



# VitalSigns

## Educating Medical Students in the Community

Office of Medical Education Research and Development

Spring 1999

### The Promise of Community-Based Clinical Education

The promise of “*Serving the People*” comes with the challenge of designing a strong core curriculum responsive to community resources yet capable of delivering mission-related outcomes. This edition of *VitalSigns* documents the College’s achievements.

When the College of Human Medicine was founded, there was widespread concern about the shortages of physicians in rural and inner-city communities. CHM’s response included creating partnerships with communities. The rationale for selecting this alternative to traditional university medical centers was to enhance the development of clinical competence with experiences from community practice and increase the chances that CHM graduates would continue their medical practice in Michigan.

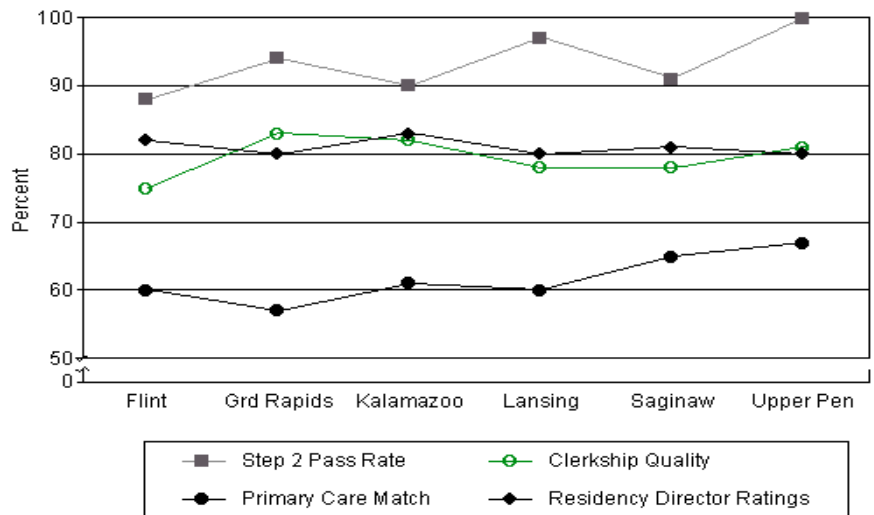
The consistency of educational outcomes across campuses is examined in the cover story. This edition also describes the CHM community corporation approach to clinical education, and how the College, community, students and local health care providers view this reciprocity. The CHM model clearly draws on the teaching expertise of residents and volunteer community faculty, issues also addressed in this edition.

### When No News is Good News: Consistent Quality Across Community Campuses

The College of Human Medicine’s (CHM) community-based model of medical education draws on the strengths and resources of each of the six community campuses (see map, p.2). How consistently across communities are desired program qualities realized and major outcomes achieved?

When educational experiences and outcomes across our community campuses are compared, the similarities dominate. Of 88 comparisons on data from licensure examinations, residency match results, and the perceptions of students, graduates and residency directors, 75 provided no indication of reproducible differences by community campus. There was no apparent pattern among the few differences observed. The College has met the challenge of providing equivalent training across communities.

#### SIMILARITY OF COMMUNITY OUTCOMES AND EXPERIENCES



#### USMLE Step 2

Licensure exams represent one standard of student performance. When USMLE Step 2 scores from 1995 to 1998 were aggregated, no differences were found in the pass rate when compared by clerkship community (see figure). While a significant difference was found in mean Step 2 scores among communities, this reflected pre-existing differences in academic performance.

#### Residency Match

CHM graduates match with their first choice residencies at a rate greater than the national average. These rates are consistent across campuses. Further, all

(Continued on page 7)

## Building a Community Campus: The CHM Community Corporation Approach

Even people within the CHM system are surprised by the complexities of our educational system. Eighty-five percent of CHM students attend clerkships in communities outside of the Lansing area. In each of these communities, an educational corporation has been established to coordinate undergraduate medical education as a common ground between CHM and the local health care system. Each community's organization marshals the community's resources for programs of medical education that include the clinical training of CHM students. The capsules below are presented in the order in which each community began its formal affiliation with CHM.

When CHM expanded to a four-year curriculum in 1970, **Lansing** became the first community clerkship site. An exception to the corporation model, the Lansing campus is funded directly from the Dean's budget. Proximity to CHM has presented special challenges for the Lansing campus, and as CHM faculty members also are part of the local community, negotiations between CHM and local hospitals are complicated. Nonetheless, the Lansing campus provides educational opportunities combining community and university resources.

