



### Predictors of Symptoms Are Different From Predictors of Severe Exacerbations From Asthma in Children

*Ann Chen Wu, MD, MPH; Kelan Tantisira, MD, MPH; Lingling Li, PhD;  
Brooke Schuemann, BS; Scott T. Weiss, MD; and Anne L. Fuhlbrigge, MD;  
for the Childhood Asthma Management Program Research Group\**

#### e-Appendix 1.

#### CAMP Credit Roster

##### *Source of funding*

The Childhood Asthma Management Program trial and CAMP Continuation Study were supported by contracts NO1-HR-16044, 16045, 16046, 16047, 16048, 16049, 16050, 16051, and 16052 with the National Heart, Lung, and Blood Institute and General Clinical Research Center grants M01RR00051, M01RR0099718-24, M01RR02719-14, and RR00036 from the National Center for Research Resources. The CAMP Continuation Study/Phases 2 and 3 were supported by grants U01HL075232, U01HL075407, U01HL075408, U01HL075409, U01HL075415, U01HL075416, U01HL075417, U01HL075419, U01HL075420, and U01HL075408 from the National Heart, Lung, and Blood Institute.

##### Members of the CAMP Research Group:

###### *Clinical centers*

**ASTHMA, Inc, Seattle, WA:** Paul Williams, MD (Principal Investigator); Mary V. Lasley, MD (Co-Director); Tamara Chinn, MSN, ARNP (Coordinator). Michele Hinatsu, MSN, ARNP; Clifton T. Furukawa, MD; Leonard C. Altman, MD; Frank S. Virant, MD; Michael S. Kennedy, MD; Jonathan W. Becker, MD; Stephen Tilless, MD; Miranda MacLaren. C. Warren Bierman, MD (1992-1997); Dan Crawford, RN (1996-2002); Thomas DuHamel (1991-2004); Heather Eliassen, BA (1996-1999); Babi Hammond (1996-1999); Dominick A. Minotti, MD (1992-2003); Chris Reagan (1992-2003); Gail Shapiro

*Online supplements are not copyedited prior to posting.*



(1991-2006, Principal Investigator); Marian Sharpe, RN (1992-1994); Ashley Tatum, MD (2004-2007); Grace White (1991-2007). Timothy G. Wighton, PhD (1994-1998).

**Brigham & Women's Hospital, Boston, MA:** Anne Fuhlbrigge, MD (Principal Investigator); Anne Plunkett, NP, MS (Coordinator). Nancy Madden, RN, BSN; Mark Boehnert, MD; Christine Darcy; Anita Feins, MD; Natalia Kandror, MD; Kelly MacAulay, MD; Scott Weiss MD. Walter Torda, MD (Co-Investigator Director, 1993-2003); Martha Tata, RN (1993-2002); Sally Babigian, RN (1997-1999); Peter Barratt, MD (2004-2007); Linda Benson (1998-2004); Jose Caicedo (1998-1999); Tatum Calder (1998-2001); Anthony DeFilippo (1994-2000); Cindy Dorsainvil (1998-2001); Julie Erickson (1998-1999); Phoebe Fulton (1997); Mary Grace, RN (1994-1996); Jennifer Gilbert (1997-1998); Dirk Greineder, MD (1993-2000); Stephanie Haynes (1993-1998); Margaret Higham, MD (1996-1998); Deborah Jakubowski (1999); Susan Kelleher (1993-1997); Jay Koslof, PhD (1993-1995); Dana Mandel (1996-1998); Patricia Martin (2001-2003); Agnes Martinez (1994-1997); Jean McAuliffe (1994-1995); Erika Nakamoto (2002-2004); Paola Pacella (1993-1998); Paula Parks (1993-1995); Johanna Sagarin (1998-1999); Kay Seligsohn, PhD (1995-2004); Susan Swords (2003-2005); Meghan Syring (1998-2001); June Traylor, MSN, RN (1996-1998); Melissa Van Horn, PhD (1996-1999); Carolyn Wells, RN (1993-1995); Ann Whitman, RN (1994-1996).

**The Hospital for Sick Children, Toronto, Ontario, Canada:** Hartmut Grasemann, MD (Principal Investigator); Melody Miki, RN, BSN (Coordinator); Melinda Solomon, MD; Padmaja Subbarao, MD. Ian MacLusky, MD, FRCP (Director 1999-2007); Joe Reisman, MD, FRCP(C), MBA (Director, 1996-1999); Henry Levison, MD, FRCP(C) (Director, 1992-1996); Anita Hall, RN (Coordinator, 1993-2007). Yola Benedet (1994-1999); Susan Carpenter, RN (1998-2001); Jennifer Chay (2004); Michelle Collinson, RN (1994-1998); Jane Finlayson-Kulchin, RN (1994-1998); Kenneth Gore, MA (1993-1999); Nina Hipolito, RN (2003-2004); Noreen Holmes, RRT (1998-1999); Erica Hoornitje, RN (2002-2003); Sharon Klassen, MA (1999-2000); José Quenneville, MSc (1993-1995); Renée Sananes, PhD (1993-2004); Christine Wasson, PhD (1999); Margaret Wilson, RN (2001-2002).

