

Main Author Block:**Common genetic variants influence human subcortical brain structures**

Derrek P. Hibar*, Jason L. Stein*, Miguel E. Renteria*, Alejandro Arias-Vasquez*, Sylvane Desrivieres*, Neda Jahanshad, Roberto Toro, Katharina Wittfeld, Lucija Abramovic, Micael Andersson, Benjamin S. Aribisala, Nicola J. Armstrong, Manon Bernard, Marc M. Bohlken, Marco P. Boks, Janita Bralten, Andrew A. Brown, M. Mallar Chakravarty, Qiang Chen, Christopher R. K. Ching, Gabriel Cuellar-Partida, Anouk den Braber, Sudheer Giddaluru, Aaron L. Goldman, Oliver Grimm, Tulio Guadalupe, Johanna Hass, Girma Woldehawariat, Avram J. Holmes, Martine Hoogman, Deborah Janowitz, Tianye Jia, Sungeun Kim, Marieke Klein, Bernd Kraemer, Phil H. Lee, Loes M. Olde Loohuis, Michelle Luciano, Christine Macare, Karen A. Mather, Manuel Mattheisen, Yuri Milaneschi, Kwangsik Nho, Martina Pappmeyer, Adaikalavan Ramasamy, Shannon L. Risacher, Roberto Roiz-Santiañez, Emma J. Rose, Alireza Salami, Philipp G. Sämann, Lianne Schmaal, Andrew J. Schork, Jean Shin, Lachlan T. Strike, Alexander Teumer, Marjolein M. J. van Donkelaar, Kristel R. van Eijk, Raymond K. Walters, Lars T. Westlye, Christopher D. Whelan, Anderson M. Winkler, Marcel P. Zwiers, Saud Alhusaini, Lavinia Athanasiu, Stefan Ehrlich, Marina M. H. Hakobjan, Cecilie B. Hartberg, Unn K. Haukvik, Angelien J. G. A. M. Heister, David Hoehn, Dalia Kasperaviciute, David C. M. Liewald, Lorna M. Lopez, Remco R. R. Makkinje, Mar Matarin, Marlies A. M. Naber, D. Reese McKay, Margaret Needham, Allison C. Nugent, Benno Pütz, Natalie A. Royle, Li Shen, Emma Sprooten, Daniah Trabzuni, Saskia S. L. van der Marel, Kimm J. E. van Hulzen, Esther Walton, Christiane Wolf, Laura Almasy, David Ames, Sampath Arepalli, Amelia A. Assareh, Mark E. Bastin, Henry Brodaty, Kazima B. Bulayeva, Melanie A. Carless, Sven Cichon, Aiden Corvin, Joanne E. Curran, Michael Czisch, Greig I. de Zubicaray, Allissa Dillman, Ravi Duggirala, Thomas D. Dyer, Susanne Erk, Iryna O. Fedko, Luigi Ferrucci, Tatiana M. Foroud, Peter T. Fox, Masaki Fukunaga, J. Raphael Gibbs, Harald H. H. Göring, Robert C. Green, Sebastian Guelfi, Narelle K. Hansell, Catharina A. Hartman, Katrin Hegenscheid, Andreas Heinz, Dena G. Hernandez, Dirk J. Heslenfeld, Pieter J. Hoekstra, Florian Holsboer, Georg Homuth, Jouke-Jan Hottenga, Masashi Ikeda, Clifford R. Jack Jr, Mark Jenkinson, Robert Johnson, Ryota Kanai, Maria Keil, Jack W. Kent Jr, Peter Kochunov, John B. Kwok, Stephen M. Lawrie, Xinmin Liu, Dan L. Longo, Katie L. McMahon, Eva Meisenzahl, Ingrid Melle, Sebastian Mohnke, Grant W. Montgomery, Jeanette C. Mostert, Thomas W. Mühleisen, Michael A. Nalls, Thomas E. Nichols, Lars G. Nilsson, Markus M. Nöthen, Kazutaka Ohi, Rene L. Olvera, Rocio Perez-Iglesias, G. Bruce Pike, Steven G. Potkin, Ivar Reinvang, Simone Reppermund, Marcella Rietschel, Nina Romanczuk-Seiferth, Glenn D. Rosen, Dan Rujescu, Knut Schnell, Peter R. Schofield, Colin Smith, Vidar M. Steen, Jessika E. Sussmann, Anbupalam Thalamuthu, Arthur W. Toga, Bryan J. Traynor, Juan Troncoso, Jessica A. Turner, Maria C. Valdés Hernández, Dennis van 't Ent, Marcel van der Brug, Nic J. A. van der Wee, Marie-Jose van Tol, Dick J. Veltman, Thomas H. Wassink, Eric Westman, Ronald H. Zielke, Alan B. Zonderman, David G. Ashbrook, Reinmar Hager, Lu Lu, Francis J. McMahon, Derek W. Morris, Robert W. Williams, Han G. Brunner, Randy L. Buckner, Jan K. Buitelaar, Wiepke Cahn, Vince D. Calhoun, Gianpiero L. Cavalleri, Benedicto Crespo-Facorro, Anders M. Dale, Gareth E. Davies, Norman Delanty, Chantal Depondt, Srdjan Djurovic, Wayne C. Drevets, Thomas Espeseth, Randy L. Gollub, Beng-Choon Ho, Wolfgang Hoffmann, Norbert Hosten, René S. Kahn, Stephanie Le Hellard, Andreas Meyer-Lindenberg, Bertram Müller-Myhsok, Matthias Nauck, Lars Nyberg, Massimo Pandolfo, Brenda W. J. H. Penninx, Joshua L. Roffman, Sanjay M. Sisodiya, Jordan W. Smoller, Hans van Bokhoven, Neeltje E. M. van Haren, Henry Völzke, Henrik Walter, Michael W. Weiner, Wei Wen, Tonya White, Ingrid Agartz, Ole A. Andreassen, John Blangero, Dorret I. Boomsma, Rachel M. Brouwer, Dara M. Cannon, Mark R. Cookson, Eco J. C. de Geus, Ian J. Deary, Gary Donohoe, Guillén Fernández,