**Saginaw** Cooperative Hospitals Incorporated (SCHI), the oldest educational corporation, predates CHM. The impetus behind SCHI came from local efforts to consolidate residency education. Since joining with the College in 1971 to provide clerkship training, SCHI has remained relatively unchanged. SCHI coordinates local undergraduate, graduate, and continuing medical education, as well as medical library services. Seventy percent of CHM students participate in elective research projects.

**Grand Rapids** Area Medical Education Corporation (GRAMEC) was CHM's first new educational corporation. Led by Blodgett, Butterworth and St. Mary's Hospitals, GRAMEC was established in 1972 to organize clerkship education. Graduate and continuing medical education programs mostly have remained with the hospitals. Increasingly, GRAMEC collaborates with other local community and educational institutions, and participates as part of a consortium for a facility dedicated to research.

Shortly afterwards, Hurley, McLaren and St. Joseph Hospitals joined forces with CHM to establish University Affiliated Hospitals of **Flint** for undergraduate medical

education. The current organization is Flint Area Medical Education — FAME. Recent local hospital mergers have provided new opportunities for educational and community outreach programs. This year FAME hosted its first community research day.

The Southwestern Michigan Health Education Center was established in **Kalamazoo** in 1975 for undergraduate medical education, following a model similar to Grand Rapids. In the mid 1980's the corporation was reorganized as the Kalamazoo Center for Medical Studies (KCMS) to strengthen residency education and broaden the medical education program. The new organization, now more like Saginaw, administers undergraduate, graduate and continuing medical education, and provides educational experiences for physician assistant, nursing, social work and pharmacy students. KCMS also sponsors annually a community research day.

The **Upper Peninsula** program developed as a response to the need for physicians in the region. The Upper Peninsula Health Education Corporation (UPHEC) became a reality in 1976. Initially, students spent their first semester in East Lansing, moved to Escanaba for the remainder of their preclinical and early clinical education, with Marquette serving as the other training center. The curriculum evolved to the current more traditional model, based in Marquette, due to logistical problems and concerns raised by LCME. UPRNet, the premier research network among practicing physicians in the CHM system, has been successful in obtaining research grants and generating scholarship in primary care.

Change is a way of life for the corporations as local hospitals merge and funding patterns change for medical education nationally. Each community also reflects changing community-corporation relationships over time. Originally the *coordinators* of undergraduate medical education, many corporations have positioned themselves as *providers* of medical education; some now involved in graduate medical education. Our community corporations emphasize medical education as an enterprise of the whole community rather than a concern of just one or two hospitals. The organization of the clinical communities enables them to respond to new requirements of the CHM curriculum, as in the increased emphasis on primary care, thus meeting the needs of both CHM and the community.

**Interview with Dan Mazzuchi, M.D., U.P. Assistant Dean:**

## **Partnerships Benefit Both Community and University**

The College of Human Medicine *is* “different.” Many medical schools place students in community settings, but CHM forms a partnership with communities to share in the implementation of the clinical curriculum.

The six CHM community campuses have been clear strengths. As all medical education enterprises face new stresses (see *Challenges* p.5) the partnerships can continue as strengths only if both the college and the communities can answer the question, “What’s in this for me?” Dan Mazzuchi, Assistant Dean for the Upper Peninsula, is especially qualified to answer that question for CHM. Like all Community Assistant Deans he lives a double-life, representing the college and university to the community, so the college’s programs can be implemented rigorously in the community. He represents the community’s interests to the college and university, so that university resources can be linked to the community’s aspirations. As a former mayor of Marquette and a central figure in college planning, Dan Mazzuchi’s leadership has been recognized in both the community and the college.

provide working associations with an experienced core of administrators from over 40 of the largest hospital systems outside Detroit; partnerships with members of the Board of Directors of the five corporations; and consequently access to the political support systems, especially in the Michigan legislature, of all six communities. These informal connections are regularly used to keep state government informed about issues of concern to the college and about the services, especially to those in need, that CHM-affiliated programs provide.

