Center for Research in Medical Education and Health Care
1015 Walnut Street, Suite 319   Tel: +1.215.955.9458
Philadelphia, PA 19107   Fax: +1.215.923.6939

More details of Center projects are available at: Jefferson.edu/CRMEHC
or by contacting the individuals below:

Clara A. Callahan, MD
Director
+1.215.955.4077
Clara.Callahan@jefferson.edu

Joseph S. Gonnella, MD
Founding Director
+1.215.955.5492
Joseph.Gonnella@jefferson.edu

Vittorio Maio, PharmD, MS,
MSPH Managing Director
+1.215.955.1821
Vittorio.Maio@jefferson.edu

J. Jon Veloski, MS
Director, Medical Education Research
+1.215.955.7901
Jon.Veloski@jefferson.edu

Mohammadreza Hojat, PhD
Director, Longitudinal Study
+1.215.955.9459
Mohammadreza.Hojat@jefferson.edu
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Message from the Director

This year has been an exciting and productive year as we have maintained and expanded on the vital functions that the Center provides to the medical college, its students and faculty and to scholars around the world. This has included, but not limited to, projects with the SKMC Office of Student Affairs and Career Counseling, the Clinical Skills Center, and the Departments of Surgery and Family and Community Medicine and the Local Health Authorities of Parma and Reggio Emilia.

The Jefferson Scale of Empathy has continued to receive wide recognition. In addition to its use in over 80 countries around the world, Dr. Mohammadreza Hojat received a two-year grant from the AACOM for a collaborative national study involving all osteopathic colleges in the US to examine correlates and changes in empathy as students progress through medical school and develop national norm tables for the assessment of students’ scores on the Jefferson Scale of Empathy.

The second Joseph S. Gonnella, MD lecture for excellence and innovation in medical education was held in May as a part of the celebration of the fifth anniversary of the Japan Center for Health Professions Education and Research during the University’s Japan Week. The lecture recognizes Dr. Gonnella’s many years of service to Jefferson and to the field of medical education and, this year, highlighted his many years of collaboration with physicians and educators in Japan. The Gonnella lecture was delivered by Kimitaka Kaga, MD, PhD, President of the Tokyo branch of the Oto-Rhino-Laryngological Society of Japan and Emeritus Professor, University of Tokyo.

As the medical college rolls out its new curriculum, Jeff MD, we are happy to be able to continue to provide support to the Office of the Dean in the assessment and implementation of this new program. These efforts, as well as the many other functions of the Center, were facilitated by two new recruits to the Center, Jennifer DeSantis, MEd and Lifan He, MS, who replaced several members of our team who moved on to new opportunities.

Last but not least, I am very pleased that Vittorio Maio, PharmD, MS, MSPH, Research Professor in the Jefferson College of Population Health and long-time collaborator, assumed the duties of managing director of the Center when Dan Louis retired this year.

Thank you.

Clara A. Callahan, MD
The Lillian H. Brent Dean of Students and Admissions
Professor of Pediatrics
Overview

The Center for Research in Medical Education and Health Care provides technical support to the faculty in evaluating the knowledge, skills, and professionalism of students throughout the MD curriculum. It provides information to the administration concerning the metrics used to evaluate the effectiveness of policies related to admissions, curriculum, and students’ academic progress. In addition, Center faculty undertake medical education research focusing on the assessments of educational and patient outcomes, and collaborate in scholarly work with other TJU faculty to disseminate medical education and health services research findings in peer-reviewed journals and at scientific meetings, nationally and internationally. The Center continues to receive external support for its health services and policy related research.

Medical Education

The Jefferson Longitudinal Study of Medical Education developed and maintained at the Center is the most comprehensive and uninterrupted physician tracking system of its kind. The database, which is integrated with the Jefferson Data Trust, encompasses academic and career outcome data for 12,510 Jefferson students and graduates since the entering class of 1964. (See Figure 1 for a schematic of the Longitudinal Study.)

This database provides the College with vital information about intermediate and long-term curricular outcomes. For example, Exhibits 1-17 show an overview of medical education outcomes that we annually report by retrieving data from the Jefferson Longitudinal Study.

Exhibits 1-7 display information about our students before they enter medical school. Exhibits 8-12 show performance indicators during medical school and on medical licensing examinations including global ratings of clinical competence in third-year core clerkships (Exhibit 8); comparisons of pass rates of our medical students with those of all U.S. medical schools on the United States Medical Licensing Examinations (Exhibit 9); graduates’ level of satisfaction with each years of medical school education (Exhibit 10); satisfaction with medical school education in preparing graduates for a career in medicine (Exhibit 11); and pattern of on-time graduation, delayed graduation, transfer, and attrition (Exhibit 12).

Exhibits 13-17 include data collected after medical school, such as geographic location of first year residency training programs (Exhibit 13). Global ratings in four areas of clinical competence, provided by the residency program directors, using our Postgraduate Rating Form for those graduates who granted us permission to collect such data are displayed in Exhibit 14. (For reference, a copy of the Postgraduate Rating Form is included at the end of this report.)

Exhibit 15 displays specialty areas of practice of our graduates by three periods of graduation year. Board certification rates of our graduates by different periods of graduation are shown in Exhibit 16. Also shown are current geographic locations of our living graduates (Exhibit 17).

The 2015 institutional self-study and periodic updates prepared for the LCME included unique graduate outcome reports from the Longitudinal Study. A total of 202 research studies based on the Longitudinal Study have been published in peer-reviewed journals. A list of publications is available on our web site: Jefferson.edu/CRMEHC.