Simon E. Fisher, Clyde Francks, David C. Glahn, Hans J. Grabe, Oliver Gruber, John Hardy, Ryota Hashimoto, Hilleke E. Hulshoff Pol, Erik G. Jönsson, Iwona Kloszewska, Simon Lovestone, Venkata S. Mattay, Patrizia Mecocci, Colm McDonald, Andrew M. McIntosh, Roel A. Ophoff, Tomas Paus, Zdenka Pausova, Mina Ryten, Perminder S. Sachdev, Andrew J. Saykin, Andy Simmons, Andrew Singleton, Hilkkka Soininen, Joanna M. Wardlaw, Michael E. Weale, Daniel R. Weinberger, Hieab H. H. Adams, Lenore J. Launer, Stephan Seiler, Reinhold Schmidt, Ganesh Chauhan, Claudia L. Satizabal, James T. Becker, Lisa Yanek, Sven J. van der Lee, Maritza Ebling, Bruce Fischl, W. T. Longstreth Jr, Douglas Greve, Helena Schmidt, Paul Nyquist, Louis N. Vinke, Cornelia M. van Duijn, Luting Xue, Bernard Mazoyer, Joshua C. Bis, Vilmundur Gudnason, Sudha Seshadri, M. Arfan Ikram, The Alzheimer's Disease Neuroimaging Initiative, The CHARGE Consortium, EPIGEN, IMAGEN, SYS, Nicholas G. Martin#, Margaret J. Wright#, Gunter Schumann#, Barbara Franke#, Paul M. Thompson# & Sarah E. Medland#

*Authors contributed equally

#Authors contributed equally

Consortium Authors:

The following authors are included under the Alzheimer's Disease Neuroimaging Initiative (ADNI):