Through their association with the university, communities gain increased opportunities, says Mazzuchi. They gain university affiliation for residency programs (54 affiliated residencies across CHM communities), opportunity for physicians to teach (see page 4) and be recognized as clinical faculty members (2,900 clinical faculty appointments altogether in 1999) and the prestige of association with university programs. Community physicians develop a peer group identity with others associated with the university, and associations with a

### **“Corporations are vehicles through which new community-wide ventures can be organized”**

“Access” is a key word for what the university gains, according to Mazzuchi. Through partnership the university gains access to all of the venues (hospitals, clinics, offices, labs) and support mechanisms (telecommunications, libraries) needed to provide a clinical education program. It gains access and essential support from people in the community (volunteer faculty, residents) who do the lion’s share of clinical teaching (an estimated 80,000 contact hours) in the College for very little or no salary, and who provide career models that CHM students may emulate (see page 8). It gains access to HMO’s and other systems of managed care and to emerging medical technologies.

Altogether the system of community-university partnerships provides rich diversity and choice for CHM students who can find within it rural, urban, and migrant worker health settings, traditional and non-traditional educational models, and, perhaps, closeness to home. Because of the resources open to the university through its community partnerships, Mazzuchi comments, it has been able to avoid the financial drain of a university hospital.

Mazzuchi notes that the college and university also gain access to expertise and influence. Community corporations

cadre of professors and stimulation of ideas. All of these together significantly enhance the community’s ability to recruit and retain physicians and other health care providers drawn by the presence of a teaching program. The phenomenal growth of the Marquette medical community from 30 physicians in 1970 to more than 250 today Mazzuchi attributes, in part, to the presence of medical student and resident education.

CHM community partnerships are evolving, according to Mazzuchi. Corporations are vehicles through which new community-wide ventures—residencies, research support, etc.—can be organized and each corporation can assume new responsibilities. The networking of the corporations has also become more active in recent years, generating opportunities for communities and the university, especially in joint research projects, that couldn’t have been supported earlier. Mazzuchi notes with satisfaction that this increased networking has made the imagination and creativity evident in each community program available, not only to the university and college, but also to each of the other communities in the system.

## What Motivates Physicians to Teach? CHM Faculty Seek Answers

A continuing challenge for community-based medical education is identifying high quality clinical faculty who enjoy teaching; this effort also requires locating clinical sites that offer rich teaching material. A recent American Medical Association survey noted that the number of volunteer clinical faculty declined last year and that recruiting and retaining clinical faculty is more difficult than before.

Two CHM studies investigated factors associated with volunteer teaching. Ashir Kumar, M.D. Professor in Pediatrics and Human Development surveyed clerkship administrators in pediatrics, family medicine and internal medicine to identify the rewards and incentives offered to clinicians for office-based teaching. He and his colleagues discovered that only 22% or less of the clerkship administrators provided monetary payment to faculty. The primary conclusion was physicians teach because of the personal satisfaction they receive, not because of material rewards. Giving something back to the profession and showing students what medicine is all about were the major sources of satisfaction that the administrators reported as motivating physicians to teach.

Dr. Dodson's and Dr. Kumar's studies both found that financial remuneration may not be the key to attracting and retaining volunteer faculty. Departments using private practitioners in medical education continually need to nurture the relationship with their community faculty. Faculty development opportunities to assist private practitioners with their teaching role in the ambulatory care setting may be a powerful teaching reward. Volunteer faculty also enjoy the benefits enjoyed by paid faculty such as special rates on computer purchases as well as access to university resources and university sponsored events.

Currently it seems that volunteer faculty teach more for altruistic reasons than for financial incentives. However, the decision to open a practice to students is less often left to individual physicians. As managed care increases its penetration, the clinic practice as a whole is involved in such decisions. Both Dr. Dodson and Dr. Kumar agree CHM cannot take the involvement of its volunteer teachers for granted, and the College should develop programs that assist practitioners in their teaching roles. Dodson observed, "We should not diminish the importance students play in keeping private practitioners involved in undergraduate education."

In a related study, Madeline Dodson, Ph.D., from the Department of Obstetrics, Gynecology and Reproductive Biology, surveyed the 163 private practice physicians who teach in CHM's Ob/Gyn clerkship to determine what motivates them to teach. The table reports the frequency of incentives that respondents in this study valued most (Obstetrics and Gynecology, 1998). Respondents indicated that personal and professional motivations transcend financial considerations. Incentives valued include features readily associated with an affiliation to a university, from sponsorship to participate in educational meetings to the prestige of a faculty appointment. Despite faculty perceptions that students had an adverse impact on patient flow, nearly 60% were still interested in teaching in their private offices.

