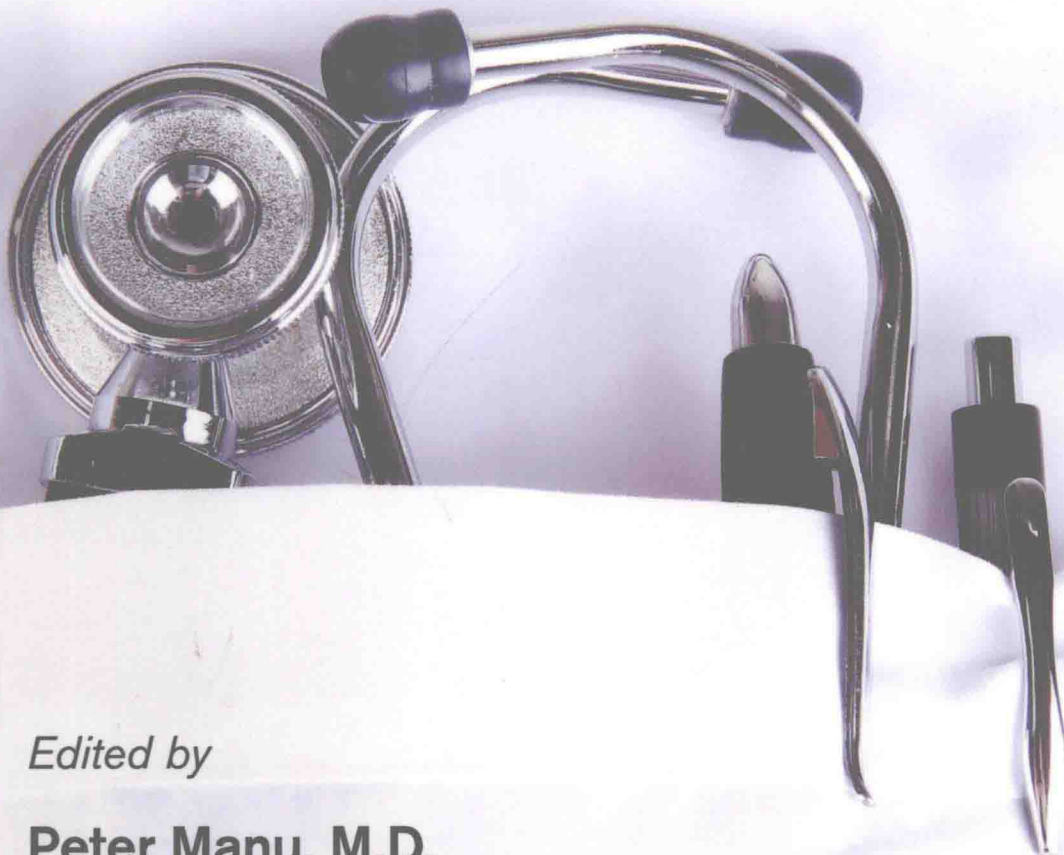


H A N D B O O K O F  
**Medicine in Psychiatry**  
SECOND EDITION



*Edited by*

**Peter Manu, M.D.**

**Corey Karlin-Zysman, M.D.**

# HANDBOOK OF

## Medicine in Psychiatry

SECOND EDITION

Edited by

**Peter Manu, M.D.**

Professor of Medicine,  
Hofstra North Shore-LIJ School of Medicine;  
Director of Medical Services,  
The Zucker Hillside Hospital, Glen Oaks, New York

**Corey Karlin Zysman, M.D., FHM, FACP**

Assistant Professor of Medicine, Hofstra North Shore-LIJ  
School of Medicine, Associate Chief, Division of Hospital Medicine,  
North Shore-LIJ Department of Medicine  
Long Island Jewish Medical Center, New Hyde Park, New York



Washington, DC  
London, England

**Note:** The authors have worked to ensure that all information in this book is accurate at the time of publication and consistent with general psychiatric and medical standards, and that information concerning drug dosages, schedules, and routes of administration is accurate at the time of publication and consistent with standards set by the U.S. Food and Drug Administration and the general medical community. As medical research and practice continue to advance, however, therapeutic standards may change. Moreover, specific situations may require a specific therapeutic response not included in this book. For these reasons and because human and mechanical errors sometimes occur, we recommend that readers follow the advice of physicians directly involved in their care or the care of a member of their family.