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Michael Weiner (UC San Francisco), Paul Aisen (UC San Diego), Ronald Petersen (Mayo Clinic, Rochester), Clifford R. Jack, Jr. (Mayo Clinic, Rochester), William Jagust (UC Berkeley), John Q. Trojanowki (U Pennsylvania), Arthur W. Toga (USC), Laurel Beckett (UC Davis), Robert C. Green (Brigham and Women's Hospital / Harvard Medical School), Andrew J. Saykin (Indiana University), John Morris (Washington University St. Louis), Leslie M. Shaw (University of Pennsylvania); ADNI External Advisory Board (ESAB): Zaven Khachaturian (Prevent Alzheimer's Disease 2020), Greg Sorensen (Siemens), Maria Carrillo (Alzheimer's Association), Lew Kuller (University of Pittsburgh), Marc Raichle (Washington University St. Louis), Steven Paul (Cornell University), Peter Davies (Albert Einstein College of Medicine of Yeshiva University), Howard Fillit (AD Drug Discovery Foundation), Franz Hefti (Acumen Pharmaceuticals), Davie Holtzman (Washington University St. Louis), M. Marcel Mesulman (Northwestern University), William Potter (National Institute of Mental Health), Peter Snyder (Brown University); **ADNI 2 Private Partner Scientific Board (PPSB) Chair:** Adam Schwartz (Eli Lilly); **Data and Publication Committee (DPC):** Robert C. Green (Brigham and Women's Hospital/Harvard Medical School (Chair)); **Resource Allocation Review Committee:** Tom Montine (University of Washington (Chair)); **Clinical Core Leaders:** Ronald Petersen (Mayo Clinic, Rochester), Paul Aisen (UC San Diego); **Clinical Informatics and Operations:** Ronald G. Thomas (UC San Diego), Michael Donohue (UC San Diego), Sarah Walter (UC San Diego), Devon Gessert (UC San Diego), Tamie Sather (UC San Diego), Gus Jiminez (UC San Diego); **Biostatistics Core Leaders and Key Personnel:** Laurel Beckett (UC Davis), Danielle Harvey (UC Davis), Michael Donohue (UC San Diego); **MRI Core Leaders and Key Personnel:** Clifford R. Jack, Jr. (Mayo Clinic, Rochester), Matthew Bernstein (Mayo Clinic, Rochester), Nick Fox (University of London), Paul Thompson (Keck School of Medicine of USC), Norbert Schuff (UCSF), Charles DeCarli (UC Davis), Bret Borowski (Mayo Clinic), Jeff Gunter (Mayo Clinic), Matt Senjem (Mayo Clinic), Prashanthi Vemuri (Mayo Clinic), David Jones (Mayo Clinic), Kejal Kantarci (Mayo Clinic), Chad Ward (Mayo Clinic); **PET Core Leaders and Key Personnel:** William Jagust (UC Berkeley), Robert A. Koeppe (University of Michigan), Norm Foster (University of Utah), Eric M. Reiman (Banner Alzheimer's Institute), Kewei Chen (Banner Alzheimer's Institute), Chet Mathis (University of Pittsburgh), Susan Landau (UC Berkeley); **Neuropathology Core Leaders:** John Morris (Washington University St. Louis), Nigel J. Cairns (Washington University St. Louis), Erin Householder (Washington University St. Louis), Lisa Taylor-Reinwald (Washington University St. Louis); **Biomarkers Core Leaders and Key Personnel:** J.Q. Trojanowki (UPenn School of Medicine), Les Shaw (UPenn School of Medicine), Virginia M.Y. Lee (UPenn School of Medicine), Magdalena Korecka (UPenn School of Medicine), Michal Figurski (UPenn School of Medicine); **Informatics Core Leaders and Key Personnel:** Arthur W. Toga (USC), Karen Crawford (USC), Scott Neu (USC); **Genetics Core Leaders and Key Personnel:** Andrew J. Saykin (Indiana University), Tatiana M. Foroud

(Indiana University), Steven Potkin (UC Irvine), Li Shen (Indiana University), Kelley Faber (Indiana University), Sungeun Kim (Indiana University), Kwangsik Nho (Indiana University); **Initial Concept Planning & Development:** Michael W. Weiner (UC San Francisco), Leon Thal (UC San Diego), Zaven Khachaturian (Prevent Alzheimer's Disease 2020); **Early Project Development:** Zaven Khachaturian (Prevent Alzheimer's Disease 2020), Richard Frank (General Electric), Peter J. Snyder (University of Connecticut), Michael W. Weiner (UC San Francisco), Leon Thal (UC San Diego), Neil Buckholtz (NIA), William Potter (NIMH), Steven Paul (Cornell University), Marilyn Albert (The Johns Hopkins University); **NIA:** John Hsiao (National Institute on Aging/National Institutes of Health).

ADNI Investigators By Site (FULL ADNI Investigator Lists):