### VOLUNTEER FACULTY VALUE UNIVERSITY AFFILIATION

INCENTIVE	FREQUENCY
University sponsorship to educational meetings	18
Access to programs to improve teaching	11
Faculty rates on computer purchases	8
Faculty rates on athletic events	6
Teaching awards from students	6
Faculty rates on cultural events	5
Discounts on books	5
Prestige of faculty appointment	5
Support in producing educational materials	4
Ability to influence medical education	3
Other	6

Source: Obstetrics and Gynecology, 1998

## NEW CHALLENGES TO COMMUNITY-BASED MEDICAL EDUCATION

- ◆ **Declining medical education funds.** Reduced federal GME support also affects undergraduate medical education. Health care systems question their investment in training.
- ◆ **Greater accountability demanded.** Evidence of efficiency/effectiveness looked for increasingly in both medicine & education.
- ◆ **Volunteered physician time at risk.** Organizational & financial changes pressure physicians, threatening time volunteered for teaching/supervision of students.
- ◆ **Shifting health care delivery patterns.** Shifts of venue from hospital to office & home. Sharing responsibility with other professionals (teams). New organizational foci.

### Interview with

#### William Gonzalez, CEO, Spectrum Health

William Gonzalez, CHM Adjunct Professor and CEO of western Michigan's largest health care system, is pressing for changes that will enable medical education to respond to current and future trials. Mandated by the Balanced Budget Act of 1997, the cuts in support for GME are serious, he says, and made even more so by losses in hospitals' Medicare income from patient care. However, the evolving structure of health care, as well as the need for efficiency, must guide change, according to Gonzalez.

Gonzalez points to several system changes: increasing reliance on "hospitalists" and P.A.s for in-hospital care; freestanding ambulatory "centers" for medical care, surgery, or special purposes; and spreading of responsibility to other practitioners (community health workers, Nurse Practitioners). Such changes attempt to reduce costs, make care more accessible, and respond to patients' preferences. They also increase the need for coordination and teamwork, and affect clinical education because they shift the location of possible teachers and experiences.

Gonzalez asks, "When should a health care system support medical education programs?" When they are "high quality, address real needs, and anticipate the future of health care," he says, and then elaborates. Training quality requires an effective leader/champion for each program, a scarce resource. Relevance demands analysis of what health professionals are in demand. Indicators point to a future that will value practice in teams and ability to integrate care across professions and disciplines.

Gonzalez is working to consolidate training within his community (Grand Rapids). This will involve consolidating existing residencies, to eliminate duplication and marginal programs, and integrating education across professions, including medicine, at new training sites. He believes this will conserve resources, make most efficient use of training

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#### Dean William S. Abbett: *The CHM Response*

Although we face enormous challenges, they also present opportunities to work with community partners (affiliated hospitals and health systems) to develop strategies that will sustain and enhance our programs. We must continue to focus on our mission as a socially responsive, community-integrated institution and recognize that our future is inherently entwined in partnerships throughout the state.

CHM depends on GME funds received by our partners and opportunities to share revenues to support academic programs. In response to lost revenues, we are developing stronger relationships with community partners. We will join efforts to integrate graduate and undergraduate programs and resources that maintain quality while increasing efficiency.

Like most medical schools, CHM has not devoted much energy to accounting for how resources are used to support various programmatic efforts. New realities require us to clearly define how revenues are employed to support the programs for which they were intended. This will include faculty productivity crediting systems that assure greater balance in faculty loads and clearer alignment to mission objectives.

Producing physician resources responsive to State needs is critical to our mission. Our successes include exemplary production of primary care physicians, and preparing doctors for rural and remote populations. To strengthen such efforts, our Upper Peninsula program has broadened the set of rural experiences; we will assign more students to this important program. We must also give students experience with inner-city, under-served populations.

We've sought to increase rewards for volunteers, including computer accounts and access to university facilities. In

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## Residents as Teachers

William Anderson, Ph.D.

