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Table of Contents

Message from the Director, Clara A. Callahan, MD
Overview........................................................................................................................................... 1
  Medical Education ..................................................................................................................... 1
  Health Services Research ....................................................................................................... 4
  Teaching .................................................................................................................................. 5
  Mentorship .............................................................................................................................. 5
Figures.......................................................................................................................................... 6
Center Faculty and Staff ............................................................................................................. 9
  Faculty ..................................................................................................................................... 9
  Research Staff ....................................................................................................................... 11
  Technical Staff ..................................................................................................................... 11
  Administrative Staff ........................................................................................................... 12
TJU Research Collaborators ..................................................................................................... 12
  Visiting Scholars .................................................................................................................. 13
Teaching and Other Professional Activities ............................................................................. 15
  Publications .......................................................................................................................... 15
  Presentations ........................................................................................................................ 16
  Honors .................................................................................................................................... 16
  Teaching ................................................................................................................................. 16
  Other Professional Activities ................................................................................................. 17
Exhibits ......................................................................................................................................... 19
Postgraduate Rating Form ......................................................................................................... 35
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.

The Jefferson Scale of Empathy (JSE) has continued to receive wide recognition. It is has been used in over 85 countries around the world, with translation into 57 languages. Dr. Mohammadreza Hojat received funding for a 7-year nationwide Project in Osteopathic Medical Education and Empathy supported by the American Association of Colleges of Osteopathic Medicine (AACOM), in collaboration with American Osteopathic Association (AOA) and the Cleveland Clinic to examine correlates and changes in empathy as students progressed through medical school and explore reasons for changes and approaches to enhance and sustain empathy in medical students. Development of national norms on the JSE scores was also among the objectives of the project. Phase I of the project (a 2-year cross-sectional study) was completed, and Phase II (a 5-year longitudinal study) began this year.

The Center faculty and staff have been actively publishing the results of their health services and educational research, with both international and local collaborators. The Maio criteria, developed to evaluate the prevalence and predictors of potentially inappropriate medications among elderly patients, continue to be used in the Parma Local Health Authority, Italy. Dr. Gonnella worked with colleagues in Japan on a longitudinal study looking at whether clinical skills training can improve empathy. There were also collaborative efforts with the Departments of Ophthalmology, Urology, Pediatrics and The Kimmel Cancer Center.

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, professionalism 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 medical education research, 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 13,066 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 1-19 show an overview of medical education outcomes that we annually report by retrieving data from the Longitudinal Study.

Exhibits 1-9 display information about our students before they enter medical school. Exhibits 10-14 show performance indicators during medical school and on national medical examinations, global ratings of clinical competence in core clerkships (Exhibit 10); comparisons of pass rates with those of all U.S. medical schools on the United States Medical Licensing Examinations (USMLE) (Exhibit 11); graduates’ level of satisfaction with each year of medical school education (Exhibit 12); satisfaction with medical education as to preparing graduates for careers in medicine (Exhibit 13); and the pattern of on-time graduation, delayed graduation, transfer, and attrition (Exhibit 14).

Exhibits 15-19 include data collected after medical school, such as geographic location of first year residency training programs (Exhibit 15). 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 16. (For reference, a copy of the Postgraduate Rating Form is included at the end of this report.)

Exhibit 17 displays the specialties of our graduates over three time periods. Board certification rates of our graduates by periods of graduation are shown in Exhibit 18. Also shown are current geographic locations of our living graduates in 2019 (Exhibit 19).

The 2015 institutional self-study and periodic updates prepared for The Liaison Committee on Medical Education included unique graduate outcome reports from the Longitudinal Study. A total of 203 research studies based on the Longitudinal Study have been published in peer-reviewed journals. A list of publications is available on our web site: https://www.jefferson.edu/content/dam/university/skmc/research/centerResearch/Peer-ReviewedPubs_JLS_9.26.19.pdf.
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 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 National Board of Medical Examiners (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 on the measurement of students’ grit (i.e., perseverance and passion for the pursuit of long-term goals). Current 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.
- Collaboration with the office of assessment to explore the impact of the introduction of the JeffMD curriculum on USMLE Step 1 performance.
- Assessment of the impact of the JeffMD curriculum on student empathy and other non-cognitive variables.
- Representing SKMC in the Accelerating Change in Education Evaluation Group, the American Medical Association’s consortium of 32 medical schools working to strengthen the MD curriculum.
- Calculating class rank for Alpha Omega Alpha 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.
- 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.
- A study in Department of Family and Community Medicine to identify changes in student empathy as a result of participation in an inter-professional program aimed at providing high-touch interventions for patients who are “super-utilizers” to help them better access care and improve health outcomes
- A study with the Jefferson program, No One Dies Alone, to assess whether student volunteers who sat with patients at the end of life, experienced change in their levels of empathy.
- A major study on outcome assessments of the Penn State-Jefferson accelerated
combined BS-MD degree program using data collected for more than a half a century on academic progress, performance on licensing examinations, educational debt, satisfaction with medical school education, assessments of clinical competence in residency, and specialty choices. The study has been submitted for publication.