Oregon Health and Science University: Jeffrey Kaye, Joseph Quinn, Betty Lind, Raina Carter, Sara Dolen – Past Investigator; **University of Southern California:** Lon S. Schneider, Sonia Pawluczyk, Mauricio Beccera, Liberty Teodoro, Bryan M. Spann, DO – Past Investigator; **University of California-San Diego:** James Brewer, Helen Vanderswag, Adam Fleisher – Past Investigator; **University of Michigan:** Judith L. Heidebrink, Joanne L. Lord; **Mayo Clinic, Rochester:** Ronald Petersen, Sara S. Mason, Colleen S. Albers, David Knopman, Kris Johnson – Past Investigator; **Baylor College of Medicine:** Rachele S. Doody, Javier Villanueva-Meyer, Munir Chowdhury, Susan Rountree, Mimi Dang; **Columbia University Medical Center:** Yaakov Stern, Lawrence S. Honig, Karen L. Bell; **Washington University, St. Louis:** Beau Ances, John C. Morris, Maria Carroll, Sue Leon, Erin Householder, Mark A. Mintun – Past Investigator, Stacy Schneider – Past Investigator, Angela Oliver – Past Investigator; **University of Alabama - Birmingham:** Daniel Marson, Randall Griffith, David Clark, David Geldmacher, John Brockington, Erik Roberson; **Mount Sinai School of Medicine:** Hillel Grossman, Effie Mitsis; **Rush University Medical Center:** Leyla deToledo-Morrell, Raj C. Shah; **Wien Center:** Ranjan Duara, Daniel Varon, Maria T. Greig, Peggy Roberts – Past Investigator; **Johns Hopkins University:** Marilyn Albert, Chiadi Onyike, Daniel D'Agostino II, Stephanie Kielb – Past Investigator; **New York University:** James E. Galvin, Dana M. Pogorelec, Brittany Cerbone, Christina A. Michel, Henry Rusinek – Past Investigator, Mony J de Leon – Past Investigator, Lidia Glodzik – Past Investigator, Susan De Santi – Past Investigator; **Duke University Medical Center:** P. Murali Doraiswamy, Jeffrey R. Petrella, Terence Z. Wong; **University of Pennsylvania:** Steven E. Arnold, Jason H. Karlawish, David Wolk; **University of Kentucky:** Charles D. Smith, Greg Jicha, Peter Hardy, Partha Sinha, Elizabeth Oates, Gary Conrad; **University of Pittsburgh:** Oscar L. Lopez, MaryAnn Oakley, Donna M. Simpson; **University of Rochester Medical Center:** Anton P. Porsteinsson, Bonnie S. Goldstein, Kim Martin, Kelly M. Makino – Past Investigator, M. Saleem Ismail – Past Investigator, Connie Brand – Past Investigator; **University of California, Irvine:** Ruth A. Mulnard, Gaby Thai, Catherine Mc-Adams-Ortiz; **University of Texas Southwestern Medical School:** Kyle Womack, Dana Mathews, Mary Quiceno, Ramon Diaz-Arrastia – Past Investigator, Richard King – Past Investigator, Myron Weiner – Past Investigator, Kristen Martin-Cook – Past Investigator, Michael DeVous – Past Investigator; **Emory University:** Allan I. Levey, James J. Lah, Janet S. Cellar; **University of Kansas, Medical Center:** Jeffrey M. Burns, Heather S. Anderson, Russell H. Swerdlow; **University of California, Los Angeles:** Liana Apostolova, Kathleen Tingus, Ellen Woo, Daniel H.S. Silverman, Po H. Lu – Past Investigator, George Bartzokis – Past Investigator; **Mayo Clinic, Jacksonville:** Neill R Graff-Radford, Francine Parfitt, Tracy Kendall, Heather Johnson – Past Investigator; **Indiana University:** Martin R. Farlow, Ann Marie Hake, Brandy R. Matthews, Scott Herring, Cynthia Hunt; **Yale University School of Medicine:** Christopher H. van Dyck, Richard E. Carson, Martha G. MacAvoy; **McGill Univ., Montreal-Jewish General Hospital:** Howard Chertkow, Howard Bergman, Chris Hosein; **Sunnybrook Health Sciences, Ontario:** Sandra Black, Dr Bojana Stefanovic, Curtis Caldwell; **U.B.C. Clinic for AD & Related Disorders:** Ging-

Yuek Robin Hsiung, Howard Feldman, Benita Mudge, Michele Assaly, – Past Investigator; **Cognitive Neurology - St. Joseph's, Ontario:** Andrew Kertesz, John Rogers, Dick Trost; **Cleveland Clinic Lou Ruvo Center for Brain Health:** Charles Bernick, Donna Munic; **Northwestern University:** Diana Kerwin, Marek-Marsel Mesulam, Kristine Lipowski, Chuang-Kuo Wu – Past Investigator, Nancy Johnson – Past Investigator; **Premiere Research Inst (Palm Beach Neurology):** Carl Sadowsky, Walter Martinez, Teresa Villena; **Georgetown University Medical Center:** Raymond Scott Turner, Kathleen Johnson, Brigid Reynolds; **Brigham and Women's Hospital:** Reisa A. Sperling, Keith A. Johnson, Gad Marshall, Meghan Frey – Past Investigator; **Stanford University:** Jerome Yesavage, Joy L. Taylor, Barton Lane, Allyson Rosen – Past Investigator, Jared Tinklenberg – Past Investigator; **Banner Sun Health Research Institute:** Marwan N. Sabbagh, Christine M. Belden Sandra A. Jacobson, Sherye A. Sirrel; **Boston University:** Neil Kowall, Ronald Killiany, Andrew E. Budson, Alexander Norbash – Past Investigator, Patricia Lynn Johnson – Past Investigator; **Howard University:** Thomas O. Obisesan, Saba Wolday, Joanne Allard; **Case Western Reserve University:** Alan Lerner, Paula Ogrocki, Leon Hudson – Past Investigator; **University of California, Davis – Sacramento:** Evan Fletcher, Owen Carmichael, John Olichney, Charles DeCarli – Past Investigator; **Neurological Care of CNY:** Smita Kittur; **Parkwood Hospital:** Michael Borrie, T-Y Lee, Dr Rob Bartha; **University of Wisconsin:** Sterling Johnson, Sanjay Asthana, Cynthia M. Carlsson; **University of California, Irvine - BIC:** Steven G. Potkin, Adrian Preda, Dana Nguyen; **Banner Alzheimer's Institute:** Pierre Tariot, Adam Fleisher, Stephanie Reeder; **Dent Neurologic Institute:** Vernice Bates, Horacio Capote, Michelle Rainka; **Ohio State University:** Douglas W. Scharre, Maria Katakai, Anahita Adeli; **Albany Medical College:** Earl A. Zimmerman, Dzintra Celmins, Alice D. Brown; **Hartford Hospital, Olin Neuropsychiatry Research Center:** Godfrey D. Pearlson, Karen Blank, Karen Anderson; **Dartmouth-Hitchcock Medical Center:** Robert B. Santulli, Tamar J. Kitzmiller, Eben S. Schwartz – Past Investigator; **Wake Forest University Health Sciences:** Kaycee M. Sink, Jeff D. Williamson, Pradeep Garg, Franklin Watkins – Past Investigator; **Rhode Island Hospital:** Brian R. Ott, Henry Querfurth, Geoffrey Tremont; **Butler Hospital:** Stephen Salloway, Paul Malloy, Stephen Correia; **UC San Francisco:** Howard J. Rosen, Bruce L. Miller; **Medical University South Carolina:** Jacobo Mintzer, Kenneth Spicer, David Bachman; **St. Joseph's Health Care:** Elizabeth Finger, Stephen Pasternak, Irina Rachinsky, John Rogers, Andrew Kertesz – Past Investigator, Dick Drost – Past Investigator; **Nathan Kline Institute:** Nunzio Pomara, Raymundo Hernando, Antero Sarraei; **University of Iowa College of Medicine:** Susan K. Schultz, Laura L. Boles Ponto, Hyungsub Shim, Karen Elizabeth Smith; **Cornell University:** Norman Relkin, Gloria Chaing, Lisa Raudin; **University of South Florida: USF Health Byrd Alzheimer's Institute:** Amanda Smith, Kristin Fargher, Balebail Ashok Raj.

