Center for Research in Medical Education and Health Care

ANNUAL REPORT
2017 – 2018
Center for Research in
Medical Education and Health Care

Annual Report
Academic Year 2017-18

Sidney Kimmel Medical College at
Thomas Jefferson University

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Message from the Director

This year has been another 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 84 countries around the world, with translation into 57 languages, Dr. Mohammadreza Hojat’s grant from the AACOM is in its second year 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. It has also allowed for the development of national norm tables for the assessment of osteopathic students’ scores on the Jefferson Scale of Empathy.

The third Joseph S. Gonnella, MD lecture for excellence and innovation in medical education, rescheduled due of a snowstorm, was held on October 1, 2018. The lecture recognizes Dr. Gonnella’s many years of service to Jefferson and to the field of medical education and, this year, reflected his many years of collaboration in Italy. The Gonnella lecture was delivered by Walter Ricciardi, MD, MPH, MSc, President of the Italian National Institute of Health.

We were pleased to welcome several new members to our team this year, who will allow us to maintain our current efforts and develop new projects. Joshua Banks, a statistical analyst in the Department of Pharmacology and Experimental Therapeutics, Division of Biostatistics has been helping with the analysis of the data from a number of projects in Italy. Niusha Jafari, MS, senior research analyst/programmer, is providing support for the Jefferson Longitudinal Study, as well as analyses for multi-institutional and nationwide projects in medical education. Marianna (Marnie) LaNoue, PhD, MA, Associate Professor, Jefferson College of Population Health, has worked with Dr. Hojat on assessments related to the structure of the Jefferson Scale of Empathy and is currently collaborating on the AACOM project.

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 12,796 SKMC 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 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 the specialties of our graduates over three time periods. Board certification rates of our graduates by 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 Clinical Knowledge (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 winter and summer of each year, as well as the rank for the Medical Student Performance Evaluation (MSPE).
- Producing the bar graphs for the MSPE that display 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.
- A collaborative study with Susan Rosenthal, MD, studying the imposter phenomenon and students' well-being in medical school.
- A collaborative study 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 at the time the study was conducted, now a psychiatry resident at the Hospital of the University of Pennsylvania) 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 to explore the association between medical students' empathy and analyses of students' interaction with standardized patients.
- Dr. Hojat served as the principal investigator of a collaborative nationwide study of 41 campuses of U.S. Colleges of Osteopathic Medicine, sponsored by the American Association of Colleges of Osteopathic Medicine (AACOM), American Osteopathic Association (Alpha Omega Alpha ΑΩΑ), and the Cleveland Clinic 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. This is the first nationwide study of empathy in medical students ever conducted. A total of 16,760 surveys were completed by osteopathic medical students in the academic year 2017-2018. Differences in scores on the Jefferson Scale of Empathy (JSE) were examined among students by gender, age, ethnicity, undergraduate major, specialty plan, prior employment, and other survey variables. Significant changes in empathy scores were observed among students in different
years of medical school. National norm tables were prepared for male and female students in different years of medical school that can be used for the assessment of empathic orientation toward patient care in osteopathic medical students. The first manuscript, using data from this nationwide project (on measurement properties of the Jefferson Scale of Empathy in osteopathic medical students) was published in the Advances in Health Sciences Education (https://doi.org/10.1007/s10459-018-9839-9).

The Jefferson Scale of Empathy (JSE) continues to receive broad national and international attention. The JSE has been translated into 57 languages and used in over 84 countries. Worldwide use of the JSE and translations are shown in Figure 2.

**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 performed analyses using administrative data to measure quality of care at the end of life for patients with cancer. This project, carried out in collaboration with the University of Bologna and the Regional Health and Social Care Research Agency, evaluated 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 one of the tasks of this project have been recently published in *Palliative Medicine*. These results are currently used by the managers responsible in Emilia-Romagna for improving 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 of 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 studies of the integration of hospital and outpatient care and analyses of patterns and appropriateness of pharmaceutical care.

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 three times, in 2011, in 2014, and in 2017. 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.