A National Project on Osteopathic Medical Education and Empathy

For the past two years, 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, in collaboration with the American Osteopathic Association 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 a groundbreaking project and the first nationwide study of empathy in medical students ever conducted. The project includes two phases: Phase I was a 2-year cross-sectional study that has been completed. Phase II is a 5-year longitudinal study that started in this year. In Phase I of the project 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. National norm tables were prepared for male and female students in different years of medical school that can be used as supplementary information for admission decisions and for the assessment of empathic orientation toward patient care in osteopathic medical students. Significant changes in empathy scores were observed among students in preclinical and clinical phases of medical school education. Two manuscripts have already been published using data from Phase I of the project on measurement properties of the Jefferson Scale of Empathy in osteopathic medical students (Advances in Health Sciences Education, accessible from: https://doi.org/10.1007/s10459-018-9839-9), and on national norms for the Jefferson Scale of Empathy (Journal of American Osteopathic Association, accessible from: jaoa.org/article.aspx?articleid=2739375). A third article on decline in empathy from preclinical to clinical phases of medical school education has been accepted for publication in Academic Medicine. More manuscripts are being prepared for publication from Phase I data.

The main purposes of the Phase II of the project include examining correlations and changes in cognitive and affective empathy, orientation toward lifelong learning, attitudes toward inter-professional collaboration, burnout, and attitudes toward holistic and integrative care as students progress through medical school. Also, reasons for changes in empathy, and effectiveness of approaches to enhance empathy will be explored in this longitudinal study phase of the project.

Empathy Research

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 85 countries. Worldwide use of the JSE and translations are shown in Figure 2. The number of requests for permission to use the JSE by national and international researchers has been on the rise each year (shown in Figure 3). In addition to 56 articles published by Hojat et al.: https://www.jefferson.edu/content/dam/university/skmc/research/centerResearch/Bibliography_crmehc_9.23.19.pdf, more than 370 publications by national and international researchers appeared in peer-reviewed journals (in English) in which the JSE was used. Some are listed at the following link:
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.

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. The analyses 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. The 2017 Maio criteria can be retrieved at the following URL: https://www.ausl.pr.it/azienda/elenco_farmaci/lista.aspx.

We used the 2017 Maio criteria to evaluate the prevalence and predictors of potentially inappropriate medications among the elderly patients of the Parma Local Health Authority using 2017 pharmacy claims. Results of this study have been recently presented at the 2019 International Society for Pharmacoeconomics and Outcomes Research Annual International Meeting. In addition, we conducted a study to assess the effect of such multi-year project to reduce inappropriate medications in the Parma Local Health Authority elderly population on hospitalization rates. Results of this study have been recently presented at the 2019 International Society for Pharmacoeconomics and Outcomes Research Annual International Meeting.

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.

At the request of the Parma Local Health Authority, we have begun to investigate the impact of newly established Medical Homes. Results of this study have been recently published in the American Journal of Medical Quality.

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 increased by adding clinical classifications mapped from the hospital and pharmacy data. The Disease Staging classification, developed by Center faculty, had 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. Arianna Kee and Karishma Shelley, first year Health Economics and Outcomes Research Fellows in the Jefferson College of Population Health, have worked with Center faculty on several research studies funded by the Parma Local Health Authority. In addition, Center Faculty have collaborated with Jefferson fellows and physician residents on delving in current healthcare topics such as the opioid epidemic, the Oncology Care Model, and the pharmaceutical value-based contracting, that has led to publish several commentaries in the *American Journal of Medical Quality*. 
Figure 1

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 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

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*Demographic and academic data for the classes of 1966-1969 are extracted retrospectively.