ADNI Methods:

Data used in the preparation of this article were obtained from the Alzheimer's Disease Neuroimaging Initiative (ADNI) database (adni.loni.usc.edu). The ADNI was launched in 2003 by the National Institute on Aging (NIA), the National Institute of Biomedical Imaging and Bioengineering (NIBIB), the Food and Drug Administration (FDA), private pharmaceutical companies and non-profit organizations, as a \$60 million, 5-year public-private partnership. The primary goal of ADNI has been to test whether serial magnetic resonance imaging (MRI), positron emission tomography (PET), other biological markers, and clinical and neuropsychological assessment can be combined to measure the progression of mild cognitive impairment (MCI) and early Alzheimer's disease (AD). Determination of sensitive and specific markers of very early AD progression is intended to aid researchers and clinicians to develop new treatments and monitor their effectiveness, as well as lessen the time and cost of clinical trials.

The Principal Investigator of this initiative is Michael W. Weiner, MD, VA Medical Center and University of California – San Francisco. ADNI is the result of efforts of many co-investigators from a broad range of academic institutions and private corporations, and subjects have been recruited from over 50 sites across the U.S. and Canada. The initial goal of ADNI was to recruit 800 subjects but ADNI has been followed by ADNI-GO and ADNI-2. To date these three protocols have recruited over 1500 adults, ages 55 to 90, to participate in the research, consisting of cognitively normal older individuals, people with early or late MCI, and people with early AD. The follow up duration of each group is specified in the protocols for ADNI-1, ADNI-2 and ADNI-GO. Subjects originally recruited for ADNI-1 and ADNI-GO had the option to be followed in ADNI-2. For up-to-date information, see www.adni-info.org.

The following authors are included under the CHARGE Consortium:

Najaf Amin (Erasmus University Medical Center, Genetic Epidemiology Unit, Department of Epidemiology and Biostatistics), Diane Becker (General internal Medicine, Johns Hopkins School of Medicine, Baltimore, USA), Alexa Beiser (Department of Biostatistics, Boston University School of Public Health, Boston, MA; Framingham Heart Study, Framingham, MA), Stéphanie Debette (INSERM U897, University of Bordeaux, France; Bordeaux University Hospital; Department of Neurology, Lariboisière Hospital, Paris, France; Department of Neurology, Boston University School of Medicine, Boston, USA), Anita DeStefano (Department of Biostatistics, Boston University School of Public Health, Boston, MA; 2) Framingham Heart Study, Framingham, MA), Edith Hofer (Department of Neurology, Clinical Division of Neurogeriatrics, Institute of Medical Informatics, Statistics and Documentation, Medical University Graz), Albert Hofman (Department of Epidemiology, Erasmus University Medical Center, Rotterdam, The Netherlands), Wiro J. Niessen (Department of Medical Informatics Erasmus University Medical Center, Rotterdam, The Netherlands; (2) Faculty of Applied Sciences, Delft University, The Netherlands), Stephan Seiler (Department of Neurology, Clinical Division of Neurogeriatrics, Medical University Graz), Albert Smith (Icelandic Heart Association), Christophe Tzourio (INSERM U897, University of Bordeaux, France; Bordeaux University Hospital and CIC-EC7 ISPED), Dhananjay Vaidya (General Internal Medicine, Johns Hopkins School of Medicine, Baltimore, USA), Meike W. Vernooij (Departments of Epidemiology and Radiology, Erasmus University Medical Center, Rotterdam, The Netherlands)