**Johns Hopkins Asthma & Allergy Center, Baltimore, MD:** N. Franklin Adkinson, Jr, MD (Director); Deborah Bull, LPN (Coordinator); Stephanie Philips, RN. Peyton Eggleston, MD (Co-Director, 1991-2004); Karen Huss, DNSc (Co-Investigator, 1991-2004); Leslie Plotnick, MD (Co-Investigator, 1991-1999); Margaret Pulsifer, PhD (Co-Investigator, 1993-2004); Cynthia Rand, PhD (Co-Investigator, 1991-2004). Elizabeth Aylward, PhD (1991-2004), Nancy Bollers, RN (Coordinator, 1993-2004); Kathy Pessaro (2004-2007); Barbara Wheeler, RN, BSN (Coordinator, 1991-1999).

*Online supplements are not copyedited prior to posting.*



**National Jewish Health, Denver, CO:** Stanley Szeffler, MD (Director); Harold S. Nelson, MD (Co-Director); Bruce Bender, PhD (Co-Investigator); Ronina Covar, MD (Co-Investigator); Andrew Liu, MD (Co-Investigator); Joseph Spahn, MD (Co-Investigator); D Sundström (Coordinator); Melanie Phillips; Michael P. White; Melanie Gleason, PA-C; Marzena Krawiec, MD; Gary Larsen, MD; Gayle Spears, PA-C. Kristin Brelsford (1997-1999); Jessyca Bridges (1995-1997); Jody Ciacco (1993-1996); Michael Eltz (1994-1995); Jeryl Feeley, MA (Coordinator, 1992-1995); Michael Flynn (1995-1996); Tara Junk-Blanchard (1997-2000); Joseph Hassell (1992-1998); Marcia Hefner (1992-1994); Caroline Hendrickson, RN (1995-1998; Coordinator, 1995-1997); Daniel Hettleman, MA (1995-1996); Charles G. Irvin, PhD (1992-1998); Alan Kamada, PharmD (1994-1997); Sai Nimmagadda, MD (1993-1996); Kendra Sandoval (1995-1997); Jessica Sheridan (1994-1995); Trella Washington (1993-1997); Eric Willcutt, MA (1996-1997). We also thank the pediatric allergy/immunology and pulmonary fellows for their participation (Ivan Cardona, MD; Kirstin Carel, MD; Jayna Doshi, MD; Rich Hendershot, MD; Jeffrey Jacobs, MD; Neal Jain, MD; June-ku Brian Kang, MD; Tracy Kruzick, MD; Harvey Leo, MD; Beth Macomber, MD; Jonathan Malka, MD; Chris Mjaanes, MD; John Prpich, MD; Lora Stewart, MD; Ben Song, MD; Grace Tamesis, MD).

**University of California, San Diego and Kaiser Permanente Southern California Region, San Diego, CA:** Robert S. Zeiger, MD, PhD (Director); Noah Friedman, MD (Co-Investigator); Michael H. Mellon, MD (Co-Investigator); Michael Schatz, MD (Co-Investigator); Kathleen Harden, RN (Coordinator). Terrie Long, RN; Travis Macaraeg; Elsa Rodriguez; Eva Rodriguez, RRT. Sandra Christensen, MD (2004-2007); James G. Easton, MD (Co-Director, 1993-1994); M. Feinberg (1997-1998); Linda L. Galbreath (1991-2002); Jennifer Gulczynski (1998-1999); Ellen Hansen (1995-1997); Al Jalowayski, PhD (Co-Investigator, 1991-2005); Elaine Jenson (2004-2007); Alan Lincoln, PhD (Co-Investigator, 1991-2003); Jennie Kaufman (1994); Shirley King, MSW (1992-1999); Brian Lopez (1997-1998); Michaela Magiari-Ene, MA (1994-1998); Kathleen Mostafa, RN (1994-1995); Avraham Moscona (1994-1996); Catherine A. Nelle, RN (1991-2005); Jennifer Powers (2001-2003); Karen Sandoval (1995-1996); Nevin W. Wilson, MD (Co-Director, 1991-1993).

