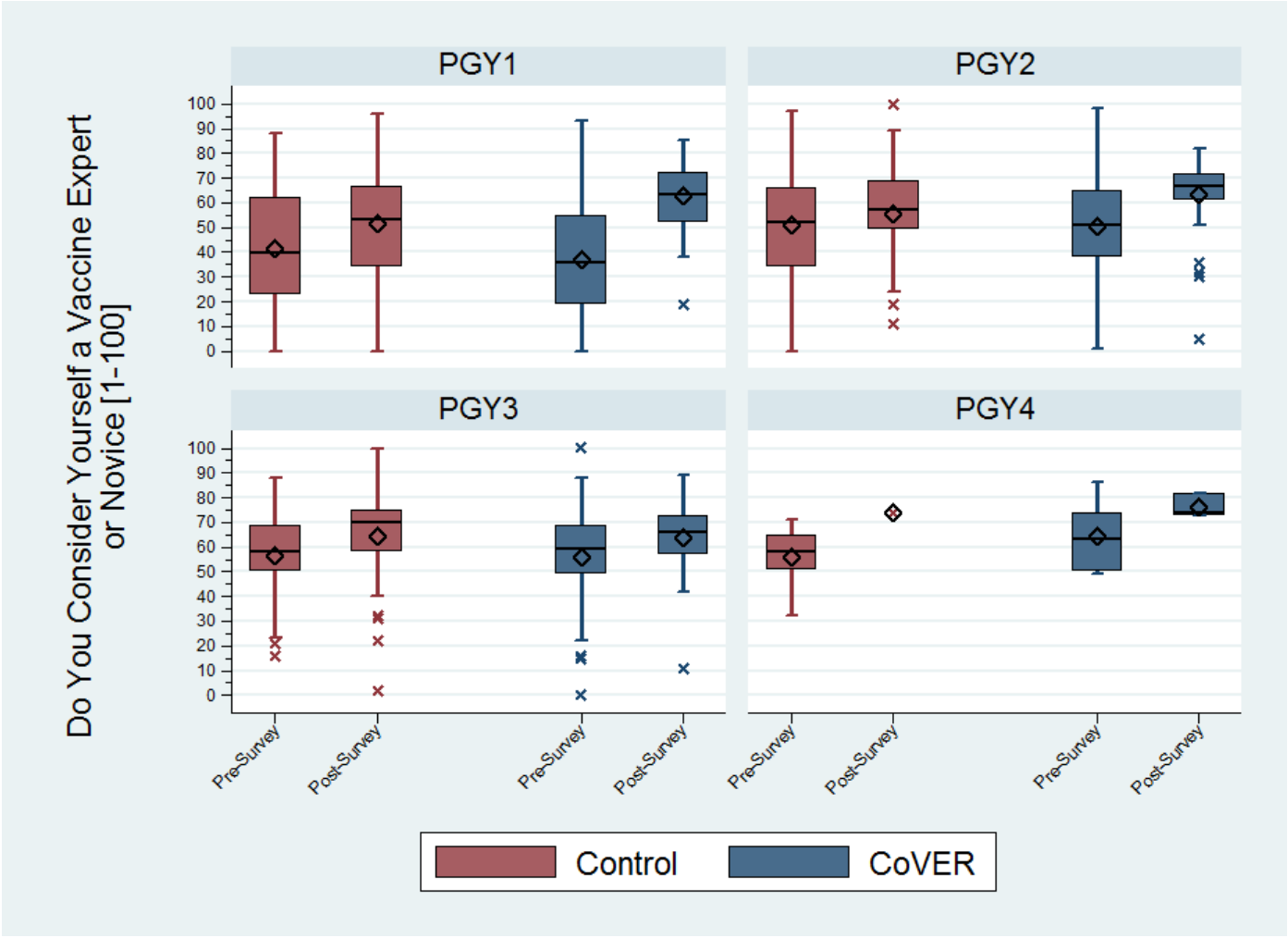
Vaccine Scale by Program



Vaccine Scale by PGYs

Resident Year	*Arm*	*Pre-Survey*	*Post-Survey*	*Delta*	*Difference-in-Difference*	*p-value*
PGY1						
	Control	41.58	51.54	9.96	15.93	0.002
	CoVER	36.89	62.77	25.89		
PGY2						
	Control	51.16	55.39	4.24	9.17	0.0499
	CoVER	50.23	63.63	13.40		
PGY3						
	Control	56.23	64.41	8.17	-0.20	0.965
	CoVER	55.94	63.91	7.97		
PGY4						
	Control	55.90	74.00	18.10	-5.93	0.710
	CoVER	64.17	76.33	12.17		

