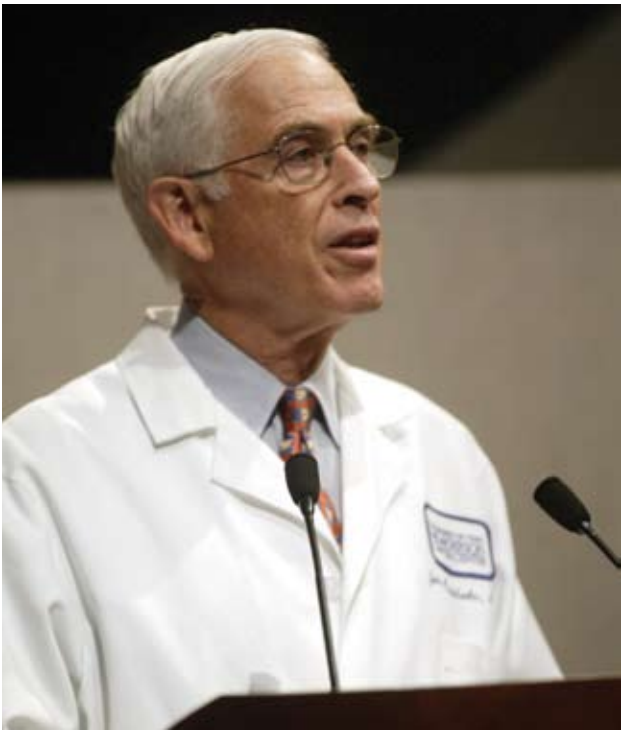


John Mendelsohn, M.D.
State-of-the-Institution Address



September 8, 2003



We come together again to address one of the most difficult biological and societal challenges of our time — or of any time — how to eliminate cancer. People are counting on us at M. D. Anderson to live up to our goal of “making cancer history.” We are at a moment in history that is unparalleled in the opportunities available to achieve this goal. Among all the subjects I might discuss today with you, I have chosen to focus our attention on five themes that I believe are critical to M. D. Anderson’s success in the future

Naturally, our future builds on our record in the past, and the past has been very good to us. We have grown steadily in each of our mission areas, and the M. D. Anderson “family” now consists of 13,000 faculty, staff and volunteers. Last year we served 60,000 patients and published over 1,500 research papers.

Today we are seeing 10% of the cancer patients in Texas and 1% of all cancers in the United States, in addition to a large number of international patients. Because the number of cancer cases is rising, due primarily to the aging of our population, we expect continued increased demand for our services for at least the next two decades. We have agreed to meet this demand with a program of balanced and

coordinated growth, as stated in goal #3 of our *Strategic Vision 2000-2005*.

Expansion of our mission has been made possible by construction of new facilities. Within the next 20 months we will open four new buildings that will accommodate our new programs and enable us to expand our activities even further. These include:

Facility	Sq. Ft.	Move-in date
George and Cynthia Mitchell Basic Sciences Research Building	486,000	9/04
Ambulatory Clinical Building	782,000	2/05
Cancer Prevention Building	391,000	2/05
South Campus Research Building #2	147,000	3/05

We also have been able to support the expansion of our mission with growth in all of our financial resources. Tremendous increases have been experienced in our clinical income, grants and contracts, philanthropy, and, until recently, support from the state of Texas. Our research budget has reached \$250 million, placing us in a leadership position in the cancer field, and our total operating budget this year is projected at \$1.7 billion.

Of course the exceptional level of growth in our clinical activities, research programs, employees and facilities depends most critically upon maintaining positive margins in our revenues from patient care delivery. We use these margins to fund new programs and recruitments, to purchase essential equipment and renovate outdated facilities, and to construct new buildings. The targeted operating margin is 2 to 3% of our net revenues. We have succeeded in achieving or exceeding this level in all but one of the past five years. As the size of our budget increases, the absolute value of the operating margin also increases, and we are projecting a record of over \$55 million

during the fiscal year that ended August 31, 2003. Congratulations to everyone who works at M. D. Anderson for this outstanding achievement.

With this record of success comes the opportunity and responsibility to move forward wisely, to be thought-leaders in our field, to continue to improve and “raise the bar” in each of our mission areas, and — ultimately — to better serve our patients.