Scope of Database

Before Medical School
- Demographics
- SAT scores
- GPA
- GPA nonrepeaters
- MCAT scores

During Medical School
- Matriculation surveys
- Course grades
- GPA
- Course grades
- GPA
- NBE/USMLE 1
- Examination grades
- Clerkship ratings
- Hospitals of clerkships
- GPA
- NBE/USMLE 2
- Graduation survey
- Permission form
- PGY-1

After Medical School
- Residency specialty
- Residency institution
- Geographic location
- Rating of competency
- NBE/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
- Gathered data from 573 postgraduate training hospitals
- Published 173 peer-reviewed publications

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

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
Figure 3

Number of Researchers* Who Have Used the Jefferson Scale of Empathy Per Fiscal Year

*Those who received permission to use the JSE in their research.
Faculty

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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.

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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.

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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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As Director of Medical Education Research and Instructor in the Department of Psychiatry and Human Behavior, Mr. Veloski’s responsibilities involve support for student assessment and evaluation of the MD curriculum. One of his current research areas was summarized in “Identifying Students at Risk of Failing the USMLE Step 2 Clinical Skills Examination,” published in Family Medicine, June, 2019. A report on collaborative investigation with the University of Missouri at Kansas City of the professional outcomes of two combined baccalaureate/MD programs over five decades, was accepted for presentation at the 2019 AAMC Annual Meeting. Mr. Veloski completed his graduate work (ABD) in Measurement and Evaluation at the University of Pennsylvania. He served as a reviewer for eight journals during the year.
Research Staff

Joshua Banks, MS, Statistical Analyst
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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 programming 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.

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Jennifer DeSantis is a Senior Research Study Analyst at the Center. She provides analytic and research services for Jefferson faculty, administration, and students, including an assessment of the impact of the JeffMD curriculum on medical students’ non-cognitive measures, and the Longitudinal Study. She also manages domestic and international research and analytic services for the Jefferson Scale of Empathy, which has been growing steadily each year.

Sarah Hegarty, MPhil, Biostatistician Sr.
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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
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As a Senior Research Analyst, Niusha Jafari provides support for research activities related to the Jefferson Longitudinal Study (JLS), and statistical analysis for multi-institutional and nationwide projects in medical education. Additionally, she collaborates in statistical programming and analysis of projects studying and analyzing the quality and cost of health care in the Italian health care system. Last year she was involved in a study assessing the impact of a physician-focused intervention to reduce potentially inappropriate medication (PIM) prescribing in the older population and a cross-sectional study on the prevalence of PIM in the elderly population. The two studies were presented at the 2019 ISPOR conference. She also worked on a 7-year longitudinal study evaluating care processes and healthcare utilization in newly implemented Patient-Centered Medical Homes. Niusha earned her MS in Statistics from Temple University and MS in Engineering Management from Rowan University.

Technical Staff

Lifan He, MS, Programmer/Analyst II
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As a Senior Technical Analyst, Lifan (Leefun) He manages the database of the Longitudinal Study, which houses over 20 million pieces of data on every SKMC student since 1964. He provides technical support for other assessment
databases such as the Student Clerkship Evaluation, NBME Subject Examinations, Objective Structured Clinical Examinations (OSCEs) and the Jefferson Scale of Empathy. Lifan maintains the interface to external data sources such a Banner, New Innovations, NBME, USMLE, AMA and ABMS. He prepares special reports from these sources for clerkship directors, Deans, the Provost, and other leadership. Lifan earned his BS in Neurosciences and MS in Health Informatics at Temple University.

Edward C. Nicks, Jr., Statistical Assistant
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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.

Shira A. Carroll, BA
Administrative Assistant
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Shira Carroll joined the Center in January 2015. She is the Administrative Assistant to Vittorio Maio, Managing Director, and to the Center. She is also the Project Coordinator for the Jefferson Scale of Empathy. Her responsibilities include providing information and permission for the use of the Jefferson Scale of Empathy and assessment scales to researchers around the globe. She maintains a database of contacts, financial transactions, translations of the scales and bibliographies of clients and staff. 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.