Vaccine Scale by PGYs



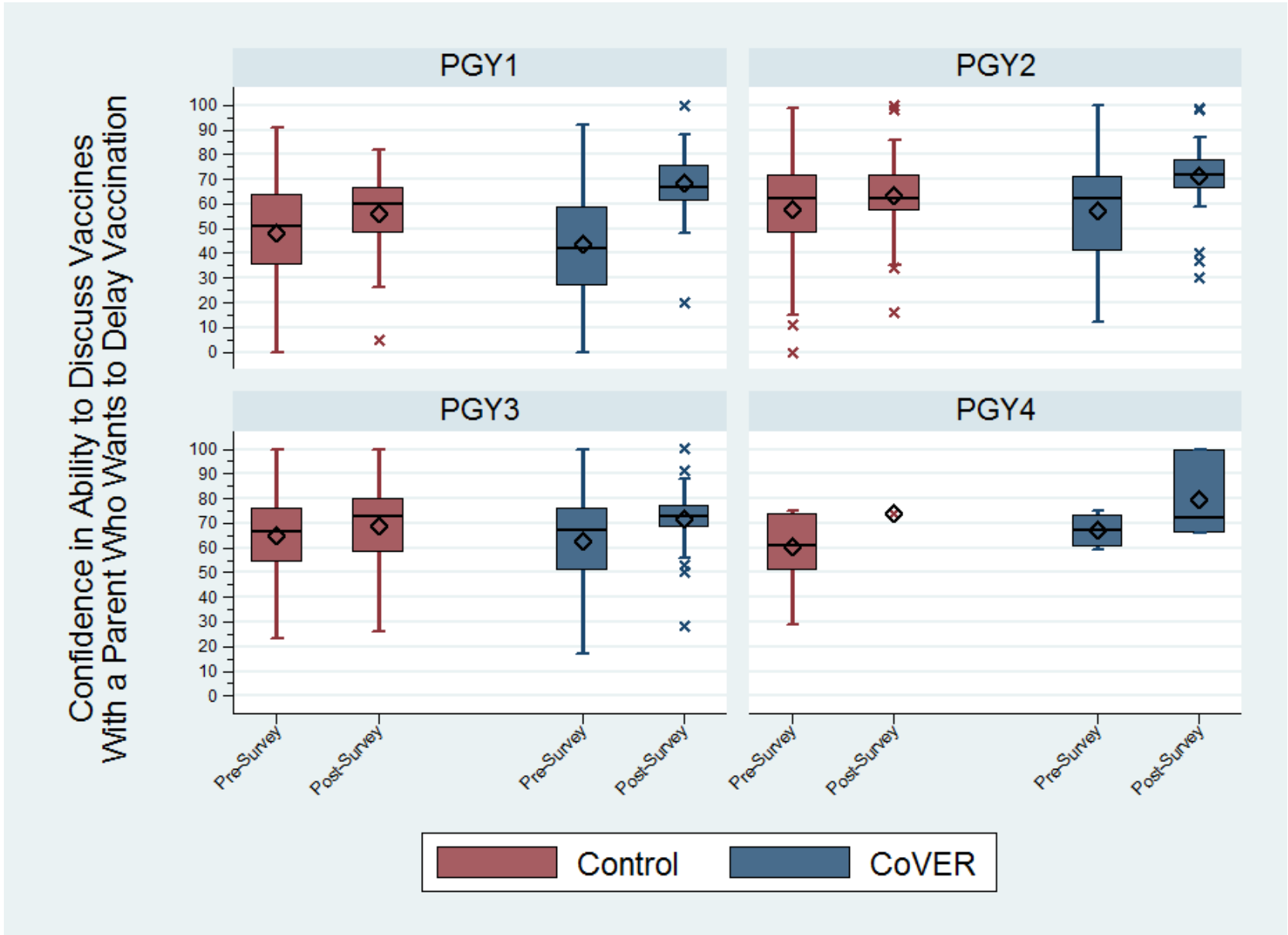
Confidence

How confident do you feel in your ability to discuss vaccines with a parent who would like to delay or withhold one or more vaccines?

[scale 1-100]

	Adjusted [a]			
	Score	**Delta**	**p-value**	**95% CI**
Pre, Control	56.30	-6.25	0.001	-9.93, -2.57
Post, Control	62.54	*-ref-*	---	---
Pre, CoVER	54.08	-8.46	<.001	-13.20, -3.72
Post, CoVER	70.45	**7.91**	0.005	2.42, 13.40