Center faculty and staff prepare routine reports for the Curriculum Committee, Dean’s Office, clinical departments, departmental reviews, and affiliated hospitals to assess the quality of clinical education. We provided the faculty with support for student testing with ExamSoft and continued a series of studies with the Office of Student Affairs to examine the outcomes of students who encounter
academic difficulties. We supported the use of NBME subject examinations in the preclinical curriculum and the clerkships. Center faculty provided psychometric support to the TJU Clinical Skills and Simulation Center to gauge students’ proficiency on clinical simulations. We worked collaboratively with faculty on research studies of the impact of electronic medical record systems on student communications with patients, student attitudes towards patients with disabilities, the Physician Executive Leadership program, and the measurement of students’ grit (i.e., perseverance and passion for the pursuit of long-term goals). Specific projects include:

- A study in collaboration with the Office of Student Affairs and the Clinical Skills Center to identify risk factors associated with students failing Step 2 CS.
- Routine predictions of students’ Step 1 and Step 2 CK scores for the Office of Student Affairs.
- Representing SKMC in the ACE (Accelerating Change in Education) Evaluation Group, the AMA’s consortium of 32 medical schools working to strengthen the MD curriculum.
- Calculating class rank for AOA selection in the spring and fall of each year, as well as the rank for the Medical Student Performance Evaluation (MSPE).
- Producing the bar graphs for the MSPE that display the students’ performance in the clinical clerkships and on the NBME shelf examinations compared to the rest of their class.
- Updating the Matchmaker Program used by the Office of Student Affairs to counsel students about residency selection.
- Evaluating, with the SKMC Office of Admissions, the MCAT data from national data and our students to determine the validity of the criteria used in the admissions process.
- Expanding the use of NBME shelf examinations in the preclinical years for student self-assessment and as a baseline for evaluation of the Jeff/MD curriculum.
- Classifying preclinical test questions in the ExamSoft System to support student self-assessment and evaluation of the Jeff/MD curriculum.
- A collaborative study with Susan Rosenthal, MD, studying the imposter phenomenon, and associated characteristics in medical students.
- A collaborative project with the Department of Pediatrics (led by Alisa Losasso, MD) to examine the effects of special training to improve medical students’ empathic engagement when using electronic medical record in patient care Published in Academic Medicine, 2017: 97:1022-1019).
- Collaborative research with Department of Surgery (led by Gerald Isenberg, MD) to examine the associations between grit, empathy, specialty interest, and performance in medical school.
- A multi-institutional study involving Jefferson, University of Pennsylvania, and Stony Brook University (led by Mary Bit Smith, a medical student at Sidney Kimmel Medical College) to find out if empathy in medical students can be predicted by linguistic analysis of the content of their admission essays.
- A study in Department of Family and Community Medicine (led by Marianna Lanoue, PhD) to explore the association between medical students’ empathy and analyses of students’ interaction with standardized patients.
- Planning for a collaborative national study involving all osteopathic medical colleges in the United States, sponsored by the American Association of Colleges of Osteopathic Medicine (AACOM) to examine correlates and changes in empathy as students progress through osteopathic medical school and develop
national norm tables for the assessment of students’ scores on the Jefferson Scale of Empathy.

The Jefferson Scale of Empathy (JSE) continued to receive broad national and international attention. The JSE has been translated into 56 languages and used in over 80 countries. Worldwide use of the JSE and translations are shown in Figure 2. Dr. Hojat updated and expanded his book: *Empathy in Patient Care: Antecedents, Development, Measurement, and Outcomes* which was original published in 2007. The expanded edition of the book was released in 2016 under a new title, *Empathy in Health Professions Education and Patient Care*. For more information see: www.springer.com/us/book/9783319276243. The JSE User Guide was also updated to help support those who plan to use the instrument in their research.

**Health Services Research**

The Center receives external funding to support its health services and policy related research and quality improvement initiatives. Center researchers continued work on a major series of projects being performed in collaboration with institutions and healthcare organizations within the regional health care system of Emilia-Romagna, Italy.

We have developed models to predict risk of hospitalization for patients with chronic disease. Details of these models, which perform as well or better than similar models in other countries, have recently been published in BMJ Open. A collaborative grant application submitted by the Regional Health and Social Care Research Agency and Thomas Jefferson University to refine these models was funded by the Italian Ministry of Health. Model results, along with profiles of patients identified as “high risk” are being provided to physicians and other health professionals associated with newly formed “Medical Homes” to assist in efforts towards proactive management of patients with chronic disease that may reduce the likelihood of preventable, high cost hospitalization.

At the request of the Parma Local Health Authority, we have developed and tested predictive models to identify high-risk patients in the pediatric population. Profiles of high-risk children are being provided to pediatricians and other health care professionals involved in care for this population.

We are performing analyses using administrative data to measure quality of care at the end of life for patients with cancer. This project, performed in collaboration with the University of Bologna and the Regional Health and Social Care Research Agency, evaluates key indicators, such as use of chemotherapy, hospitalization, home health care, hospice care, and use of pain medication in the last months of life. Results of this study have been recently published in *Tumori*. The director general of the Regione Emilia-Romagna health care system has organized a workshop to review the results of the project with the managers responsible for organizing care for patients with cancer at the end of life.

Building on our work with the regional health care system of Emilia-Romagna and the database and analytical methods previously developed, the team at Thomas Jefferson University has been collaborating on a series of analyses for the Local Health Authorities of Parma and Reggio Emilia that use population-based methods to provide information useful to the hospitals, the health districts, and the physicians practicing in these areas in their ongoing efforts to improve the quality and efficiency of care provided to their populations. Projects include:

- Using results of risk models to provide information to primary care physicians and Medical Homes to identify and help manage high risk patients with chronic diseases.
- Development of models to identify high risk children and provision of information
to community and hospital-based pediatricians.

- Studies of the integration of hospital and outpatient care.
- Analyses of patterns and appropriateness of pharmaceutical care.

In addition, we have begun to investigate the impact of newly established Medical Homes in the Parma Local Health Authority.

Funded by the Parma Local Health Authority, we have designed, developed, and implemented a multi-year project aimed at improving the appropriateness of medication prescribing for the elderly patients. This project has led in 2007 to the development with the help of a panel of experts of the first Italian explicit list of potentially inappropriate medications known in the literature as the Maio criteria. The Maio criteria have been updated twice, in 2011 and in 2014. We used the 2014 Maio criteria in a study recently published in the British Journal of Clinical Pharmacology to assess the impact of the use of potentially inappropriate medications in a large population-based cohort of older adults on hospitalization rates.

The Emilia-Romagna Region has built a population-based longitudinal health care database for the ~5 million individuals who were residents of Emilia-Romagna in the period beginning in 2004. The database is built from encounter-based records of an individual’s interaction with the health care system using administrative data. Since Italy has a National Health Service, all residents of the region are included, without limitations concerning age or insurance status. The value of the database has been increased by adding clinical classifications mapped from the hospital and pharmacy data. The Disease Staging classification, developed by Center faculty, has been used to classify the severity of primary diagnosis and co-morbidity for hospitalized patients and to identify individuals who may be at higher risk for utilizing more extensive or expensive health services in the future. Another set of indicators (Chronic Condition Drug Groups - CCDGs) uses outpatient pharmacy data and the Italian national formulary to identify individuals with selected chronic diseases.