When College of Human Medicine (CHM) students begin their clinical training in community hospitals, they are taught by paid faculty and volunteer preceptors, but mostly by medical residents. This model of medical student clinical education is similar to that used by most U.S. medical schools, and offers both advantages and disadvantages. Advantages for our medical students include readily accessible teachers who are medically current, and who can relate to novices in a clinical setting.

Disadvantages of this model are resident instructors who are learners themselves and who do not have a fully developed knowledge base, and residents who have no formal training in instruction. A challenge for the College is to provide our medical students with the highest quality instruction possible in a decentralized setting where day-to-day instruction is provided mostly by these medical residents.

During this past academic year, a College-wide effort began to improve the quality of teaching provided by CHM Instructor Residents. The impetus for the “Residents as

Teachers” program was provided by the Community Assistant Deans. The Office of Medical Education Research and Development (OMERAD) developed and implemented the program.

The overall goal of “Residents as Teachers” was for all CHM Instructor Residents to participate in a faculty development training session addressing the teaching of medical students. Specific topics for the session were: 1) teaching roles and expectations; 2) an overview of the CHM curriculum; 3) essential clinical teaching and evaluation skills; and 4) professional behavior issues in teaching. Sessions were presented to all residents in CHM communities by the Community Assistant Deans and OMERAD faculty. Evaluations of the “Residents as Teachers” program by residents and community faculty have been overwhelmingly positive.

Through efforts such as the “Residents as Teachers” program and other activities initiated at the clerkship and community level, the College continues to demonstrate its commitment to providing CHM students with quality clinical instruction.

### Statewide Health Care System



### Statewide Classroom

A rich variety of resources and opportunities are available to CHM students as a result of the College’s partnerships with six regional health care systems. Aside from the numerous physician offices where students receive clinical training, over a dozen major hospitals throughout the state contribute to their learning environment, including:

3,352,413	Annual outpatient hospital clinic visits
621,640	Emergency room visits each year
249,400	Hospital admissions per year
5,471	Hospital beds in use annually
2,270	Community faculty members
605	House officers (FTEs)
709	Salaried staff physicians

### William Gonzalez...*(Continued from page 5)*

sites, strengthen program leadership, and provide training for the teamwork and inter-professional work of the next era of health care. The resulting programs will offer a richer variety of training opportunities, clearer leadership, and greater involvement in evolving new patterns of care. Gonzalez acknowledges that this reframing of education in medicine and other health fields presents new challenges to those responsible. But, he says, that’s what makes it interesting and meaningful, for all of us.

### Dean Abbett...*(Continued from page 5)*

the future, CHM may have to compensate physicians for instructional activity. First, we will carefully review the potential of realigning administrative resources to more directly support instruction in our community system.

Finally, shifts in health care demand re-evaluation of both curricular content and delivery models. We continue to revise our curriculum to better reflect shifting practice patterns. For example, we provide a primer on policies and organizational structures that influence physician-patient relations, and we use every educational opportunity, such as the Medicaid Managed Care Training Grant, to integrate concepts of cost-effective care.

**Outcomes...***(Continued from page 1)*

communities produce high rates of matching with primary care residencies (figure, page 1). From 1995 through 1998 CHM led the nation in the percentage of students selecting Family Practice, earning the College the “Gold Award” from the Society of Teachers of Family Medicine.

**AAMC Graduation Survey**

During their graduation year CHM students complete a survey sponsored by the Association of American Medical Colleges about their clerkship experiences. One set of questions concern the quality of the clerkship experience. No differences by community were found for the overall quality of clerkships for 1997 and 1998 graduates, although the ratings for some specific clerkships varied by community. Questions addressing satisfaction with such aspects of curriculum implementation as organization, clarity of objectives, performance expectations, the number and diversity of experiences, and the teachers’ and students’ roles elicited consistent responses, but differences were seen in the timeliness of feedback and the role of residents. In a final section of the survey, students rated the adequacy of time devoted to each of 42 curricular content areas. Comparing aggregated data from 1995 through 1998, only five topics varied by community, again suggesting a high level of consistency across community campuses.

**Residency Director Ratings**

As part of the CHM Graduate Follow-up Survey, residency directors are asked to rate our graduates compared to other PGY-1 residents, based on ten criteria. These included general medical knowledge and patient management skills. No differences were found when ratings for 1995, 1996 and 1997 graduates were aggregated and compared by clerkship community (figure, page 1).