[a] *After adjusting for residency year and type*

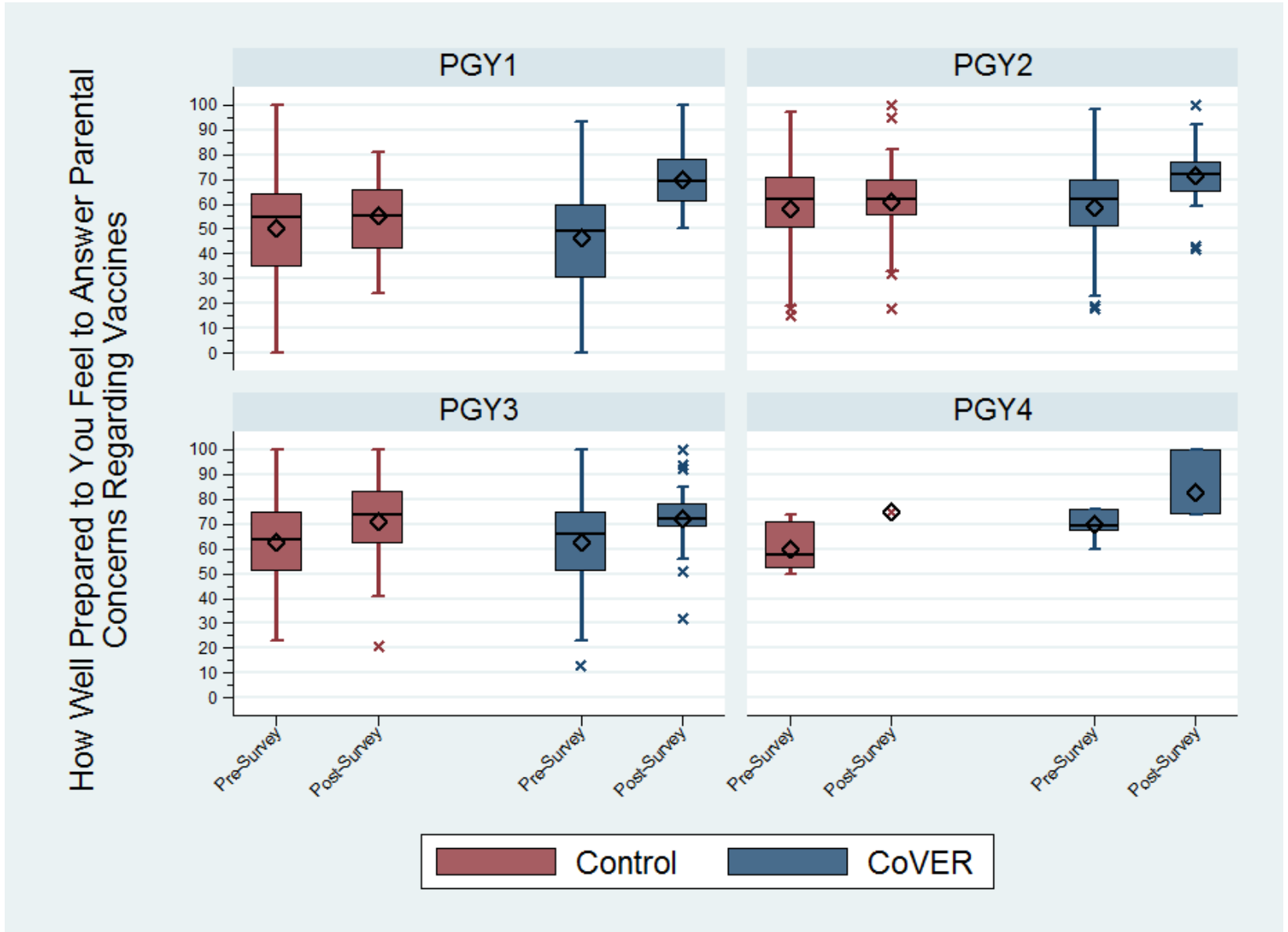

PGY1
PGY2
PGY3
PGY4
Confidence in Ability to Discuss Vaccines
With a Parent Who Wants to Delay Vaccination
100
90
80
70
60
50
40
30
20
10
0
Pre-Survey
Post-Survey
Pre-Survey
Post-Survey
Pre-Survey
Post-Survey
Pre-Survey
Post-Survey
Control
CoVER

Confidence

How well prepared do you feel to answer parental concerns regarding vaccines [scale 1-100]?

	Adjusted [a]			
	Score	**Delta**	**p-value**	**95% CI**
Pre, Control	56.87	-5.23	0.004	-8.77, -1.68
Post, Control	62.10	*-ref-*	---	---
Pre, CoVER	55.51	-6.58	0.013	-11.76, -1.40
Post, CoVER	71.18	**7.03**	0.002	3.27, 14.90

[a] *After adjusting for residency year and type*


How Well Prepared to You Feel to Answer Parental Concerns Regarding Vaccines
PGY1
PGY2
PGY3
PGY4
100
90
80
70
60
50
40
30
20
10
0
Pre-Survey
Post-Survey
Control
CoVER

Focus Group Comments-Pros

“I liked the length and the amount of information contained within them. I thought it was a very good resource, just a quick reference, a good reminder of the timing of the vaccines and whatnot.”

“It was super easy to click through everything, and there was interactions through it.”

“It didn't take hours to complete it, and I think it hit the top facts that you need to know and gave resources if you wanted more information on further things.”

Focus Group Comments-Pros

“They're far and away the best modules that we have to do. They blow the others out of the water by miles.”

“I have noticed as I practice for the boards that I can get all the vaccine questions right, and now they seem super easy after taking the CoVER curriculum.”