The following authors are included under the EPIGEN Consortium:

David B. Goldstein (The Centre for Genomics and Population Genetics, Duke University Institute for Genome Sciences and Policy, Durham, North Carolina, USA), Erin L. Heinzen (The Centre for Genomics and Population Genetics, Duke University Institute for Genome Sciences and Policy, Durham, North Carolina, USA), Kevin Shianna (The Centre for Genomics and Population Genetics, Duke University Institute for Genome Sciences and Policy, Durham, North Carolina, USA), Rodney Radtke (Department of Medicine, Duke University Medical Center, Durham, North Carolina, USA) and Ruth Ottmann (Departments of Epidemiology, Neurology, and the G.H. Sergievsky Center, Columbia University, New York, NY).

The following authors are included under the IMAGEN Consortium: Lisa Albrecht (Charite), Chris Andrew (IoP), Mercedes Arroyo (Cambridge University), Eric Artiges (INSERM), Semiha Aydin (PTB), Christine Bach (Central Institute of Mental Health), Alexis Barbot (Commissariat à l'Energie Atomique), Nathalie Boddaert (INSERM), Arun Bokde (Trinity College Dublin), Zuleima Bricaud (INSERM), Uli Bromberg (University of Hamburg), Ruediger Bruehl (PTB), Arnaud Cachia (INSERM), Anna Cattrell (IoP), Patrick Constant (PERTIMM), Hans Crombag (University of Sussex), Katharina Czech (Charite), Jeffrey Dalley (Cambridge University),

Benjamin Decideur (Commissariat à l'Energie Atomique), Tahmine Fadai (University of Hamburg), Vincent Frouin (Commissariat à l'Energie Atomique), Birgit Fuchs (GABO:milliarium mbH & Co. KG), Fanny Gollier Briand (INSERM), Penny Gowland (University of Nottingham), Kay Head (University of Nottingham), Bert Heinrichs (Deutsches Referenzzentrum für Ethik), Nadja Heym (University of Nottingham), Thomas Hübner (Technische Universität Dresden), Albrecht Ihlenfeld (PTB), James Ireland (Delosis), Nikolay Ivanov (Charite), Jennifer Jones (Trinity College Dublin), Arno Klaassen (Scito), Christophe Lalanne (Commissariat à l'Energie Atomique), Dirk Lanzerath (Deutsches Referenzzentrum für Ethik), Hervé Lemaître (INSERM), Katharina Lüdemann (Charite), Catherine Mallik (IoP), Jean-François Mangin (INSERM), Adam Mar (Cambridge University), Jessica Massicotte (INSERM), Eva Mennigen (Technische Universität Dresden), Xavier Mignon (PERTIMM), Ruben Miranda (INSERM), Kathrin Müller (Technische Universität Dresden), Marie-Laure Paillere (INSERM), Yolanda Pena-Oliver (University of Sussex), Jean-Baptiste Poline (Commissariat à l'Energie Atomique), Luise Poustka (Central Institute of Mental Health), Michael Rapp (Charite), Laurence Reed (IoP), Jan Reuter (Charite), Stephan Ripke (Technische Universität Dresden), Tamzin Ripley (University of Sussex), Trevor Robbins (Cambridge University), Sarah Rodehacke (Technische Universität Dresden), John Rogers (Delosis), Alexander Romanowski (Charite), Christina Schilling (Charite), Christine Schmääl (Central Institute of Mental Health), Dirk Schmidt (Technische Universität Dresden), Sophia Schneider (University of Hamburg), Markus Schroeder (Tembit), Florian Schubert (PTB), Yannick Schwartz (Commissariat à l'Energie Atomique), Claudia Speiser (GABO:milliarium mbH & Co. KG), Tade Spranger (Deutsches Referenzzentrum für Ethik / Institut of Science and Ethics), Sabina Steiner (Central Institute of Mental Health), Dai Stephens (University of Sussex), Nicole Strache (Charite), Andreas Ströhle (Charite), Maren Struve (Central Institute of Mental Health), Naresh Subramaniam (Cambridge University), David Theobald (Cambridge University), Lauren Topper (IoP), Sabine Vollstaedt-Klein (Central Institute of Mental Health), Bernadeta Walaszek (PTB), Helen Werts (IoP), Robert Whelan (Trinity College Dublin), Steve Williams (IoP), Juliana Yacubian (University of Hamburg), Veronika Ziesch (Technische Universität Dresden), Monica Zilbovicius (INSERM), C Peng Wong (IoP), Steven Lubbe (IoP), Lourdes Martinez-Medina (IoP), Agnes Kepa (IoP), Alinda Fernandes (IoP), Amir Tahmasebi (University of Toronto)