At the request of the Parma Local Health Authority, we are working on a project targeting primary care physicians to develop training/information tools to promote and support medication deprescribing. Primary care physicians have been surveyed to evaluate confidence towards deprescribing and related perceived barriers. Results of this study have been recently published in the *Journal of Clinical Pharmacy and Therapeutics*.

Funded by the Parma Local Health Authority, we have developed and tested predictive models to identify high-risk patients in the pediatric population. Details of these models, which perform sufficiently well, have recently been published in *BMJ Open*. Profiles of high-
risk children are being provided to pediatricians and other health care professionals involved in care for this population.

At the request of the Parma Local Health Authority, we have begun to investigate the impact of newly established Medical Homes. Preliminary results of this study have been recently presented at the 23rd International Society for Pharmacoeconomics and Outcomes Research Annual International Meeting.

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), developed by Center faculty, 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 have served as guest lecturers at Catholic University in Rome, the University of Pisa, and the University of Parma, Italy.

Mentorship

The Center continues providing opportunities for Jefferson students to increase and expand their knowledge and skills in health services research.

In the summer of 2017, the Center developed a unique opportunity for one Jefferson student. With help from a Foerderer Award grant, Arianna Heyer, a current third-year student at Sidney Kimmel Medical College, spent the summer in Parma, Italy working with our collaborators on de-prescribing and potentially inappropriate medications at the Local Health Authority office. Arianna returned and presented an Interprofessional Education (IPE) Grand Rounds on this topic to a diverse audience of Jefferson students from multiple professions via the Students for InterProfessional Practice organization. She continues to be involved in deprescribing research and updating the Maio criteria.

Harry Kim, a current second-year student at the College of Pharmacy, is working with Center faculty on developing a research study funded by the Parma Local Health Authority to assess the feasibility of deprescribing proton-pump inhibitors in elderly patients of primary care physicians.
AM Last Page: The Jefferson Longitudinal Study of Medical Education

Joseph S. Gonnella, MD, founder and director, Center for Research in Medical Education and Health Care; Mohammadreza Hojat, PhD, director, Jefferson Longitudinal Study; Jon Velosi, 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>
<thead>
<tr>
<th>Year</th>
<th>Demographic and academic*</th>
<th>Clinical clerkship</th>
<th>Residency</th>
<th>Career outcomes</th>
<th>Psychosocial</th>
<th>Jefferson Scale of Empathy</th>
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</thead>
</table>

†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
- NBME/USMLE 1
- Examination grades
- Clerkship ratings
- Hospitals of clerkships
- GPA
- NBME/USMLE 2
- Graduation survey
- Permission form
- Residency specialty
- Residency institution
- Geographic location
- Rating of competency
- NBME/USMLE 3
- Specialty
- Geographic location
- Board certification
- Faculty appointment
- Type of practice
- Active status
- Follow-up surveys

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.1,2

History: The JLS was implemented with an intention to track every Jefferson 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/department’s office/administrators (e.g., providing data for the annual report, dean’s letters 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

By the Numbers

As of December 2010, the JLS
- Contained approximately 6 million pieces of data
- Tracked 10,600 students
- Garnished data from 573 postgraduate training hospitals
- Inspired 173 peer-reviewed publications (56 in Academic Medicine)

- Abstracts of 155 publications of the JLS are posted at http://jlc.jefferson.edu/jame.

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

References

Figure 2
The Worldwide Use of the Jefferson Scale of Empathy

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<th>Asia</th>
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Center Faculty and Staff

Faculty

Clara A. Callahan, MD, Director
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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
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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
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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.

Marianna (Marnie) LaNoue, PhD, MS
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Tel: 215-955-8234
Dr. LaNoue is the Associate Director of the Longitudinal Study. She is an Associate Professor in the Jefferson College of Population Health and adjunct Associate Professor of Life Sciences and Family and Community Medicine. She received a PhD in Quantitative Experimental Psychology from the University of New Mexico in 2006 and then completed a post-doctoral fellowship in the department of Family and Community Medicine at the University of New Mexico, School of Medicine. Dr. LaNoue studies healthcare utilization and patient outcomes. She has published over 40 peer-reviewed articles and is on the Editorial Board of the BMC Journal Medical Education. Dr. LaNoue has collaborated with Dr. Hojat on assessments related to the structure of the Jefferson Scale of Empathy and is interested in the measurement and prediction of patient-centered behaviors of healthcare providers.