Focus Group Comments-Pros

“I struggled with a family that did not want to immunize their children, and after taking all the modules, I was able to talk to them with my new found knowledge and confidence and the family is now immunized!”

“It was nice having that in my pocket. It gave me more to talk with those families and engage with them as best as possible.”

Limitations

- Resident uptake of self-led training is challenging given time constraints and overlapping obligations
- Limited amount of material in modules due to Program Director request
- Ability to evaluate impact on resident knowledge, attitudes/hesitancy and confidence depends on resident completion of end-of-year survey
  - Survey not validated for healthcare professionals
- Did not determine impact on patient vaccine uptake

Conclusions- Residents

- Peds and FM resident trainees have baseline sub-optimal confidence in ability to counsel families about vaccines
- FM lower knowledge ($p<0.001$) at baseline and higher hesitancy
- Vaccine hesitancy exists among Peds and FM resident US trainees, ranging from 2-13%

Conclusions-CoVER Impact

- Knowledge improved more with CoVER curriculum, especially among FM ($p=0.08$)
- Self reported vaccine expertise increased significantly with CoVER ($p <0.001$), especially among FM ($p=0.0012$) and PGY1s ($p=0.002$)
- Confidence discussing vaccine questions with parents ($p=0.002$) and vaccine delays ($p=0.005$) increased with CoVER

Next Steps

- Roundtable Discussion, Kansas City November 2018
  - Funding to maintain the program and expand to other institutions
- R01
  - Develop PGY2 and PGY3 training modules
  - Target FM?
- CME, MOC possibilities?