With support from the American Cancer Society, we are collaborating with Scott Keith, PhD, in a project investigating survival benefits associated with angiotensin blockade therapies in pancreatic cancer patients.

Teaching

Center faculty taught a module on health care organization and financing as a part of the Introduction to Clinical Medicine course for first-year medical students. Center faculty have served as guest lecturers at Catholic University in Rome and the University of Pisa, Italy.

Mentorship

This summer, the Center developed a unique opportunity for one Jefferson student. With the help from a Foerderer Award grant, Arianna Heyer, a current second-year student at Sidney Kimmel Medical College, spent the summer in Parma, Italy working with our collaborators at the Local Health Authority office. Some highlights of her time in Parma include creating and updating documents regarding deprescribing and potentially inappropriate medications for the Local Health Authority’s website, attending meetings at regional hospitals regarding fall prevention and chronic illness treatment algorithms, and shadowing a local diabetologist. Arianna was fully immersed in the Italian health care system, experiencing many different aspects ranging from policy to practice.
AM Last Page: The Jefferson Longitudinal Study of Medical Education

Joseph S. Gonella, MD, founder and director, Center for Research in Medical Education and Health Care; Mohammadreza Hojat, PhD, director, Jefferson Longitudinal Study; Jon Veloski, MS, director, Medical Education Division, Center for Research in Medical Education and Health Care, Jefferson Medical College of Thomas Jefferson University

Data Available by Matriculating Class

<table>
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<th>Year</th>
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<th>Residency</th>
<th>Career outcomes</th>
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*Demographic and academic data for the classes of 1964-1969 were extracted retrospectively.

Scope of Database

Before Medical School

- Demographics
- SAT scores
- GPA science
- GPA non-science
- MCAT scores

During Medical School

- Matriculation surveys
- Course grades
- GPA
- Course grades
- GPA
- NBESUSMLE 1
- Examination grades
- Clerkship ratings
- Hospitals of clerkships
- GPA
- NBESUSMLE 2
- Graduation survey
- Permission form

By the Numbers

As of December 2010, the JLS
- Contained approximately 6 million pieces of data
- Tracked 10,600 students
- Garnered data from 573 postgraduate training hospitals
- Inspired 179 peer-reviewed publications*

*Abstracts of 155 publications of the JLS are posted at http://jls.jefferson.edu/jlsme.

New Instruments

The JLS has led to the development of the following instruments for measuring educational outcomes:

- Jefferson Scale of Empathy
- Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration
- Jefferson Scale of Physician Lifelong Learning
- Scale of Attitudes Toward Physician-Pharmacist Collaboration

Reason for initiating the study: The Jefferson Longitudinal Study (JLS) at Jefferson Medical College of Thomas Jefferson University was initiated in 1970 based on the premise that medical schools have an obligation to society to monitor their educational outcomes. 1

History: The JLS was implemented with an intention to track every medical student throughout his or her entire professional career. Data for the JLS are routinely updated for all entering classes from 1964 to the present using information from the Association of American Medical Colleges, American Medical Association, American Board of Medical Specialties, National Board of Medical Examiners, and in-house sources. The JLS retrieves information from the most comprehensive, extensive, and uninterrupted longitudinal database of medical students and graduates maintained in a single medical school.

Goals

Service to

- Faculty (e.g., responding to inquiries)
- Academic committees (e.g., providing data to analyze admissions trends, to evaluate programs, or to examine success/failure factors in students' performance)
- College dean's office/administrators (e.g., providing data for the annual report, dean's letter of evaluations, or accreditation)
- Students (e.g., guiding academic and career development)

Research

- Data analyses in collaboration with faculty to support their scholarship and address issues in medical education for publication and presentation at professional meetings

References


Figure 2
The Worldwide Use of the Jefferson Scale of Empathy

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Translations of the Jefferson Scale of Empathy

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Center Faculty and Staff

Faculty

Clara A. Callahan, MD, Director
Clara_Callahan@jefferson.edu
Tel: 215-955-4077
Dr. Callahan is a Professor of Pediatrics and the Lillian H. Brent Dean of Students and Admissions. She received her Bachelor of Arts degree in anthropology from Wayne State University. She subsequently attended the Medical College of Pennsylvania, where she did two years of her pediatric residency before moving to Jefferson to complete her last year of residency training. She subsequently was the Charles Culpepper Fellow in Ambulatory Pediatrics. She was appointed to the Pediatrics faculty in 1982 and joined the Dean’s Staff of the Medical College in 1987. After initially working in Student Affairs, she became the Dean for Admissions in 1999. Given Dr. Callahan’s long time involvement with medical students, it is not surprising that much of her research centers on the performance on students in medical school and beyond. Her widely referenced paper, with Drs. Hojat and Gonnella is titled, “The predictive validity of three versions of the MCAT in relation to performance in medical school, residency, and licensing examinations: a longitudinal study of 36 classes of Jefferson Medical College.”

Joseph S. Gonnella, MD
Joseph.Gonnella@jefferson.edu
Tel: 215-955-5492
Dr. Gonnella is Distinguished Professor of Medicine, Dean Emeritus of Jefferson Medical College, and founder of the Center. Dr. Gonnella received his BA from Dartmouth College (summa cum laude) and his MD from Harvard Medical School. He has been awarded the Commendatore dell’ordine della Stella della Solidarietà Italiana in 1978; the Grande Ufficiale in 1995 by the President of Italy; the Dongbaeg Medal by the President of Korea; the Presidential Medal by Dartmouth College; and the Presidential Citation by Thomas Jefferson University; 2015 Consular Award from the Italian Consul General of Philadelphia. He has received honorary degrees from the University of Chieti, Italy, SoonChunHyang University in Seoul, Korea, Widener University, the University of Minho in Portugal, and the International Medical University of Malaysia. He has also received an honorary professorship from Tianjin Medical College in Tianjin, China, and a Distinguished Fellowship from the International Medical University, Malaysia. In 1998 he received the Abraham Flexner Award from the Association of American Medical Colleges (AAMC). Dr. Gonnella’s research has focused on the relationship between knowledge, capabilities, and clinical performance. He has developed the Disease Staging evaluation system that is used in the U.S. and internationally to assess the quality and costs of health care.