Vittorio Maio, PharmD, MS, MSPH,
PharmD, MS, MSPH, Research Professor,
Jefferson College of Population Health
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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. He serves as grant reviewer for the Italian Ministry of
Health. Dr. Maio is a member of the Scientific Advisory Council for the European Union’s TO-REACH Project.

Jon Veloski, MS, Director of Medical Education Research
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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 eight journals last year.

Research Staff

Joshua Banks, Statistical Analyst
Joshua.Banks@jefferson.edu
Tel: 215-955-7893
Joshua Banks is a Statistical Analyst in the department of Pharmacology and Experimental Therapeutics, Division of Biostatistics. He holds an MS degree in Biostatistics from Drexel University. Joining the Center in July 2018, he provides statistical programing as well as analysis support to the Center. Joshua has taken an important role in evaluating the impact of medical homes on health care utilization in Parma. He is also involved in the analysis of data from the Local Health Authority of Reggio Emilia, Italy.

Jennifer DeSantis, Senior Research Study 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.

Sarah Hegarty, MPhil, Biostatistician Sr.
Sarah.Hegarty@jefferson.edu
Tel: 215-503-1357
Sarah Hegarty is a Senior 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 evaluating the performance of recently established medical homes in Parma. 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 physician attitudes towards deprescribing in the elderly.

Niusha Jafari, MS, Senior Research Analyst /Programmer
Niusha.Jafari@jefferson.edu
Tel:215-955-0731
Niusha Jafari is a Senior Research Programmer/Analyst, who has recently joined the Center. She earned her MS in Statistics from Temple University. Niusha provides support for research activities related to the Jefferson Longitudinal Study (JLS), and statistical analysis for multi-institutional and nationwide projects in medical education. She is also involved in statistical programming and analysis of
projects studying and analyzing the quality and cost of health care in the Italian health care system.

**Technical Staff**

**Lifan He, Programmer/Analyst II**  
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.

**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.

**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 Empathy Project. Her responsibilities include providing information and permission for the use of the Jefferson Scale of Empathy to researchers around the globe. She maintains the database that track correspondence, orders, translations of the scales and publications. She also provides administrative support to the Center and staff for a variety of projects 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.

**Arianna Heyer**  
Third-year Medical Student  
Amh038@jefferson.edu  
In the summer of 2017, the Center developed a unique opportunity for one Jefferson student. With help from a Foerderer Award grant, Arianna Heyer, a current third-year student at Sidney Kimmel Medical College, spent the summer in Parma, Italy working with our collaborators on de-prescribing and potentially inappropriate medications at the Local Health Authority office. Arianna returned and presented an Interprofessional Education (IPE) Grand Rounds on this topic to a diverse audience of Jefferson students.
from multiple professions via the Students for InterProfessional Practice organization. She continues to be involved in deprescribing research and updating the Maio Criteria.

Daniel Z. Louis, MS
Research Associate Professor of Family and Community Medicine
Dzlouis@gmail.com
Daniel Z. Louis retired 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.

Mary R. Robeson, MS, Project Coordinator, Medical Education Division
Mary.Robeson@jefferson.edu
Tel: 215-955-9390
Mary R. Robeson has retired in March of this year. She had been a collaborator on 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 was also involved in student assessment and evaluation of the medical education programs. Ms. Robeson also had a major role in the data analysis and scoring of the OSCEs at the Clinical Skills Center. She also acted 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.

Scott W. Keith, PhD, MS, Assistant Professor of Biostatistics, Department of Pharmacology and 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 Hypertension. 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 and multilevel statistical methods. He teaches GC 630: “Fundamentals of Clinical Trials” in the Jefferson College of Life 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.
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.