Daniel Z. Louis, MS
Research Associate Professor of Family and Community Medicine
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Daniel Z. Louis retired as the Managing Director of the Center in 2017. 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, Associate Professor of Biostatistics, Department of Pharmacology and Experimental Therapeutics
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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.

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 2018. 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.

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, PhD, 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  
Universitá Cattolica del Sacro Cuore, Rome, Italy  
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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  
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Fei Han, MD, PhD  
Dean, Professor  
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International College  
Tianjin, China  
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Emeritus Director, National Institute of  
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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


Presentations

Maio V. A Glance to the Organization and Financing of the United States Healthcare System. Department of Pharmaceutical Sciences, University of Perugia. November 12, 2018, Perugia, Italy

Gonnella, JS. The Responsibilities of the Physicians. Presented at Mohammed Bin Rashid University (MBRU) of Medicine & Health Sciences. Dubai, United Arab Emirates. February 5, 2019

Gonnella, JS. The Jefferson Longitudinal Study. Presented at Mohammed Bin Rashid University (MBRU) of Medicine & Health Sciences. Dubai, United Arab Emirates. February 6, 2019

Gonnella, JS. The Changing Functions of the Hospital. Presented at Mohammed Bin Rashid University (MBRU) of Medicine & Health Sciences. Dubai, United Arab Emirates. February 7, 2019


Honors

Gonnella, Joseph S., MD received the 2019 Philadelphia County Medical Society Strittmatter Award.

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

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

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*

Joseph S. Gonnella, MD
*Memberships*
- Alpha Omega Alpha Honor Medical Society (Honorary)
- American Association for the Advancement of Science
- National 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

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
- American Journal of Obstetrics and Gynecology Maternal Fetal Medicine
- BMJ Quality and Safety
- British Medical Journal
- Clinical Drug Investigation
- European Journal of Internal Medicine
- European Journal of Hospital Pharmacy
- JAMA – Internal Medicine
- Journal of Interprofessional Care
- Diabetes Research and Clinical Practice
- The Lancet
- Journal of Pain and Symptom Management
- Population Health Management
- PlosOne
- 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
Reviewer
- Academic Medicine
- BMC Medical Education
- Family Medicine
- Journal of Arthroplasty
- Journal of the American Medical Association
- Medical Education
- Medical Teacher
- Teaching and Learning in Medicine
1. Undergraduate Science GPA ................................................................. 20
2. Undergraduate Non-Science GPA .......................................................... 20
3. Average MCAT Scores of Matriculants - BBLs ........................................ 21
4. Average MCAT Scores of Matriculants - PSBB ....................................... 21
5. Average MCAT Scores of Matriculants – CPBS ....................................... 22
6. Average MCAT Scores of Matriculants - CARS ................................... 22
7. Percent of Women Matriculants ............................................................. 23
8. Mean Age at Matriculation ..................................................................... 23
9. Home State .......................................................................................... 24
10. Clinical Ratings of Students in Six Core Clerkships - Graduating Class of 2018.. 25
11. Pass Rates on the United States Medical Licensing Examinations (USMLE) .... 26
12. Percentage of Graduating Students Who Were Satisfied with the Jefferson Medical College Educational Programs ................................................. 27
13. Percentage of Seniors’ Responses to the Following Question: “How well do you feel that your education at Jefferson prepared you for a career in medicine?” ...... 28
15. Location of First Year Postgraduate Education .......................................... 30
16. Program Directors’ Ratings in the First Postgraduate Year, Graduating Classes of 1978-2017 .............................................................................. 31
19. Current Location of Living Alumni .......................................................... 34
20. Postgraduate Rating Form ..................................................................... 35
Exhibit 1
Undergraduate Science GPA

Exhibit 2
Undergraduate Non-Science GPA
Exhibit 3
Average MCAT Scores of Matriculants (Biological and Biochemical Foundations of Living Systems)

Exhibit 4
Average MCAT Scores of Matriculants (Psychological, Social, and Biological Foundations of Behavior)
Exhibit 5
Average MCAT Scores of Matriculants (Chemical and Physical Foundations of Biological Systems)

Exhibit 6
Average MCAT Scores of Matriculants (Critical Analysis and Reasoning Skills)
Exhibit 7
Percent of Women Matriculants

Exhibit 8
Mean Age at Matriculation

---

Percent of women matriculants at all US medical schools.