Mohammadreza Hojat, PhD, Director of Longitudinal Study
Mohammadreza.Hojat@jefferson.edu
Tel: 215-955-9459
Dr. Mohammadreza Hojat is Research Professor in the Department of Psychiatry and Human Behavior and the Director of the Jefferson Longitudinal Study at the Center. He received his PhD from the University of Pennsylvania. In addition to the development of the longitudinal database of medical students and graduates, he has pioneered new instruments measuring psychosocial factors and student personal qualities in relation to academic and clinical performance. Dr. Hojat has led the development of the following scales that measure aspects of professionalism in medicine: Jefferson Scale of Empathy, Jefferson Scale of Physician Lifelong Learning, Jefferson Scale of Attitudes toward Physician–Nurse Collaboration, and
Scale of Attitudes toward Interprofessional Collaboration. He has more than 30 years of experience in educational and psychological research, and has published over 200 articles in peer-reviewed journals and 13 book chapters. He is a manuscript referee for several American and European professional journals, and has served as a guest co-editor for thematic issues of the Journal of Social Behavior and Personality (on loneliness), Academic Medicine (on assessments in medical school and beyond), and Evaluation, the Health Professions (on changes in the health care system). Dr. Hojat is a licensed psychologist and a coauthor of two books: Loneliness: Theory, Research, and Applications (Springer, 1987), and Assessment Measures in Medical School, Residency, and Practice: The Connections (Springer, 1993). Dr. Hojat’s book, Empathy in Patient Care: Antecedents, Development and Outcomes was published by Springer in 2007, and its updated and expanded edition under a new title, “Empathy in Health Professions Education and Patient Care” was released in 2016.

Vittorio Maio, PharmD, MS, MSPH, PharmD, MS, MSPH, Research Professor, Jefferson College of Population Health

Vittorio.Maio@jefferson.edu
Tel: 215-955-1821

Vittorio Maio is the Managing Director of the Center and a Research Professor in the Jefferson College of Population Health. He is also Director of the Health Economics & Outcomes Research Fellowship Programs. Dr. Maio’s research interests are in the areas of outcomes analysis and medication usage and policy. He is Associate Editor of the American Journal of Medical Quality and serves as a reviewer for several professional journals, including JAMA-Internal Medicine, The Lancet, Pharmacoepidemiology and Drug Safety, and Drugs & Aging. Dr. Maio received his Doctor of Pharmacy degree from the University of Perugia (Italy), took the Italian Pharmacist Board Certification, and received both his Master of Science in Pharmacology and his Master of Science in Public Health from Thomas Jefferson University. He lectures on Health Policy issues in the Masters programs of the Jefferson College of Population Health and in the Master’s Program in Management of Health Care Organizations at the University of Pisa, Italy, Faculty of Economics. He teaches Pharmaco-epidemiology in the Master of Science Program in Pharmacology for trainees in the NIH K30 Training Program and lectures on Applied Epidemiology in Healthcare at University of Parma, Italy, Faculty of Medicine, College of Specialization in Hygiene.

Jon Veloski, MS, Director of Medical Education Research

Jon.Veloski@jefferson.edu
Tel: 215-955-7901

As Director of Medical Education Research and Instructor in the Department of Psychiatry and Human Behavior, Mr. Veloski’s responsibilities involve student assessment and evaluation of the MD curriculum. His current research is related to risk factors for failing Step 2 CS, measurement issues in simulation-based clinical skills assessment, the value of self-assessment in clinical simulation, and the impact of grit on medical school performance. Mr. Veloski completed his graduate work (ABD) in Measurement and Evaluation at the University of Pennsylvania. He is a member of the Society of Directors of Research in Medical Education and served as a reviewer for six journals last year.

Mary R. Robeson, MS, Project Coordinator, Medical Education Division

Mary.Robeson@jefferson.edu
Tel: 215-955-9390

Mary R. Robeson’s primary responsibilities are with the collaborative projects studying
the quality and cost of care in the Italian health care system and in the development of a risk of hospitalization model and patient profiles based on that model for adult residents of the Emilia-Romagna Region of Italy. In addition, she had been involved in the development of a risk of hospitalization predictive model to identify high-risk patients in the pediatric population in the Emilia-Romagna Region. She is also involved in student assessment and evaluation of the medical education programs. Ms. Robeson also has a major role in the data analysis and scoring of the OSCEs at the Clinical Skills Center. In addition to these responsibilities, she acts as a consultant for the evaluation services for the Medical College and the College of Health Professions. Her background is in psychology and sociology, statistics, testing, and measurement. Ms. Robeson holds a master's degree in educational measurement from the University of Pennsylvania.

**Technical Staff**

**Jennifer DeSantis, Senior Research Analyst**  
Jennifer.DeSantis@jefferson.edu  
Tel: 215-503-6087

Jennifer DeSantis earned her M.Ed. from Stanford University. She provides analytic and research support for psychological and behavioral research studies and the Longitudinal Study, with an aim to promote well-being and quality care within medical education, physicians, and patients. She also manages domestic and international services for the Jefferson Scale of Empathy.

**Lifan He**  
Lifan.He@jefferson.edu  
Tel: 215-955-6964

Lifan (Leefun) He earned his MS at Temple University in Health Informatics. He provides technical and data support for computer applications in medical education, clinical skills assessments, Clinical Clerkship Review and NBME Subject Examinations in the preclinical and clinical curriculum and maintains databases housing information from the Jefferson Longitudinal Study of Medical Education.

**Sarah Hegarty, MPhil, Biostatistician**  
Sarah.Hegarty@jefferson.edu  
Tel: 215-955-7354

Sarah Hegarty is a Biostatistician in the Department of Pharmacology and Experimental Therapeutics, Division of Biostatistics. She holds an MPhil degree in Statistical Science from the University of Cambridge. Working with the Center since 2013, she is responsible for data management, statistical programming and analysis. In the past year, she has collaborated on a number of projects including: evaluating the impact of medical homes on health care utilization in Parma, studying physician attitudes towards deprescribing and producing patient-specific risk of hospitalization profiles for use by primary care physicians. She has also been involved in the dissemination of results from previous research activities that studied end-of-life care in patients dying with cancer and the risk of hospitalization associated with potentially inappropriate medication use in the elderly.