Visiting Scholars

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

Yoshihisa Asano, Ph.D., DPH
Founder & Chairman Emeritus
Trustee of Board of Trustees
Noguchi Medical Research Institute
Tokyo, Japan
yasano@noguchi-ne.com

Americo Cicchetti, PhD
Professor of Healthcare Management, Faculty of Economics
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Manuel João Tavares Mendes Costa
Associate Professor
Pro-Rector of University of Minho
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Carlos Manuel Morais da Costa, PhD
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Fei Han, MD, PhD
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Tianjin, China
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Kimitaka Kaga, MD, PhD
Emeritus Professor, University of Tokyo
Emeritus Director, National Institute of Sensory Organs,
National Tokyo Medical Center
Tokyo, Japan
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Hitomi Kataoka, MD
Professor, Department of Primary Care and Medical Education
Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences
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kitamura-tyk@umin.net

Lamberto Manzoli, MD, MPH
Full Professor of Epidemiology, Public Health and Healthcare Management
University of Ferrara, Italy
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Nuno Jorge Carvalho Sousa, MD, PhD
Professor
President, School of Medicine of University of Minho
Campus de Gualtar, Braga, Portugal
Teaching and Other Professional Activities

Publications


Hojat, M. Change in Empathy in Medical School. (Letter to the Editor). Medical Education, 2018; 52: 456-458.


**Presentations**


Hojat, M. Empathy in patient care: Findings and outcomes. Presented at the Reading Hospital, Department of Psychiatry, Continuing Professional Education Services, Reading, PA (March 2018).

Hojat, M. Project in Osteopathic Medical Education and Empathy (POMEE) phase I: Cross-sectional study. Presented at the OMED Conference, sponsored by the AACOM & AOA, Philadelphia (October 2017).


**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

**Mohammadreza Hojat, PhD**  
Supervised elective courses in psychiatry for two medical students.

**Marianna LaNoue, PhD**  
*Advanced Statistics for Population Health Science: Multilevel modeling.*  
College of Population Health Evaluative and Outcomes Research & Design

**College of Life Sciences Comparative Effectiveness and Patient-Centered Outcomes Research**

**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

**Vittorio Maio, PharmD, MS, MSPH**  
*Pharmacoepidemiology*  
Master of Science in Pharmacology, Thomas Jefferson University

**Management delle Aziende Sanitarie**  
Master’s Program in Health Care Management, University of Pisa, Italy

**Applied Epidemiology in Healthcare**  
School of Specialization in Hygiene, Faculty of Medicine, University of Parma, Italy

**Honors**

**Vittorio Maio, PharmD, MS, MSPH** received the Distinguished Mentor Award, 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*
- *International Journal of Medical Education*

Marianna LaNoue, PhD

**Memberships**
- North American Primary Care Research Group
- *Academy Health*
- *Editorial Board Member BMC Medical Education*
- *Editorial Board Member BMC Health Services Research*

**Reviewer**
- *American Journal of Preventive Medicine*
- *Journal of Multidisciplinary Healthcare*
- *Journal of Patient-Centered Research and Reviews*
- *Plos One*

Vittorio Maio, PharmD, MS, MSPH

**Memberships**
- Associate Editor, *American Journal of Medical Quality*
- Grant Reviewer, *Italian Ministry of Health*
- Scientific Advisory Council member, TO-REACH Project, European Union

**Reviewer**
- *Age and Aging*
- *BMJ Quality and Safety*
- *European Journal of Internal Medicine*
- PlosOne
- 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
Exhibits

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Exhibit 3
MCAT Biological Sciences

Exhibit 4
MCAT Verbal Reasoning

+ = Mean
1Highest score was used for students with more than one set of scores.
2In entering class of 2016, 64% and in entering class of 2017, only 25% had scores on this version of MCAT.
Exhibit 5
Percent of Women Matriculants

- Percent of women matriculants at all US medical schools.