Books published by American Psychiatric Publishing (APP) represent the findings, conclusions, and views of the individual authors and do not necessarily represent the policies and opinions of APP or the American Psychiatric Association.

If you would like to buy between 25 and 99 copies of this or any other American Psychiatric Publishing title, you are eligible for a 20% discount; please contact Customer Service at [appi@psych.org](mailto:appi@psych.org) or 800-368-5777. If you wish to buy 100 or more copies of the same title, please e-mail us at [bulksales@psych.org](mailto:bulksales@psych.org) for a price quote.

Copyright © 2015 American Psychiatric Association  
ALL RIGHTS RESERVED

Manufactured in the United States of America on acid-free paper  
19 18 17 16 15 6 5 4 3 2  
Second Edition

Typeset in Palatino LT Std and Akzidenz Grotesk BE

American Psychiatric Publishing  
A Division of American Psychiatric Association  
1000 Wilson Boulevard  
Arlington, VA 22209-3901  
[www.appi.org](http://www.appi.org)

**Library of Congress Cataloging-in-Publication Data**

Handbook of medicine in psychiatry / edited by Peter Manu, Corey Karlin-Zysman.  
— Second edition.

p. ; cm.

Includes bibliographical references and index.

ISBN 978-1-58562-496-6 (pbk. : alk. paper)

I. Manu, Peter, 1947- , editor. II. Karlin-Zysman, Corey, 1976- , editor.

[DNLM: 1. Diagnosis, Differential. 2. Physical Examination—methods. 3. Medical History Taking—methods. 4. Mental Disorders—complications. 5. Psychiatry—methods. 6. Signs and Symptoms. WB 141.5

RC55

616.89--dc23

2014050312

**British Library Cataloguing in Publication Data**

A CIP record is available from the British Library.

HANDBOOK OF

**Medicine** in **Psychiatry**

SECOND EDITION



# Contributors

**Jessica Abramowitz, M.D.**

Instructor of Medicine, Hofstra North Shore–LIJ School of Medicine;  
Fellow, Endocrinology, North Shore University Hospital–Long Island  
Jewish Medical Center Combined Program, New Hyde Park, New York

**Herberth J. Balsells, D.O.**

Chief Resident, Combined Internal Medicine and Emergency Medicine  
Residency Program, Long Island Jewish Medical Center, New Hyde  
Park, New York

**Sandy Balwan, M.D., FACP**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of  
Medicine; Associate Chair, North Shore–LIJ Department of Medicine,  
Long Island Jewish Medical Center, New Hyde Park, New York

**Christopher Barsi, M.D.**

Resident, Emergency Medicine, Long Island Jewish Medical Center,  
New Hyde Park, New York

**Suresh Basnet, M.D.**

Fellow, Critical Care Medicine, Geisinger Medical Center, Danville,  
Pennsylvania

**Saqib Chaudhri, M.D.**

Resident, Internal Medicine, North Shore University Hospital–Long  
Island Jewish Medical Center Combined Program, New Hyde Park,  
New York

**Jessica Cohen, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of  
Medicine; Attending Physician, Division of Hospital Medicine, North  
Shore–LIJ Department of Medicine, North Shore University Hospital,  
Manhasset, New York

**Manjula Dhayalan, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Haskel Fleishaker, M.D.**

Resident, Psychiatry, The Zucker Hillside Hospital, Glen Oaks, New York

**Karen Friedman, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Residency Program Site Director, North Shore–LIJ Internal Medicine Residency Program; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, North Shore University Hospital, Manhasset, New York