**Edward C. Nicks, Jr., Statistical Assistant**  
Edward.Nicks@jefferson.edu  
Tel: 215-955-7360

Mr. Nicks has been with the Center since 1986. He is a Statistical Assistant whose primary responsibility is coordinating examination and evaluation services for the Medical College and the College of Health Professions. He assists in the maintenance of the longitudinal database of medical students and graduates, coordinating mailings, collecting data, and providing statistical analysis and reports. He also assists in the management of computers and other hardware within the Center.
Carol Rabinowitz, BA, Programmer/Analyst  
Carol.Rabinowitz@jefferson.edu  
Tel: 215-955-9399  
Mrs. Rabinowitz is Programmer/Analyst for the Center. She holds a bachelor’s degree in Sociology and Mathematics from Rutgers University. She is responsible for SAS programming for projects analyzing data from the health care databases of the Emilia-Romagna Region, Italy.

Administrative Staff

Phyllis M. Accetta, Administrative Assistant  
Phyllis.Accetta@jefferson.edu  
Tel: 215-955-6634  
Mrs. Accetta is the Administrative Assistant to Dr. Joseph Gonnella, Distinguished Professor of Medicine, Dean Emeritus. She came to the Center in July 2000. Prior to coming to the Center she was Secretary to the Dean of Jefferson Medical College from September 1996 to July 2000. Mrs. Accetta provides administrative support to Dr. Gonnella. She also provides support to Center staff for the preparation of project reports and publications.

Shira A. Carroll, BA, Administrative Assistant  
Shira.Carroll@jefferson.edu  
Tel: 215-955-9458  
Shira Carroll joined the Center in January 2015. Shira is the Administrative Assistant for the Center and to Vittorio Maio, Managing Director. She is also the project coordinator for the Jefferson Scale of Empathy. Her responsibilities include correspondence with clients and prospective clients, assistance in providing paper and on-line surveys to clients. She maintains the databases that track correspondence, orders, translations of the scales and publications. She also provides support to Center staff for the preparation of project reports and publications.

TJU Research Collaborators

The Center collaborates with multiple other TJU faculty and staff. The following individuals served a major role on externally funded Center projects in the current academic year.

Daniel Z. Louis, MS  
Research Associate Professor of Family and Community Medicine  
Dzlouis@gmail.com  
Daniel Z. Louis retired in March of this year as the Managing Director of the Center. He was a Research Associate Professor of Family and Community Medicine and was one of the developers of the Disease Staging system used in the evaluation of severity of illness in the U.S. and internationally to assess quality and costs of health care. Mr. Louis was a principal investigator of a series of collaborative projects with the Emilia-Romagna Region, Italy, and the Parma, Italy Local Health Authority which is using a large population-based database to address a variety of issues relating to organization, financing, and quality of care. Mr. Louis lectured on Health Policy as a part of the Introduction to Clinical Medicine course for first year medical students, and in the Gateway to Internship course for fourth year medical students, and lectures at the Università Cattolica del Sacro Cuore, Rome, as part of their Master’s Program in Health Administration and the University of Pisa, Italy, faculty of economics.

Scott W. Keith, PhD, MS, Assistant Professor, Biostatistics Pharmacology & Experimental Therapeutics  
Scott.Keith@jefferson.edu  
Tel: 215-503-9876  
Scott W. Keith is an Assistant Professor of Biostatistics in the Department of Pharmacology and Experimental Therapeutics, Division of Biostatistics. He received his BA from The University of
Vermont, his MS in Mathematics from The University of New Orleans, and his PhD in Biostatistics from The University of Alabama at Birmingham. He is Associate Editor of *Frontiers in Nutrition Methodology* and Editorial Board Member of the *American Journal of Medical Quality*. Dr. Keith’s research interests include obesity-related outcomes, cancer outcomes, risk of hospitalization, medication usage and policy, modeling event rate data, and developing nonlinear statistical methods. He teaches GC 630: “Fundamentals of Clinical Trials” in the Jefferson Graduate College of Biomedical Sciences. Dr. Keith is collaborating with Center faculty and staff on several projects performed in collaboration with the Agency for Health and Social Care of the Emilia-Romagna Region and the Parma Local Health Authority.

**Visiting Scholars**

The Center periodically hosts researchers from other institutions. The Center’s visiting scholars include:

**Yoshihisa Asano, PhD**
Founder and Trustee, Noguchi Medical Research Institute
President and CEO, Noguchi Medical Research Corp.
Tokyo, Japan
vasano@noguchi-net.com

**Americo Cicchetti, PhD**
Professor of Healthcare Management, Faculty of Economics
Università Cattolica del Sacro Cuore, Rome, Italy
acicchetti@rm.unicatt.it

**Manuel Joáo Costa, PhD**
Assistant Professor
Coordinator of the Medical Education Unit
School of Health Sciences, University of Minho
Campus de Gualtar Braga, Portugal
mmcosta@ecsaude.uminho.pt

**Carlos Manuel Morais da Costa, PhD**
Professor Health Management
Director of the Hospital Administration Post Graduate Course
Vice Director of the National School of Public Health, Lisbon, Portugal
costa@ensp.unl.pt

**Adelina Alcorta-G de González, MD, PhD**
Chief, Department of Psychiatry
University Hospital “Jose E. Gonzalez”
Autonomous University of Nuevo Leon Medical College, Monterrey, N.L. Mexico
adealcorta@oncaregroup.com

**Fei Han, MD, PhD**
Vice Dean, Professor
Tianjin Medical University
International College
Tianjin, China
feihannet@gmail.com

**Kimitaka Kaga, MD, PhD**
Emeritus Professor, University of Tokyo
Emeritus Director, National Institute of Sensory Organs, National Tokyo Medical Center
Professor and Director, International University of Health and Welfare Clinic, Center for Speech and Hearing Disorders
Tokyo, Japan
kimikaga-tyk@umin.ac.jp
Hitomi Kataoka, MD  
Professor, Department of Primary Care and Medical Education  
Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences  
Okayama, Japan  
hitomik@md.okayama-u.ac.jp

Kiyoshi Kitamura, MD, PhD  
Professor, International Research Center for Medical Education, Graduate School of Medicine, The University of Tokyo, Japan  
kitamura-tky@umin.net

Lamberto Manzoli, MD  
Associate Professor of Epidemiology and Public Health  
Section of Epidemiology and Public Health  
University “G. d’Annunzio” of Chieti Italy  
lambertomanz@yahoo.com

Nuno Jorge Carvalho de Sousa, MD, PhD  
President  
School of Medicine, University of Minho, Campus de Gualtar, Braga, Portugal  
Sec-presidencia@med.uminho.pt

Kiyoshi Sano, MD, FAAFP  
Tokushukai Family Medicine Center  
Tokushukai Haibara General Hospital  
Makinohara, Shizuoka, Japan  
kskimfmp@hotmail.co.jp