The following authors are included under the MCIC: Randy L. Gollub (Massachusetts General Hospital), Jody M. Shoemaker (The Mind Research Network), Margaret D. King (The Mind Research Network), Tonya White (Erasmus Medical Centre), Stefan Ehrlich (University of Technology – Dresden), Scott R. Sponheim (University of Minnesota), Vincent P. Clark (The Mind Research Network), Jessica A. Turner (The Mind Research Network), Bryon A. Mueller (University of Minnesota), Vince Magnotta (University of Iowa), Daniel O'Leary (University of Iowa), Beng C. Ho (University of Iowa), Stefan Brauns (Charité University Medicine), Dara S. Manoach (Massachusetts General Hospital), Larry Seidman (Beth Israel Deaconess Medical Center), Juan R. Bustillo (University of New Mexico), John Lauriello (University of Missouri), Jeremy Bockholt (University of Iowa), Kelvin O. Lim (University of Minnesota), Bruce R. Rosen (Massachusetts General Hospital), S. Charles Schulz (University of Minnesota), Vince D. Calhoun (The Mind Research Network), Nancy C. Andreasen (University of Iowa).

The following authors are included under the SYS Consortium: Michal Abrahamowicz (McGill University), Daniel Gaudet (University of Montreal), Gabriel Leonard (McGill University), Michel Perron (University of Quebec in Chicoutimi), Louis Richer (University of Quebec in Chicoutimi), Jean Seguin (University of Montreal), Suzanne Veillette (CEGEP Jonquiere).

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Supplementary Table 1: Demographic description of cohorts included in the analysis

All Subjects

Cohort	Analysis	Study Design	Ancestry	Total N	N Females	Mean Age (SD)
AddNeuroMed	Discovery	Case-control (AD, MCI and health controls)	European	357	204	74.4 (6.4)
ADNI	Discovery	Case-Control (AD, MCI, healthy control)	European	747	302	75.4 (6.9)
ADNI2GO	Discovery	Case-Control (AD, MCI, healthy control)	European	362	203	72.8 (7.4)
Betula	Discovery	Population-based	European	353	185	62.3 (13.3)
BFS	Discovery	Population-based	European	220	115	24 (7.9)
BIG	Discovery	Population-based	European	1300	747	22.9 (3.8)
BrainSCALE	Discovery	Population-based Twin Study	European	277	147	10.0 (1.3)
BRCDECC	Discovery	Case-control (MDD and healthy controls)	European	169	105	49.9 (8.6)
EPIGEN	Discovery	Epilepsy cases	European	233	138	38.5 (12.7)
GIG	Discovery	Population-based	European	299	179	24.2 (2.4)

GSP	Discovery	Population-based	European	442	251	21.4 (3.2)
HUBIN	Discovery	Case-control (SCZ and healthy controls)	European	200	70	41.8 (8.1)
IMAGEN	Discovery	Population-based	European	1765	895	14.6 (0.4)
MCIC	Discovery	Case-control (SCZ and healthy controls)	European	170	58	34.0 (11.2)
MooDS	Discovery	Population-based	European	311	164	33.4 (9.8)
MPIP	Discovery	Case-control (MDD and healthy controls)	European	550	318	48.3 (13.3)
NCNG	Discovery	Population-based	European	327	223	51.8 (16.7)
NESDA	Discovery	Case-control (Depression, Anxiety, and healthy controls)	European	231	153	37.8 (10.1)
neuroIMAGE	Discovery	ADHD cases	European	154	23	17.0 (2.5)
NTR - Adults	Discovery	Population-based Twin Study	European	400	238	29.7 (10.7)
OATS	Discovery	Population-based Twin study	European	364	238	70.5 (5.1)
PAFIP	Discovery	Case-control (SCZ and healthy controls)	European	117	45	28.4 (8.1)
QTIM	Discovery	Population-based Twin Study	European	845	527	22.5 (3.2)