**University of New Mexico, Albuquerque, NM:** H. William Kelly, PharmD (Director); Aaron Jacobs (Co-Investigator); Hengameh H. Raissy, PharmD, PhC (Co-Investigator); Mary Spicher, RN (Coordinator). Christina Batson. Robert Annett, PhD (Co-Investigator, 1993-2004); Teresa Archibeque (1994-1999); Naim Bashir, MD (Co-Investigator, 1998-2005); H. Selda Bereket (1995-1998); Marisa Braun (1996-1999); Carrie Bush (1995-1999); Shannon C. Bush (2002-2007); Michael Clayton, MD (Co-Investigator, 1999-2001); Angel Colon-Semidey, MD (Co-Investigator, 1997-2000); Sara Devault (1993-1997); Anna

*Online supplements are not copyedited prior to posting.*



Esparham (2004-2007); Roni Grad, MD (Co-Investigator, 1993-1995); David Hunt, RRT (1995-2004); Jeanne Larsson, RN (1995-1996); Katie McCallum (2009); Sandra McClelland, RN (Coordinator, 1993-1995); Bennie McWilliams, MD (Co-Investigator, Director, 1992-1998); Elisha Montoya (1997-2000); Margaret Moreshead (1996-1999); Shirley Murphy, MD (Co-Investigator, 1992-1994); Barbara Ortega, RRT (1993-1999); David Weers (1997-1998); Jose Zayas (1995-1996).

**Washington University, St. Louis, MO:** Robert C. Strunk, MD (Director); Leonard Bacharier, MD (Co-Investigator); Gordon R. Bloomberg, MD (Co-Investigator); Denise Rodgers, RPFT (Coordinator). Ellen Albers (1999-2003); James M. Corry, MD (Co-Investigator, 1995-2004); Karen DeMuth (2006-2007); Lila Kertz, MSN, RN, CPNP (2005-2007); Valerie Morgan, RRT (2004-2007); Cynthia Moseid (2007); Tina Oliver-Welker, CRTT (1993-2007); Deborah K. White, RPFT, RRT (1993-2007).

### *Resource centers*

**Data Coordinating Center, The Johns Hopkins University, Baltimore, MD:** James Tonascia, PhD (Director). Patricia Belt; Karen Collins; Betty Collison; Ryan Colvin, MPH; John Dodge; Michele Donithan, MHS; Cathleen Ewing; Rosetta Jackson; Hope Livingston; Jill Meinert; Gail Reyes; Michael Smith; Alice L. Sternberg, ScM; Mark L. Van Natta, MHS; Annette Wagoner; Laura Wilson, ScM; Robert Wise, MD; Katherine Yates, ScM.

**Project Office, National Heart, Lung, and Blood Institute, Bethesda, MD:** Virginia Taggart, MPH (Project Officer); Lois Eggers; James Kiley, PhD; Howard Moore; Gang Zheng, PhD. Paul Albert, PhD (1991-1999); Suzanne Hurd, PhD (1991-1999); Sydney Parker, PhD (1991-1994); Pamela Randall (1992-2003); Margaret Wu, PhD (1991-2001).

### *Committees*

**Data and Safety Monitoring Board:** Michelle Cloutier, MD; John Connell, PhD; Leona Cuttler, MD; Frank Gilliland, MD, PhD. Clarence E. Davis, PhD (1993-2003); Howard Eigen, MD (1993-2009, Chair); David Evans, PhD (1993-2007); Meyer Kattan, MD (1993-2007); Rogelio Menendez, MD (1993-2007); F. Estelle R. Simons, MD (1993-2007); Sanford Leikin, MD (1993-1999).

*Online supplements are not copyedited prior to posting.*



**Steering Committee:** Robert Strunk, MD (Study Chair); N. Franklin Atkinson, MD; Robert Annett, PhD (1992-1995, 1997-1999); Bruce Bender, PhD; Mary Caesar, MHS (1994-1996); Reuben Cherniack, MD (Study Chair 1993-2007); Thomas R. DuHamel, PhD (1992-1994, 1996-1999); Anne Fuhlbrigge, MD; Hartmut Grasemann, MD; H. William Kelly, PharmD; Henry Levison, MD (1992-1996); Alan Lincoln, PhD (1994-1995); Ian MacLusky, MD (1999-2006); Bennie McWilliams, MD (1992-1998); Curtis L. Meinert, PhD; Sydney Parker, PhD (1991-1994); Joe Reisman, MD, FRCP(C), MBA (1991-1999); Denise Rodgers; Kay Seligsohn, PhD (1996-1997); Gail G. Shapiro, MD (1991-2006); Marian Sharpe (1993-1994); D Sundström (1998-1999); Stanley Szefler, MD; Virginia Taggart, MPH; Martha Tata, RN (1996-1998); James Tonascia, PhD; Scott Weiss, MD, MS; Barbara Wheeler, RN, BSN (1993-1994); Paul Williams, MD; Robert Wise, MD; Robert Zeiger, MD, PhD

*Online supplements are not copyedited prior to posting.*