Amer Ahmad Sharif, MBBS, PhD  
Vice Chancellor  
Chief Executive Officer  
Dubai Healthcare City Authority  
Dubai, United Arab Emirates  
amer.sharif@dhcc.ae

Dae Hun Suh, MD, PhD  
Professor, Department of Dermatology  
Seoul National University College of Medicine, Seoul, Korea  
daehun@snu.ac.kr

Francesco Taroni, MD  
Professor of Social Medicine, Department of Post Graduate School of Specialization in Legal and Social Medicine  
University of Bologna, Agenzia Sanitaria Regionale of Emilia-Romagna Region  
Bologna, Italy  
francesco.taroni@unibo.it

Yoshimasa Umesato, PhD  
Associate Professor  
Department of Health Care Service Management  
Nihon University School of Medicine  
Tokyo, Japan  
yume@med.nihon-u.ac.jp

Michiyasu Yoshiara, MD  
Chairman, The Board of Directors  
Japan Association for Development of Community Medicine (JADECOM)  
Tokyo, Japan  
yoshiara@jadecom.or.jp

Teaching and Other Professional Activities

Publications


http://assr.regione.emilia-romagna.it/it/servizi/pubblicazioni/dossier/doss259


**Presentations**


Djatche L, Lombardi M, Singer M, Keith S, Hegarty S, Maio V. Evaluation of the Medical Home Model on the Quality of Care in Parma Local Health Authority, Emilia-Romagna, Italy American Managed Care Pharmacy Nexus 2016, National Harbor, MD (October 2016).

Gonnella, J.S. The Jefferson Longitudinal Study of Medical Outcomes. Presented at the Istituto Ortopedico Rizzoli, honoring the late Professor Francesco Antonio Manzoli, Bologna, Italy (September 28, 2016).


Hojat, M. Beneficial effects of empathy in health professions education and patient
care on students, clinicians, and patients. Presented to medical students and faculty at Stony Brook University School of Medicine. New York (November 2016).

**Hojat, M.** Empathy in health profession education: What have we learned and where do we go from here? Grand rounds presentation at Stony Brook University School of Medicine. New York (November 2016).

**Hojat, M.** Empathy in health professions education and patient care. An informal conversation with faculty and administrators at Stony Brook University School of Medicine. New York (November, 2016).

**Hojat, M.** Beneficial effects of empathy in patient care on clinicians and patients. Presented at Overbrook Medical Center-Atlantic Health, New Jersey (May 2017).

**Hojat, M.** Who benefits from empathy in health professions education and patient care? Presented at Noguchi Seminar on Humanities and Empathy, Tokyo, Japan (December 2016).


Singer D, Lombardi M, Djatche L, **Hegarty S**, Latini C, Dodi L, **Maio V**. How Confident Are Primary Care Physician in Deprescribing for the Elderly and What Barriers Prevent Deprescribing? American Managed Care Pharmacy Nexus 2016, National Harbor, MD (October 2016).

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**Teaching**

**Joseph S. Gonnella, MD**

_Evaluation of Health Care Quality and Cost_

Università Cattolica del Sacro Cuore, Facoltà di Medicina e Chirurgia, Istituto di Igiene (Rome, Italy), Masters Program in Health Administration

**Daniel Z. Louis, MS**

Health Policy/An Introduction to the US Health Care System: Cost and Financing. (In the ICM-1 course for first year medical students) Sidney Kimmel Medical College

Evaluation of Health Care Quality and Cost

Università Cattolica del Sacro Cuore, Facoltà di Medicina e Chirurgia, Istituto di Igiene (Rome, Italy), Masters Program in Health Administration

Management delle Aziende Sanitarie

Master’s Program in Health Care Management, University of Pisa, Italy

**Vittorio Maio, PharmD, MS, MSPH**

Pharmacoepidemiology

Master of Science in Pharmacology, Thomas Jefferson University

Foundations of Pharmacology lectures

Sidney Kimmel Medical College

Management delle Aziende Sanitarie

Master’s Program in Health Care Management, University of Pisa, Italy

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**Honors**

**Joseph S. Gonnella, MD** Thomas Jefferson University established the Distinguished Joseph S. Gonnella, MD Lecture for
Excellence & Innovation in Medical Education.

Daniel Z. Louis received the Sidney Kimmel Medical College Dean’s Award for Excellence in Education and special recognition for 30 years of service to Thomas Jefferson University.

Jon Veloski received special recognition for 45 years of service to Thomas Jefferson University.

Mohammadreza Hojat, PhD received special recognition for 35 years of service to Thomas Jefferson University.

Other Professional Activities

Clara A. Callahan, MD

Memberships
- Phi Beta Kappa
- Alpha Omega Alpha Honor Medical Society (Honorary)
- Association of American Medical Colleges, Group on Student Affairs
- American Medical Association
- Representative to the Section of Medical Schools for the American Medical Association
- American Medical Women’s Association
- Pennsylvania Medical Society
- Philadelphia Medical Society

Extramural Activities
- Reviewer
- Research in Medical Education (RIME) presentations at the annual AAMC meetings
- AAMC web-tool MedEdPortal
- Academic Medicine
- Survey Visit Team Member for the Liaison Committee on Medical Education

Joseph S. Gonnella, MD

Memberships
- Academy of Sciences of Bologna, Italy
- Alpha Omega Alpha Honor Medical Society (Honorary)
- American Association for the Advancement of Science
- Nacional Academy of Medicine, Mexico
- Royal College of Physicians, Edinburgh, Scotland

Extramural Activities
- Noguchi Medical Research Institute, Emeritus Trustee
- Tianjin Medical University, People’s Republic of China – Chairman of Advisory Committee of Foreign Experts
- University of Minho, Portugal, External Advisory Committee
- Japan Association for Development of Community Medicine, Tokyo Japan, Chairman of External Advisory Committee

Mohammadreza Hojat, PhD

Memberships
- American Psychological Association

Reviewer
- Academic Medicine
- Journal of Family Issues
- Medical Education
- Medical Teacher
- Nursing Research
- Editorial Board, Journal of Patient Experience
Vittorio Maio, PharmD, MS, MSPH

Memberships
- Associate Editor, American Journal of Medical Quality
- Grant Reviewer, Italian Ministry of Health