SHIP	Discovery	Population-based	European	966	507	56.4 (12.6)
SHIP-TREND	Discovery	Population-based	European	858	477	50.0 (13.5)
Sydney MAS	Discovery	Population-based	European	543	297	78.4 (4.7)
TOP	Discovery	Case-control (SCZ, BD, other psychoses, and healthy controls)	European	849	407	34.0 (10.4)
UMCU	Discovery	Case-control (SCZ and healthy controls)	European	279	73	31.9 (11.7)
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3C-Dijon (CHARGE)	Replication	Population-based	European	1403	882	72.2 (4.1)
AGES (CHARGE)	Replication	Population-based	European	2510	1506	75.95 (5.30)
ASPS (CHARGE)	Replication	Population-based	European	172	120	69.8 (6.7)
ASPSFam (CHARGE)	Replication	Population-based	European	339	205	65.2 (10.5)
BIG - Replication	Replication	Open Cohort study (healthy only)	European	1234	629	27.65 (12.83)
CHS (CHARGE)	Replication	Population-based	European	648	398	78.89 (4.2)
ERF (CHARGE)	Replication	Family-based study	European	118	60	64.3 (4.5)
FHS (CHARGE)	Replication	Population-based	European	938	534	58.47 (8.04)

GeneSTAR (CHARGE)	Replication	Family-based study	European	441	237	50.9 (10.6)
IMpACT-NL	Replication	Case-control (ADHD and healthy controls)	European	204	121	36.85 (10.96)
LBC1936*	Replication	Population-based	European	612	289	72.7 (0.7)
LIBD	Replication	Case-Control (SCZ, healthy control)	European	481	215	33.2 (10.2)
NeuroIMAGE - Replication	Replication	Population-based	European	163	90	17.11 (3.34)
NIMH-IRP	Replication	Population-based	European	327	213	34.5 (10.3)
RSI (CHARGE)	Replication	Population-based	European	939	544	78.9 (4.9)
RSII (CHARGE)	Replication	Population-based	European	1077	569	69.4 (6.0)
RSIII (CHARGE)	Replication	Population-based	European	2397	1333	57.0 (6.3)
SYS	Replication	Family-based study	European Founder population	986	510	15.02 (1.84)
TCD NUIG	Replication	Case-control (SCZ, BP and healthy controls)	European	475	262	35.62 (12.41)
UCLA_NL_BP	Replication	Case-control (BP and healthy controls)	European	284	150	45.9 (14,3)
GOBS	Generalization	Pedigree	Mexican-American	736	456	50.1 (13.3)

Osaka	Generalization	Case-control (SCZ and healthy controls)	Japanese	545	259	36.1 (12.5)
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*LBC1936 contributed to the replication of the top 4 putamen hits in the CHARGE Consortium, but contributed data to the

	Patients Excluded (Healthy Only)			
Age Range	Total N	N Females	Mean Age (SD)	Age Range
53 - 90	114	65	72.8 (6.8)	53 - 88
55 - 91	204	93	76.1 (5.0)	60 - 89
55 - 91	337	186	72.6 (7.1)	55 - 91
25 - 95	-	-	-	-
15 - 60	-	-	-	-
18 - 41	-	-	-	-
9 - 15	-	-	-	-
26 - 71	79	44	51.3 (7.7)	26 - 66
14 - 85			Patients-only	
19 - 31	-	-	-	-

18 - 35	-	-	-	-
19 - 56	104	35	41.6 (8.9)	19 - 56
13 - 17	-	-	-	-
18 - 60	97	40	32.9 (10.9)	18 - 58
18 - 51	-	-	-	-
18 - 87	177	105	50.1 (12.3)	23 - 78
19 - 79	327	223	51.8 (16.7)	19 - 79
18 - 57	55	33	41.1 (9.7)	21 - 56
11 - 24			Patients-only	
12 - 56	-	-	-	-
65 - 89	-	-	-	-
16 - 51	14	6	24.5 (6.3)	16 - 42
16 - 30	-	-	-	-

31 - 90	-	-	-	-
21 - 81	-	-	-	-
70 - 90	-	-	-	-
17 - 73	305	145	35.4 (9.9)	18 - 73
17 - 68	117	44	32.8 (12.8)	17 - 65
65 - 82	-	-	-	-
66 - 95	-	-	-	-
52 - 84	-	-	-	-
38 - 86	-	-	-	-
18-83	-	-	-	-
73 - 95	-	-	-	-
55 - 76	-	-	-	-
34 - 85	-	-	-	-

30 - 74	-	-	-	-
18-63	102	59	37.07 (11.67)	19-63
71 - 74	-	-	-	-
18 - 61	311	175	32.2 (9.9)	18.7 - 61.2
8 - 27	106	69	16.91 (3.37)	8.58-26.70
18 - 61	90	66	35.1 (10.3)	19 - 59
69 - 96	-	-	-	-
60 - 97	-	-	-	-
45 - 89	-	-	-	-
11 - 19	-	-	-	-
18-75	264	124	32.8 (12.9)	18 - 75
19-80	91	49	43.9 (17.1)	19 - 80
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26 - 97	-	-	-	-

16 - 71	383	192	36.5 (12.7)	18 - 66
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↻ discovery sample for hippocampus and ICV GWASes