**James Gabriels, M.D.**

Resident, Internal Medicine, North Shore University Hospital–Long Island Jewish Medical Center Combined Program, New Hyde Park, New York

**Mark Goldin, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Marc L. Gordon, M.D., FAAN**

Professor of Neurology and Psychiatry, Hofstra North Shore–LIJ School of Medicine; Chief of Neurology, The Zucker Hillside Hospital, Glen Oaks, New York

**Harly Greenberg, M.D.**

Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Program Director, North Shore–LIJ Sleep Medicine Fellowship Program; Medical Director, North Shore–Long Island Jewish Sleep Disorders Center; Attending Physician, Division of Pulmonary, Critical Care and Sleep Medicine, North Shore–LIJ Department of Medicine, North Shore University Hospital, Manhasset, and Long Island Jewish Medical Center, New Hyde Park, New York

**Benjamin Greenblatt, M.D., FACEP**

Assistant Professor, Hofstra North Shore–LIJ School of Medicine;  
Associate Chair, Department of Emergency Medicine, Long Island  
Jewish Medical Center, New Hyde Park, New York

**Eugene Grudnikoff, M.D.**

Attending Physician, Psychiatry, South Oaks Hospital, Amityville,  
New York

**Farheen Hasan, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of  
Medicine; Attending Physician, Division of Hospital Medicine, North  
Shore–LIJ Department of Medicine, Long Island Jewish Medical Center,  
New Hyde Park, New York

**Zubair Hasan, M.D.**

Resident, Internal Medicine, North Shore University Hospital–Long  
Island Jewish Medical Center Combined Program, New Hyde Park,  
New York

**Chun Kit Hung, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of  
Medicine; Attending Physician, Division of Hospital Medicine, North  
Shore–LIJ Department of Medicine, Long Island Jewish Medical Center,  
New Hyde Park, New York

**Sean T. Hwang, M.D.**

Assistant Professor, Hofstra North Shore–LIJ School of Medicine;  
Attending Physician, Neurology, Great Neck, New York

**Nayla Idriss, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of  
Medicine; Attending Physician, Division of Hospital Medicine, North  
Shore–LIJ Department of Medicine, Long Island Jewish Medical Center,  
New Hyde Park, New York

**Patrick W. Joasil, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of  
Medicine; Attending Physician, Division of Hospital Medicine, North  
Shore–LIJ Department of Medicine, Long Island Jewish Medical Center,  
New Hyde Park, New York



**Semie Kang, M.D.**

Resident, Internal Medicine, North Shore University Hospital–Long Island Jewish Medical Center Combined Program, New Hyde Park, New York

**Imran Karim, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Corey Karlin-Zysman, M.D., FHM, FACP**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Associate Chief, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Kyle C. Katona, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Associate Program Director, North Shore–LIJ Internal Medicine Residency Program; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, North Shore University Hospital, Manhasset, New York

**Saniya Kibria, M.D.**

Resident, Psychiatry, The Zucker Hillside Hospital, Glen Oaks, New York

**Omid Kohani, M.D., FACC**

Attending Physician, Cardiovascular Diseases, Bayside, New York

**Priya Krishnasamy, M.D.**

Attending Physician, Department of Psychiatry, The Zucker Hillside Hospital, Glen Oaks, New York

**Sean LaVine, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Katherine S. Lerner, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Sam Leung, M.D.**

Fellow, Nephrology, North Shore University Hospital–Long Island Jewish Medical Center Combined Program, New Hyde Park, New York

**Howard Levin, M.D.**

Fellow, Child Psychiatry, The Zucker Hillside Hospital, Glen Oaks, New York

**Frederick Limson, M.D.**

Resident, Psychiatry, The Zucker Hillside Hospital, Glen Oaks, New York

**Peter Manu, M.D.**

Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Director of Medical Services, The Zucker Hillside Hospital, Glen Oaks, New York