Exhibit 6
Mean Age at Matriculation

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.
*Faculty’s global rating of students’ clinical competence. All core clerkships are 6 weeks, except Medicine which is 12 weeks in duration.
Exhibit 9
Pass Rates on the United States Medical Licensing Examination (USMLE)

Step 1
- 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
- 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
- Data is presented for graduates who took the examination for the first time in each year.
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 61% 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>1 Very Poorly</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0</td>
<td>&lt;1</td>
<td>1</td>
<td>&lt;1</td>
<td>5</td>
<td>10</td>
<td>25</td>
<td>36</td>
<td>17</td>
<td>6</td>
<td>7.59</td>
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<tr>
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<td>&lt;1</td>
<td>4</td>
<td>3</td>
<td>5</td>
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<td>24</td>
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<td>3</td>
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<tr>
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<td>2</td>
<td>5</td>
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<td>28</td>
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<td>18</td>
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<td>1</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>29</td>
<td>37</td>
<td>15</td>
<td>3</td>
<td>7.44</td>
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<td>2</td>
<td>6</td>
<td>17</td>
<td>43</td>
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<td>10</td>
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<td>8.18</td>
</tr>
<tr>
<td>2013</td>
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<td>&lt;1</td>
<td>0</td>
<td>&lt;1</td>
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<td>31</td>
<td>10</td>
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<td>2014</td>
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<td>0</td>
<td>2</td>
<td>&lt;1</td>
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<td>13</td>
<td>37</td>
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<td>2016</td>
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<tr>
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<td>1</td>
<td>1</td>
<td>3</td>
<td>21</td>
<td>40</td>
<td>24</td>
<td>8</td>
<td>8.01</td>
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</tbody>
</table>

¹From the graduation questionnaires of the Jefferson Longitudinal Study. Response rates ranged from 61% to 94%.
## Exhibit 12
Graduation, Transfers, and Attrition
Entering Classes of 2000-2013

<table>
<thead>
<tr>
<th>Entering Class</th>
<th>% Graduate</th>
<th>% Transferred</th>
<th>% Did Not Graduate****</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On Time*</td>
<td>Late**</td>
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<td></td>
<td></td>
<td>Academic***</td>
<td>Non Academic</td>
</tr>
<tr>
<td>Year</td>
<td>Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>222</td>
<td>91%</td>
<td>4% 4%</td>
</tr>
<tr>
<td>2001</td>
<td>224</td>
<td>90%</td>
<td>4% 4%</td>
</tr>
<tr>
<td>2002</td>
<td>227</td>
<td>89%</td>
<td>4% 3%</td>
</tr>
<tr>
<td>2003</td>
<td>229</td>
<td>90%</td>
<td>4% 2%</td>
</tr>
<tr>
<td>2004</td>
<td>228</td>
<td>85%</td>
<td>2% 9%</td>
</tr>
<tr>
<td>2005</td>
<td>252</td>
<td>91%</td>
<td>2% 6%</td>
</tr>
<tr>
<td>2006</td>
<td>255</td>
<td>86%</td>
<td>5% 7%</td>
</tr>
<tr>
<td>2007</td>
<td>259</td>
<td>85%</td>
<td>4% 7%</td>
</tr>
<tr>
<td>2008</td>
<td>254</td>
<td>86%</td>
<td>2% 8%</td>
</tr>
<tr>
<td>2009</td>
<td>256</td>
<td>88%</td>
<td>4% 6%</td>
</tr>
<tr>
<td>2010</td>
<td>260</td>
<td>84%</td>
<td>2% 10%</td>
</tr>
<tr>
<td>2011</td>
<td>260</td>
<td>94%</td>
<td>0% 4%</td>
</tr>
<tr>
<td>2012</td>
<td>261</td>
<td>87%</td>
<td>6% 5%</td>
</tr>
<tr>
<td>2013</td>
<td>259</td>
<td>88%</td>
<td>2% 10%</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 1970-2016

Classes of 2007-2016
Exhibit 14
Program Directors’ Ratings in the First Postgraduate Year*
Graduating Classes of 1978-2016