**Graduates’ Ratings of their Educational Experience**

Two years after graduating, alumni are surveyed regarding their perceptions of their educational experience at CHM. For 1995 and 1996 graduates, nine of eleven questions related to clinical education showed no community differences. Only two questions regarding *student performance standards* and *clinical supervision* showed community differences.

When asked to rate the quality of their educational experience, the responses indicated there were no differences related to the required or elective clerkships, or to the core competency experiences. There were differences between

communities in students’ ratings of their contact with Community Administrators and Assistant Deans.

**Similarities Outweigh Differences**

However one looks, few meaningful community differences can be found. Even when differences emerged, there were no patterns to suggest that any community campus had consistently better or worse educational outcomes. These findings affirm the commitment to delivering an educational program across a state-wide learning environment. They attest the success that CHM has had in providing consistent community-based clinical education. And they illustrate that each community has particular strengths and resources it brings to the educational enterprise.

**Interview...***(Continued from page 8)*

provision of early and diverse clinical interviewing practice and feedback as markedly contributing to her development of skills and confidence in relating to patients and colleagues.

**Choosing to Teach**

Michelle emphasizes her understanding that the supportive and effective clinical teaching environment didn’t “just happen.” She cites two key factors in student’s experience of an engaging but supportive clinical learning environment: 1) the provision of skill training for students prior to their formal entry into the settings in which students have clinical responsibility and 2) the selection of faculty who are committed to teaching. She describes herself as looking forward to working as a colleague with faculty she encountered as students, as she continues her connection with CHM’s community-based clinical education system.

**Join the Discussion!**

Send your reactions to *VitalSigns*

**By e-mail:**

[vitalsig@pilot.msu.edu](mailto:vitalsig@pilot.msu.edu)

**By Letter:**

*VitalSigns*, OMERAD

A-202 East Fee Hall

Michigan State University

East Lansing, MI 48824-1316

**Interview with****Michelle Kroupa-Kulik, M.D., CHM Graduate: *Inspiring Clinical Teaching***

As she completes her pediatric residency at Beaumont Hospital in Royal Oak, Michelle Kroupa-Kulik reflects on her experience as a student in CHM's community-based clinical education system. Michelle is returning to the Upper Peninsula campus where she completed her M.D. training to begin her career as a pediatrician and teacher of medical students and residents. In her new roles she expects to draw on the model of medical education she experienced. Her analysis of the most critical training features emphasizes the experiential and supportive learning environment of the Upper Peninsula campus and the clinical interviewing skills preparation provided in the first two years of CHM students' training.

**Community-Based Clinical Training**

Michelle focuses on the rich training environment of the community-based clinical campus. This environment was key to both her acquisition of medical skills and her recognition of the confidence and satisfaction she derived from caring for patients and working with others as a physician-in-training. Most of Michelle's clinical rotations placed her in settings in which medical students worked directly with attending physicians. The close student-attending relationships facilitated students' full integration into the routines and review of patient care. Michelle interprets this arrangement as a reflection of the attending physicians' clear commitment to teaching, which they demonstrated by knowing the students as individuals and by carefully monitoring students' involvement in clinical

care. These physicians invited students into their own homes, but also made sure that students participated in diverse clinical community settings, and expected students to critically review their skills development.

Michelle notes that her experiences included rotations in a Health Care Clinic for Native Americans and working with Visiting Nurses' programs as they cared for patients in their homes and in community-based clinic settings. Michelle emphasizes that students could enter unfamiliar care settings with the confidence that they would have a supportive environment and extensive feedback on their individual performance. Michelle characterizes the diverse training experiences, extensive feedback, and expectations for a supportive learning environment as building directly on CHM's pre-clinical training program.

**Clinical Skills Preparation**

Michelle acknowledges that her ability to relate to patients during her clinical training was enhanced by the rapport that the attending physicians had established with their patients. But Michelle also attributes the strengths of the clinical interviewing training that CHM's pre-clinical curriculum provided as key to her development of a systematic, effective and caring clinical skills approach. She notes that attendings, health care professionals, and patients consistently lauded the organization, skills, and rapport that she and her fellow CHM students were able to bring to clinical care encounters. Michelle cites CHM's

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**MICHIGAN STATE**  
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*Office of Medical Education Research & Development  
Michigan State University, A217 East Fee Hall  
East Lansing, MI 48824-1316*

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