**Amy Mastrangelo, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Joseph Mattana, M.D.**

Chief, Division of Nephrology and Hypertension, Winthrop University Hospital, Mineola, New York

**Alexandra E. McBride, M.D.**

Attending Physician, Neurology, Mt. Kisco Medical Group, Mt. Kisco, New York

**Jason Misher, M.D.**

Resident, Internal Medicine, North Shore University Hospital–Long Island Jewish Medical Center Combined Program, New Hyde Park, New York

**Michael Morgenstern, M.D**

Attending Physician, Sleep Medicine and Neurology, Bayside, New York

**Sassan Naderi, M.D.**

Attending Physician, Emergency Medicine, New York, New York

**Dilip Patel, M.D.**

Director of Malignant Hematology, St. Francis Hospital, Roslyn, New York

**Salonie Pereira, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Susan Philipose, M.D.**

Attending Physician, Department of Emergency Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Haley S. Poland, D.O.**

Resident, Psychiatry, The Zucker Hillside Hospital, Glen Oaks, New York

**Mityanand Ramnarine, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Department of Emergency Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Rajasree Roy, M.D.**

Attending Physician, Hematology-Oncology, St. Francis Hospital, Roslyn, New York

**Annabella Salvador-Kelly, M.D., FACEP**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Associate Chair, Department of Emergency Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Rifka Schulman, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Endocrinology, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Hitesh H. Shah, M.D.**

Associate Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Director, North Shore–LIJ Nephrology Fellowship Program; Attending Physician, Division of Nephrology, North Shore–LIJ Department of Medicine, North Shore University Hospital, Manhasset, and Long Island Jewish Medical Center, New Hyde Park, New York

**Sairah Sharif, M.D.**

Fellow, Nephrology, North Shore University Hospital–Long Island Jewish Medical Center Combined Program, New Hyde Park, New York

**Manish Sheth, M.D.**

Attending Physician, Hematology-Oncology, St. Francis Hospital, Roslyn, New York

**David Y. Shih, M.D.**

Chief Medical Officer and Attending Physician of CityMD, New York City/Long Island/Westchester, New York and New Jersey; Clinical Instructor and Medical Staff Member, Emergency Medicine New York-Presbyterian/Weill Cornell Medical Center, New York, New York

**Matisyahu Shulman, M.D.**

Resident, Psychiatry, The Zucker Hillside Hospital, Glen Oaks, New York

**Liron Sinvani, M.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, North Shore University Hospital, Manhasset, New York

**Aren Skolnick, D.O.**

Attending Physician, Division of Endocrinology, North Shore–LIJ Department of Medicine, Great Neck, New York

**Lawrence G. Smith, M.D., MACP**

Executive Vice President and Physician-in-Chief, North Shore–LIJ Health System; Dean, Hofstra North Shore–LIJ School of Medicine, Hempstead, New York

**Louis R. Spiegel, M.D.**

Fellow, Nephrology, North Shore University Hospital–Long Island Jewish Medical Center Combined Program, New Hyde Park, New York

**Raymond E. Suarez, M.D.**

Medical Director of Senior Psychiatric Services, Genesis Behavioral Health at Lakes Region General Hospital, Laconia, New Hampshire

**Sara Wildstein, M.D.**

Resident, Psychiatry, Icahn School of Medicine at Mount Sinai, New York, New York

**Gisele Wolf-Klein, M.D.**

Professor of Clinical Medicine, Hofstra North Shore–LIJ School of Medicine; Program Director, North Shore–LIJ Geriatric Medicine Fellowship Program; Attending Physician, Division of Geriatric Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Deyun Yang, M.D., Ph.D.**