*Response rates vary from different class from %45 to %75.
Program directors rated the graduates on 4-point Likert scale comparing them with all graduates they ever supervised.
Exhibit 15
Specialties of Alumni*
Graduating Classes of 1970-2013

Source: American Medical Association, American Board of Medical Specialties.
*“Other” includes 29 specialties and subspecialties, each representing less than 2% of the total alumni.
Exhibit 16
Board Certification of Alumni by Specialty*
Graduating Classes of 1970-2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesiology &amp; Radiology</td>
<td>90%</td>
<td>90%</td>
<td>94%</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>95%</td>
<td>96%</td>
<td>95%</td>
</tr>
<tr>
<td>Family Medicine</td>
<td>68%</td>
<td>68%</td>
<td>97%</td>
</tr>
<tr>
<td>General Surgery &amp; Subspecialties</td>
<td>97%</td>
<td>97%</td>
<td>94%</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>85%</td>
<td>85%</td>
<td>95%</td>
</tr>
<tr>
<td>Medical Subspecialties</td>
<td>55%</td>
<td>55%</td>
<td>85%</td>
</tr>
<tr>
<td>Obstetrics/Gynecology</td>
<td>84%</td>
<td>84%</td>
<td>55%</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>94%</td>
<td>94%</td>
<td>80%</td>
</tr>
<tr>
<td>Pediatrics &amp; Subspecialties</td>
<td>55%</td>
<td>55%</td>
<td>95%</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>81%</td>
<td>82%</td>
<td>95%</td>
</tr>
<tr>
<td>Other†</td>
<td>94%</td>
<td>94%</td>
<td>91%</td>
</tr>
</tbody>
</table>

Percentage are based on the total graduates in each specialty.
†"Other" includes 29 specialties and subspecialties, each representing less than 2% of the total alumni.
Source: American Medical Association.
Exhibit 17
Current Location of Living Alumni

Classes of 1970-2012

Classes of 2003-2012

Percent of Total Frequency

0
< 1%
1%
2 - 3%
4 - 5%
6 - 10%
11 - 20%
21 - 40%
41 - 60%
61 - 80%
81 - 100%
### POSTGRADUATE RATING FORM

I. 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>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attention to collection of data related to health risks</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>2. Collection of history of the present illness from the patient or family</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>3. Ability to communicate effectively with patients and their families</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>4. Ability to act effectively in an emergency</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>5. Competence in performing physical examination</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>6. Willingness to ask for help when needed</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>7. Attention to psychological and emotional factors related to the patient’s health</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>8. Use of literature in diagnosis and treatment</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>9. Documentation of reasons for obtaining laboratory data</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>10. Counseling patients about preventive care and wellness</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>11. Thoroughness of differential diagnosis</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>12. Awareness of socio-psychological factors affecting patient’s condition</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>13. Ability to handle anxiety-producing situations</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>14. Adherence to professional ethical standards</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>15. Knowledge of basic science areas most closely related to postgraduate program</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>16. Judgment in implementing care</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>17. Effectiveness as a teacher of medical students and/or other health professionals</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>18. Willingness to admit an error in judgment</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>19. Willingness to proceed independently when appropriate</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>20. Relationships with other health care personnel</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>21. Thoroughness in collection of pertinent past history of the patient</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>22. Thoroughness and organization of medical records</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>23. Collection of the patient’s family history</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>24. Thoroughness in obtaining information from patients or families related to the patient’s chief complaint</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</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>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>Data-Gathering Skills</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>Clinical Judgment</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>Professional Attitudes</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</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>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clinician</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>2. Patient educator</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>3. Manager of health care resources</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>X</td>
</tr>
</tbody>
</table>

Please see other side—
IV. How do you rate this resident's empathetic behavior (defined as an understanding of the patients' 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></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></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?  
  ○ Yes  ○ No.
- No—If No, if your hospital had a program in this specialty, would he or she have been offered a place at your institution?  
  ○ Yes  ○ No.
- 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) 955-9459  
(Mohammadreza.Hojat@jefferson.edu)

Please return this form to:  
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Philadelphia, PA 19107  

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