Reviewer
- European Journal of Hospital Pharmacy
- JAMA – Internal Medicine
- Diabetes Research and Clinical Practice
- The Lancet
- Journal of Pain and Symptom Management
- Population Health Management
- Journal of Clinical Pharmacy and Therapeutics
- Pharmacological Research
- Pharmacoepidemiology and Drug Safety
- Drugs & Aging
- Quality in Primary Care
- Psychiatric Services
- Value in Health
- Medical Science Monitor
- American Journal of Pharmaceutical Education

Jon Veloski, MS

Memberships
- Society of Directors of Research in Medical Education

Reviewer
- Academic Medicine
- BMC Medical Education
- Journal of Arthroplasty
- Medical Education
- Medical Teacher
- Teaching and Learning in Medicine
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2. Undergraduate Non-Science GPA ...................................................... 18
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5. Percent Women Matriculants ......................................................... 20
6. Mean Age at Matriculation ............................................................. 20
7. Home State ................................................................................. 21
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Exhibit 1
Undergraduate Science GPA

Exhibit 2
Undergraduate Non-Science GPA
Exhibit 3
MCAT Biological Sciences

1
75th Percentile
Median
25th Percentile

Entering Class

X = Mean

1 Highest score was used for students with more than one set of scores.
2 In entering class of 2016, 64% had scores on this version of the MCAT.

Exhibit 4
MCAT Verbal Reasoning

1
75th Percentile
Median
25th Percentile

Entering Class

X = Mean

1 Highest score was used for students with more than one set of scores.
2 In entering class of 2016, 64% had scores on this version of the MCAT.
Exhibit 5
Percent Women Matriculants

Entering Class
- Percent women matriculants at all US medical schools.

Exhibit 6
Mean Age at Matriculation

Entering Class

1The accelerated program had been a 5-year combined BS-MD program before 1984. During the transition year 1984, no students were admitted to the program. It became a 6-year program between 1985-2015. Thereafter, it became a 7-year program.
Exhibit 7
Home State


Classes of 2006 – 2016
Exhibit 8
Clinical Ratings of Students in Six Core Clerkships*
Graduating Class of 2016

* Faculty's global rating of students' clinical competence. All core clerkships are 5 weeks, except Medicine which is 12 weeks in duration.
Exhibit 9
Pass Rates on the United States Medical Licensing Examinations (USMLE)

**Step 1**

<table>
<thead>
<tr>
<th>Year</th>
<th>Jefferson</th>
<th>National</th>
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<tbody>
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<td>2016</td>
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* Data is presented for the candidate reference group who took the examination for the first time each year and who were two years from expected graduation.

**Step 2**

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<tr>
<td>2015</td>
<td>99</td>
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</tr>
</tbody>
</table>

* Data is presented for the candidate reference group who took the examination for the first time each year and who were one year from expected graduation. Starting from July 2004, Step 2 reports 2 scores, one for Clinical Knowledge (CK) and another for Clinical Skills (CS).

**Step 3**

<table>
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<tr>
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</tr>
</tbody>
</table>

* Data is presented for graduates who took the examination for the first time in each year.
Exhibit 10
Percentage of Graduating Students Who Were Satisfied With the Jefferson Medical College Educational Programs

First Academic Year

- 2000: 74
- 2001: 76
- 2002: 78
- 2003: 64
- 2004: 70
- 2005: 81
- 2006: 80
- 2007: 85
- 2008: 89
- 2009: 81
- 2010: 92
- 2011: 88
- 2012: 90
- 2013: 91
- 2014: 93
- 2015: 93
- 2016: 97

Second Academic Year

- 2000: 63
- 2001: 59
- 2002: 70
- 2003: 68
- 2004: 72
- 2005: 87
- 2006: 84
- 2007: 91
- 2008: 86
- 2009: 94
- 2010: 95
- 2011: 81
- 2012: 84
- 2013: 85
- 2014: 91
- 2015: 92
- 2016: 89

Third Academic Year

- 2000: 94
- 2001: 94
- 2002: 92
- 2003: 92
- 2004: 86
- 2005: 95
- 2006: 87
- 2007: 88
- 2008: 90
- 2009: 85
- 2010: 87
- 2011: 85
- 2012: 91
- 2013: 88
- 2014: 93
- 2015: 89
- 2016: 94

Fourth Academic Year

- 2008: 94
- 2009: 89
- 2010: 92
- 2011: 90
- 2012: 95
- 2013: 95
- 2014: 96
- 2015: 93
- 2016: 94

Graduating Class

* From graduation questionnaire of the Jefferson Longitudinal Study asking medical students the extent of their satisfaction with each medical school year on a 4-point scale (4=very satisfied, 3=satisfied, 2=dissatisfied, 1=very dissatisfied). Response rates ranged from 70% to 94%.
### Exhibit 11

**Percentage of Seniors’ Responses to the Following Question¹:**

“How well do you feel that education at Jefferson prepared you for a career in medicine?”

<table>
<thead>
<tr>
<th>Graduating Class</th>
<th>Scale Points</th>
<th></th>
<th></th>
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</tr>
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<td>4</td>
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<td>39</td>
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<td>6</td>
<td>20</td>
<td>39</td>
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</tr>
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<td>17</td>
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<td>2</td>
<td>3</td>
<td>13</td>
<td>29</td>
<td>39</td>
<td>14</td>
</tr>
</tbody>
</table>

¹From the graduation questionnaire of the Jefferson Longitudinal Study. Response rates ranged from 70% to 94%.
### Exhibit 12
Graduation, Transfers, and Attrition
Entering Classes of 2000 - 2012

<table>
<thead>
<tr>
<th>Entering Class</th>
<th>% Graduated</th>
<th>% Transferred</th>
<th>% Did Not Graduate***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On Time*</td>
<td>Late**</td>
<td>Academic***</td>
</tr>
<tr>
<td>Year</td>
<td>Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>222</td>
<td>90%</td>
<td>4%</td>
</tr>
<tr>
<td>2001</td>
<td>224</td>
<td>90%</td>
<td>4%</td>
</tr>
<tr>
<td>2002</td>
<td>227</td>
<td>88%</td>
<td>4%</td>
</tr>
<tr>
<td>2003</td>
<td>229</td>
<td>89%</td>
<td>4%</td>
</tr>
<tr>
<td>2004</td>
<td>228</td>
<td>85%</td>
<td>2%</td>
</tr>
<tr>
<td>2005</td>
<td>254</td>
<td>90%</td>
<td>2%</td>
</tr>
<tr>
<td>2006</td>
<td>255</td>
<td>86%</td>
<td>4%</td>
</tr>
<tr>
<td>2007</td>
<td>259</td>
<td>85%</td>
<td>4%</td>
</tr>
<tr>
<td>2008</td>
<td>2254</td>
<td>83%</td>
<td>2%</td>
</tr>
<tr>
<td>2009</td>
<td>256</td>
<td>88%</td>
<td>4%</td>
</tr>
<tr>
<td>2010</td>
<td>260</td>
<td>84%</td>
<td>2%</td>
</tr>
<tr>
<td>2011</td>
<td>260</td>
<td>94%</td>
<td>0%</td>
</tr>
<tr>
<td>2012</td>
<td>261</td>
<td>87%</td>
<td>2%</td>
</tr>
</tbody>
</table>