Assistant Professor of Medicine, Hofstra North Shore–LIJ School of Medicine; Associate Program Director, North Shore–LIJ Internal Medicine Residency Program; Attending Physician, Division of Hospital Medicine, North Shore–LIJ Department of Medicine, Long Island Jewish Medical Center, New Hyde Park, New York

**Jonathan Zilberstein, M.D.**

Resident, Psychiatry, The Zucker Hillside Hospital, Glen Oaks, New York

## Disclosure of Competing Interests

*The following contributors to this book have indicated a financial interest in or other affiliation with a commercial supporter, a manufacturer of a commercial product, a provider of a commercial service, a nongovernmental organization, and/or a government agency, as listed below:*

**Marc L. Gordon, M.D., FAAN**—*Research support* (without direct compensation): Merck, Baxter, Genentech/Roche, and Lundbeck

**David Y. Shih, M. D.**—*Shareholder*: CityMD Urgent Care

*The following contributors to this book have indicated no competing interests to disclose during the year preceding manuscript submission:*

Jessica Abramowitz, M.D.

Herberth J. Balsells, D.O.

Christopher Barsi, M.D.

Suresh Basnet, M.D.

Haskel Fleishaker, M.D.

James Gabriels, M.D.

Mark Goldin, M.D.

Benjamin Greenblatt, M.D., FACEP

Eugene Grudnikoff, M.D.

Zubair Hasan, M.D.

Chun Kit Hung, M.D.

Sean T. Hwang, M.D.

Semie Kang, M.D.

Imran Karim, M.D.

Corey Karlin-Zysman, M.D., FHM,  
FACP

Kyle C. Katona, M.D.

Katherine S. Lerner, M.D.

Sam Leung, M.D.

Howard Levin, M.D.

Frederick Limson, M.D.

Peter Manu, M.D.

Joseph Mattana, M.D.

Jason Misher, M.D.

Michael Morgenstern, M.D.

Rajasree Roy, M.D.

Annabella Salvador-Kelly, M.D.,  
FACEP

Rifka Schulman, M.D.

Matisyahu Shulman, M.D.

Raymond E. Suarez, M.D.

Sara Wildstein, M.D.

Deyun Yang, M.D., Ph.D.



# Foreword

The *Handbook of Medicine in Psychiatry*, Second Edition, is a significant contribution to the resources available to physicians who deliver care to a complex group of patients—those who have serious psychiatric disorders and complex medical issues, both of which contribute heavily to their poor quality of life and decreased life span. Dr. Peter Manu and Dr. Corey Karlin-Zysman have tackled the topic of treating these complex patients whom many psychiatrists face in day-to-day practice.

This group of patients exists at the very top of the cost pyramid of medical populations. The combination of serious medical and psychiatric comorbidities generates high health care utilization by a group of patients often neglected at the preventive stage of health care. Because of their psychiatric illness, these patients are often outside of the normal structure of social support and thus have an added barrier to achieving careful compliance with complex medical care plans.

The *Handbook of Medicine in Psychiatry* remains the only book of its kind to address in a comprehensive manner the issue of serious medical problems that complicate hospitalization for psychiatric illness. It helps guide psychiatrists and internists to focus quickly and effectively on solving medical problems that may disrupt the process of caring for the mental illnesses of very vulnerable patients. This book presents a fantastic model of team care that addresses both the needs of the patients and the requirements of the health system. The contributors have written chapters that are thoughtful, include strong practical advice, and are supported by an extensive up-to-date literature review.

The book has many contributors, most from the Hofstra North Shore–LIJ School of Medicine and its principal teaching hospitals, institutions that are dedicated to merging science, clinical judgment, and humanism. I am proud of the authors' work and commend them for being truly in synchrony with this mission.

*Lawrence G. Smith, M.D., MACP*

Executive Vice President and Physician-in-Chief, North Shore–LIJ Health System; Dean, Hofstra North Shore–LIJ School of Medicine, Hempstead, New York