Job Openings

- Openings at FDA

  Doran Fink MD, PhD

  Team Leader, CRB-2

  FDA/CBER/OVRR/DVRPA

  White Oak Bldg 71, Rm 3311

  (301) 796-2640

PEDIATRIC INFECTIOUS DISEASES SOCIETY

Antimicrobial Stewardship Experience for Fellows

- Document of recommendations for fellow training in antibiotic stewardship
  - Stewardship in Practice
  - Scholarly Activity
  - Professional Development
  - Teaching

PEDIATRIC INFECTIOUS DISEASES SOCIETY

Antimicrobial Stewardship Experience for Pediatric Infectious Diseases Fellows

Zach Willis

10/5/18

Background

- In 2017, the Pediatric Committee on Antimicrobial Stewardship (PCAS) decided to lay out training recommendations for Ped ID fellows who were pursuing a career in antimicrobial stewardship
- These are recommendations, not requirements. Activities are not verified by PIDS
  - That has been discussed for the future though
- Developed from the opinions of PCAS members and interviews with several early career stewardship directors
- Current status: sent to the PIDS board for review

Section 1: Stewardship in Practice

- Focus: “administrative and day-to-day aspects”
- All aspects will vary in structure and intensity by setting
- Components:
  - Primary reviewer for prospective audit and feedback; Goal of 20 days, which could be consecutive or longitudinal
  - Serve as first-line reviewer of prior approval requests
  - Attend related administrative meetings
  - Additional activities: guideline development, medication use evaluation, order set development, review an antimicrobial product for the hospital formulary

Section 2: Scholarly Activity

- The fellow should complete a research or Quality Improvement project related to antimicrobial stewardship
  - The definition of “related” is intentionally broad; could range from wet lab experience to quality improvement to healthcare economics
- Mentorship from an AS practitioner (physician or pharmacist) is recommended
- Products:
  - Publication-ready manuscript
  - Present at a national meeting

Section 3: Professional Development

- Required:
  - "Advanced understanding of antimicrobial mechanisms of action, mechanisms of resistance, and pharmacokinetics/pharmacodynamics"
    - This should be aligned with the EPA "Promoting Antimicrobial Stewardship Based on Microbiological Principles"
  - Plus at least one of:
    - QI training, epi/biostats, health care economics, implementation science, communications training, medical education
- Possible resources to obtain this training is provided
- Attendance at a relevant conference is encouraged (SHEA stewardship track, PIDS AS Conference, IDWeek pre-meeting workshop, etc.)

Section 4: Education

- The least structured section
- Fellows should present didactics to trainees and clinicians focused on areas related to antimicrobial stewardship
  - No well-defined standards

Summary

- The goal is to provide a broad-based training guide for fellows interested in stewardship and their mentors
- We felt that most/all aspects could be integrated into the usual course of fellowship
- There is no official recognition of completion (at this time)

Antimicrobial Stewardship Training for Infectious Diseases Fellows: Program Directors Identify a Curriculum Need

Vera P. Luther,[1] Rachel Shnekendorf,[2] Lilian M. Abbo,[3] Sonali Advani,[4]

- The IDSA has developed and is currently pilot-testing an antimicrobial stewardship core curriculum that is fairly involved
  - eLearning, interactive cases, role-playing (one fellow plays a recalcitrant surgical attending), faculty didactics with prefab Powerpoints
- The “advanced curriculum” is forthcoming
- The focus is almost entirely on the adult setting
- How to integrate pediatric ID is somewhat unclear

Updates from 2017

- New online community forum
  - PD's are signed up to the group
  - New PD's should reach out to Christy or Faith to get signed up
- FPD Handbook is available!
  - *Direct link: https://www.appd.org/home/pdf/APPD_FPD_handbook_2018.pdf*
  - *Website: https://www.appd.org/home/fd.cfm*

PEDIATRIC INFECTIOUS DISEASES SOCIETY