---

1 The 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 11
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 12
Percentage of Graduating Students Who Were Satisfied with the Jefferson Medical College Educational Programs*
Exhibit 13
Percentage of Seniors’ Responses to the Following Question:\(^1\):
“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 Very Well</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>
</tr>
<tr>
<td>2001</td>
<td>0</td>
<td>&lt;1</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>12</td>
<td>24</td>
<td>39</td>
<td>10</td>
<td>3</td>
<td>7.17</td>
</tr>
<tr>
<td>2002</td>
<td>0</td>
<td>&lt;1</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>28</td>
<td>32</td>
<td>18</td>
<td>5</td>
<td>7.51</td>
</tr>
<tr>
<td>2003</td>
<td>0</td>
<td>0</td>
<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>7.41</td>
</tr>
<tr>
<td>2004</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>11</td>
<td>6</td>
<td>21</td>
<td>32</td>
<td>20</td>
<td>4</td>
<td>7.44</td>
</tr>
<tr>
<td>2005</td>
<td>0</td>
<td>&lt;1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>17</td>
<td>43</td>
<td>20</td>
<td>10</td>
<td>7.98</td>
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<tr>
<td>2006</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>&lt;1</td>
<td>1</td>
<td>3</td>
<td>19</td>
<td>43</td>
<td>25</td>
<td>9</td>
<td>8.11</td>
</tr>
<tr>
<td>2007</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>21</td>
<td>38</td>
<td>27</td>
<td>6</td>
<td>7.98</td>
</tr>
<tr>
<td>2008</td>
<td>0</td>
<td>&lt;1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>12</td>
<td>39</td>
<td>29</td>
<td>11</td>
<td>8.11</td>
</tr>
<tr>
<td>2009</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>18</td>
<td>37</td>
<td>30</td>
<td>6</td>
<td>7.99</td>
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<tr>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>12</td>
<td>39</td>
<td>27</td>
<td>16</td>
<td>8.33</td>
</tr>
<tr>
<td>2011</td>
<td>&lt;1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>20</td>
<td>39</td>
<td>26</td>
<td>5</td>
<td>7.84</td>
</tr>
<tr>
<td>2012</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>&lt;1</td>
<td>3</td>
<td>17</td>
<td>43</td>
<td>28</td>
<td>8</td>
<td>8.18</td>
</tr>
<tr>
<td>2013</td>
<td>0</td>
<td>&lt;1</td>
<td>0</td>
<td>&lt;1</td>
<td>2</td>
<td>4</td>
<td>16</td>
<td>35</td>
<td>31</td>
<td>10</td>
<td>8.18</td>
</tr>
<tr>
<td>2014</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>&lt;1</td>
<td>3</td>
<td>13</td>
<td>37</td>
<td>30</td>
<td>16</td>
<td>8.31</td>
</tr>
<tr>
<td>2015</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>17</td>
<td>35</td>
<td>28</td>
<td>16</td>
<td>8.29</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
<td>0</td>
<td>&lt;1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>13</td>
<td>29</td>
<td>39</td>
<td>14</td>
<td>8.41</td>
</tr>
<tr>
<td>2017</td>
<td>0</td>
<td>0</td>
<td>1</td>
<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>
</tr>
<tr>
<td>2018</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>38</td>
<td>31</td>
<td>9</td>
<td>8.16</td>
</tr>
</tbody>
</table>

\(^1\)From the graduation questionnaires of the Jefferson Longitudinal Study. Response rates ranged from 61\% to 94\%.
### Exhibit 14
Graduation, Transfers, and Attrition
Entering Classes of 2000-2014

| Entering Class | %Graduate | %Transferred | %Did Not Graduate***
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On Time**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic***</td>
<td>Non Academic</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Size</td>
<td>On Time*</td>
<td>4%</td>
</tr>
<tr>
<td>2000</td>
<td>222</td>
<td>91%</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>89%</td>
<td>4%</td>
</tr>
<tr>
<td>2003</td>
<td>229</td>
<td>90%</td>
<td>4%</td>
</tr>
<tr>
<td>2004</td>
<td>228</td>
<td>85%</td>
<td>2%</td>
</tr>
<tr>
<td>2005</td>
<td>252</td>
<td>91%</td>
<td>2%</td>
</tr>
<tr>
<td>2006</td>
<td>255</td>
<td>86%</td>
<td>5%</td>
</tr>
<tr>
<td>2007</td>
<td>259</td>
<td>85%</td>
<td>4%</td>
</tr>
<tr>
<td>2008</td>
<td>254</td>
<td>86%</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>6%</td>
</tr>
<tr>
<td>2013</td>
<td>259</td>
<td>88%</td>
<td>2%</td>
</tr>
<tr>
<td>2014</td>
<td>260</td>
<td>82%</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 16
Program Directors’ Ratings in the First Postgraduate Year*
Graduating Classes of 1978-2017