We are the number one cancer center in a variety of rankings, such as the number of grants awarded by the National Cancer Institute, the number of Specialized Programs of Research Excellence (SPOR) Grants (9) and the *U.S. News & World Report* best hospitals survey. Every day when we come to work we are privileged to be able to live and experience the M. D. Anderson Vision, which serves as the watchword of our institutional and personal aspirations:

We shall be the premier cancer center in the world, based on the excellence of our people, our research-driven patient care and our science. We are Making Cancer History®.

With this as background, here are the five themes which I believe are critical for us to address thoughtfully and critically:

1. Enhancing the value and the **efficiency of our patient care**.
2. Creating a **learning and mentoring workplace** for all of our employees.
3. Increasing our **mission-driven collaborations** outside the institution.
4. Placing a new emphasis on **risk assessment, prevention and early detection** of cancer.
5. **Targeting our research** to the opportunities of the post-genomic era.

1 Enhancing the Value and Efficiency of Our Patient Care

M. D. Anderson delivers the top quality and quantity of cancer care by any measure. Why is this so? There are at least four reasons.

- We have an outstanding and caring staff of physicians, nurses and other professionals.
- Our patient care is research-driven, so we offer options others do not.
- Our clinics are multidisciplinary, so several minds come together to benefit each patient.
- Our patients are knowledgeable and trusting, and this is an incentive to be innovative and creative.

Our phenomenal growth in clinical activities during the past seven years has brought us substantial resources. However, our continued clinical growth has also created a major new challenge: capacity management. How do we handle the ever-increasing number of patients who seek our services? Historically we have met our capacity needs by expanding our facilities and staff, and by working harder. These two approaches have been pushed to their limits.



Ambulatory Clinical Building

We must turn our attention and commitment to a third way of managing our capacity needs — improving the efficiency of our clinical activities. This was identified as goal #6 in our *Strategic Vision 2000-2005*. If some day the number of patients seeking care at M. D. Anderson exceeds our capacity, we must give them alternatives — for example, by partnering with colleagues in the community. Yet today in some clinics the wait time for appointments has reached many weeks, which leads to patients giving up on us and going elsewhere out of frustration.

We now have extensive data that our leaders can use to manage our clinical activities more effectively and efficiently. Administration is working closely with clinical leaders to make this happen. Information available for each clinical unit now includes individual and group data on activity levels which can be useful for benchmarking and identifying best practices. This information includes:

- Clinic room utilization throughout the week.
- Patient care activity levels for each physician, department and clinic.
- Clinical trials activities for each physician.
- Wait times for appointments, with identification of bottlenecks.
- Numbers of no-shows for clinic appointments.
- Patient satisfaction ratings.

Strategies to Improve Capacity Management and Efficiency

Members of each multidisciplinary clinic and clinical care unit are using this information to identify ways of improving capacity management and efficiency, and reducing wasted time and personal effort. The Clinical Operations Team has identified four strategies to achieve these goals.

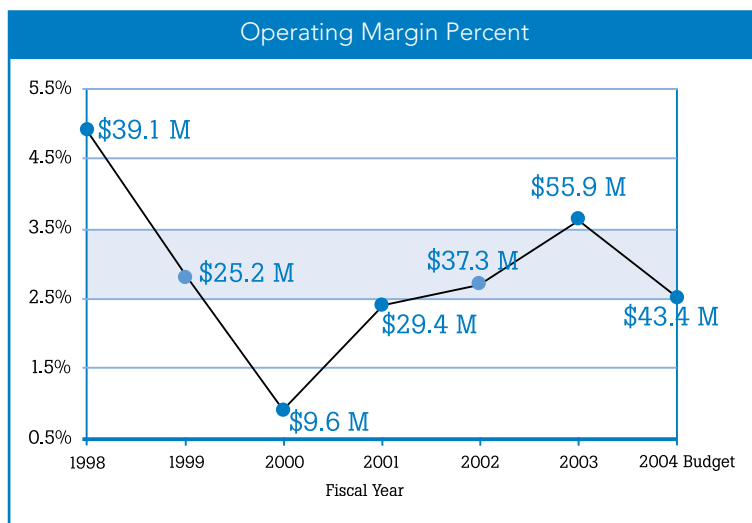
1. Develop our capabilities as a learning organization through use of the Baldrige National Quality Awards criteria.