* Includes graduates from combined degree programs.
** Delayed graduation for current students includes those on leave of absence.
*** Delayed graduation for not meeting academic standards.
**** Includes withdraw, dismiss, and deceased students.
Exhibit 13
Location of First Year Postgraduate Education

Classes of 1970 – 2015

Classes of 2006 – 2015
Exhibit 14
Program Directors’ Ratings in the First Postgraduate Year*
Graduating Classes of 1978-2015

* Response rates vary for different classes from 45% to 75%.
Program directors rated the graduates on a 4-point Likert scale comparing them with all graduates they ever supervised.
Exhibit 15
Specialties of Alumni*
Graduating Classes of 1970-2012

* Source: American Medical Association, American Board of Medical Specialties
* "Other" includes specialties and subspecialties, each representing less than 2% of the total alumni.
Exhibit 16
Board Certification Rates of Alumni by Specialty™
Graduating Classes of 1970 - 2006

- **Internal Medicine**
  - 1970-1979: 88%
  - 1980-1989: 93%
  - 1990-2006: 95%

- **Medical Subspecialties**
  - 1970-1979: 95%
  - 1980-1989: 89%
  - 1990-2006: 99%

- **General Surgery, Subspecialties, & Specialties**
  - 1970-1979: 93%
  - 1980-1989: 98%
  - 1990-2006: 98%

- **Family Medicine**
  - 1970-1979: 98%
  - 1980-1989: 96%
  - 1990-2006: 96%

- **Anesthesiology, Pathology & Radiology**
  - 1970-1979: 93%
  - 1980-1989: 98%
  - 1990-2006: 98%

- **Pediatrics & Subspecialties**
  - 1970-1979: 93%
  - 1980-1989: 96%
  - 1990-2006: 96%

- **Obstetrics/ Gynecology**
  - 1970-1979: 96%
  - 1980-1989: 94%
  - 1990-2006: 97%

- **Ophthalmology**
  - 1970-1979: 99%
  - 1980-1989: 98%
  - 1990-2006: 99%

- **Emergency Medicine**
  - 1970-1979: 95%
  - 1980-1989: 96%
  - 1990-2006: 96%

- **Psychiatry**
  - 1970-1979: 98%
  - 1980-1989: 91%
  - 1990-2006: 94%

- **Other 1**
  - 1970-1979: 93%
  - 1980-1989: 95%
  - 1990-2006: 95%

* Percentages are based on the total graduates in each specialty

**Other** includes 29 Specialties and subspecialties, each representing less than 2% of the total alumni.

Sources: American Medical Association.
### POSTGRADUATE RATING FORM

1. Please rate the resident in each of the following items by circling the appropriate number. In making the ratings please compare this resident with all residents you have supervised, not just with those in your recent group.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention to collection of data related to health risks</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Collection of history of the present illness from the patient or family</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Ability to communicate effectively with patients and their families</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Ability to act effectively in an emergency</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Competence in performing physical examination</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Willingness to ask for help when needed</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Attention to psychological and emotional factors related to the patient’s health</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Use of literature in diagnosis and treatment</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Documentation of reasons for obtaining laboratory data</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Counseling patients about preventive care and wellness</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Thoroughness of differential diagnosis</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Awareness of socio-psychological factors affecting patient’s condition</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Ability to handle anxiety-producing situations</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Adherence to professional ethical standards</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Knowledge of basic science areas most closely related to postgraduate program</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Judgment in implementing care</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Effectiveness as a teacher of medical students and/or other health professionals</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Willingness to admit an error in judgment</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Willingness to proceed independently when appropriate</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Relationships with other health care personnel</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Thoroughness in collection of pertinent past history of the patient</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Thoroughness in organization of medical records</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Collection of the patient’s family history</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Thoroughness in obtaining information from patients or families related to the patient’s chief complaint</td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

II. Please rate the resident’s **overall** performance in the following areas:

<table>
<thead>
<tr>
<th>Area</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Data-Gathering Skills</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Clinical Judgment</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Professional Attitudes</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

III. If one assumes that a physician serves not only as a clinician, but also as a patient educator and a manager of health care resources, how would you rate this resident in these areas:

<table>
<thead>
<tr>
<th>Role</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinician</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Patient educator</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Manager of health care resources</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

*Please see other side*
IV. How do you rate this resident's **empathetic behavior** (defined as an understanding of the patient's inner experiences and perspective, and a capability to communicate this understanding) on the following 10-point scale:

<table>
<thead>
<tr>
<th>Not empathetic at all</th>
<th>Very empathetic all the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
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<tr>
<td>6</td>
<td>5</td>
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<tr>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

V. Does your hospital offer a program in this resident's specialty?
- Yes - If Yes, was this resident offered further postgraduate training at your hospital?
- No - If No, if your hospital had a program in this specialty, would he or she have been offered a place at your institution?
- Other, please comment.

VI. Was the resident's performance consistent with the hospital's expectation at the time of acceptance?
- Yes, (describe)
- No, (describe)

VII. Was the dean's letter of recommendation predictive of the resident's performance?
- Yes, (describe)
- No, (describe)

VIII. Does this resident have qualities you would like to see in your own physician?
- Yes, (describe)
- No, (describe)

Thank you again for your help with this IRB approved evaluation. If you have any questions concerning this form, or suggestions for improvement, please contact:

Mohammadreza Hojat, Ph.D., (215) 955-9450
(Mohammadreza.Hojat@jefferson.edu)

Please return this form to:
Center for Research in Medical Education and Health Care
SINDEY KIMMEL MEDICAL COLLEGE at THOMAS JEFFERSON UNIVERSITY
1015 Walnut Street, Suite 319
Philadelphia, PA 19107

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