*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 17
Specialties of Alumni*
Graduating Classes of 1970-2014

1 “Other” includes 47 specialties and subspecialties, each representing less than 2% of the total alumni.
Source: American Medical Association, American Board of Medical Specialties.
Exhibit 18
Board Certification of Alumni by Specialty*
Graduating Classes of 1970-2008

Percentage are based on the total graduates in each specialty.
1 “Other” includes 47 specialties and subspecialties, each representing less than 2% of the total alumni.
Source: American Medical Association.
Exhibit 19
Current Location of Living Alumni

Classes of 1970-2013

Classes of 2003-2013
## 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</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attention to collection of data related to health risks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>2. Collection of history of the present illness from the patient or family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3. Ability to communicate effectively with patients and their families</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4. Ability to act effectively in an emergency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>5. Competence in performing physical examination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>6. Willingness to ask for help when needed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7. Attention to psychological and emotional factors related to the patient’s health</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>8. Use of literature in diagnosis and treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>9. Documentation of reasons for obtaining laboratory data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>10. Counseling patients about preventive care and wellness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>11. Thoroughness of differential diagnosis</td>
<td></td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>12. Awareness of socio-psychological factors affecting patient's condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>13. Ability to handle anxiety-producing situations</td>
<td></td>
<td></td>
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<td></td>
<td>X</td>
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<tr>
<td>14. Adherence to professional ethical standards</td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>15. Knowledge of basic science areas most closely related to postgraduate program</td>
<td></td>
<td></td>
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<tr>
<td>17. Effectiveness as a teacher of medical students and/or other health professionals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>18. Willingness to admit an error in judgment</td>
<td></td>
<td></td>
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<td>X</td>
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<tr>
<td>19. Willingness to proceed independently when appropriate</td>
<td></td>
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<td></td>
<td></td>
<td>X</td>
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<tr>
<td>20. Relationships with other health care personnel</td>
<td></td>
<td></td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>21. Thoroughness in collection of pertinent past history of the patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>22. Thoroughness and organization of medical records</td>
<td></td>
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<td></td>
<td>X</td>
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<tr>
<td>23. Collection of the patient’s family history</td>
<td></td>
<td></td>
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<td>X</td>
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<tr>
<td>24. Thoroughness in obtaining information from patients or families related to the patient’s chief complaint</td>
<td></td>
<td></td>
<td></td>
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<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></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge</td>
<td></td>
<td></td>
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<td></td>
<td>X</td>
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<tr>
<td>2. Data-Gathering Skills</td>
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<td></td>
<td>X</td>
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<tr>
<td>3. Clinical Judgment</td>
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<td>X</td>
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<tr>
<td>4. Professional Attitudes</td>
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<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></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clinician</td>
<td></td>
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<td>X</td>
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<tr>
<td>2. Patient educator</td>
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<td>X</td>
</tr>
<tr>
<td>3. Manager of health care resources</td>
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<td></td>
<td>X</td>
</tr>
</tbody>
</table>
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>1 . . . . . . . . . . . . .</td>
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<tr>
<td>2 . . . . . . . . . . .</td>
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<td>3 . . . . . . . . . . .</td>
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<td>4 . . . . . . . . . . .</td>
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<td>5 . . . . . . . . . . .</td>
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<td>6 . . . . . . . . . . .</td>
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<td>7 . . . . . . . . . . .</td>
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<td>8 . . . . . . . . . . .</td>
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<tr>
<td>9 . . . . . . . . . . .</td>
<td>9 . . . . . . . . . . . . .</td>
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<tr>
<td>10</td>
<td>10</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:

Mohammadmehran Hojjat, PhD  (215) 895 0150
(Mohammadmehran.Hojjat@jefferson.edu)

Please return this form to:
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Philadelphia, PA 19107

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