The Baldrige criteria have been tremendously effective in improving efficiency and quality in industry, and they are now beginning to be applied to health care delivery. Many believe that health care presents the

most difficult challenges of any organized activity that a group of people can undertake! We have performed a Baldrige self-assessment of our clinical activities that revealed opportunities to improve ourselves in a number of areas, including alignment of activities, collaborations, planning and outcomes. As a learning organization we will target these areas within each operating unit, by helping physicians and staff to find creative ways to achieve improvements.

Many of the opportunities for improvements involve cross-disciplinary collaboration. Interdisciplinary committees have achieved successes in affecting change in three targeted areas that were selected as important institution-wide objectives:

- Aim for Excellence Program
- Pain Collaborative
- Discharge Collaborative



2. Develop models for patient service that address capacity management, and optimize patient outcomes and utilization of resources.

Because our services are in very high demand, we need to better utilize our people and space in our inpatient and outpatient areas. On average, we occupy only 40% of our available clinic space every day, with visits concentrated between 9:30 a.m. and 2 p.m. We also need to examine and revise our medical acceptance criteria, to make certain that we are serving patients who will most benefit from our unique research-driven patient care. On the inpatient side, we need to more closely scrutinize the use of our

precious hospital beds, and make certain that we are expeditiously moving patients through the course of their inpatient stays. Finally, we need to unburden our Emergency Center, making certain that we treat as many of our ambulatory patients as possible in our care centers. Many of our physicians, nurses, and administrators are already working to address these issues. Our success in implementing plans for solving these problems will require effort and willingness to make some changes in practice by every caregiver at M. D. Anderson.

There are many examples of recent improvements in efficiency and resource utilization, resulting from reorganization of work flow and employee effort:

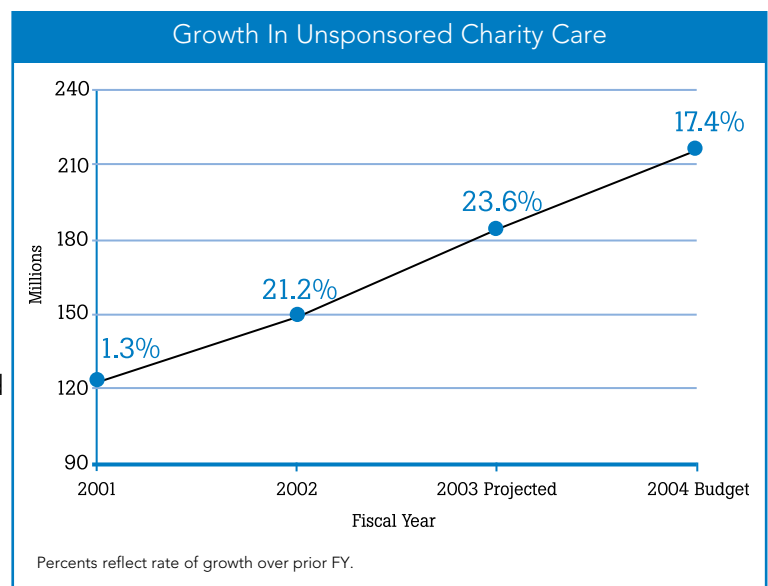
- Redistribution of physician activity in the Breast Center, with a 31% increase in use of rooms at 8 a.m.
- Decrease in patient no-show rate from 20% to 10% in the Cancer Prevention Clinic.
- Use of the surgical scheduling database to improve scheduling and throughput in the operating rooms.
- Development of cost estimate databases for business centers in each clinic, resulting in improved patient satisfaction.
- Reduced time from order to result in the Leukemia Hematology lab by 23%.

Another area requiring attention is our level of uncompensated indigent care. Our unbilled charges for care of indigent Texans have risen from \$123 million in 2001, to \$149 million in 2002, and to a projected \$184 million in 2003. This is because more and more indigent patients have nowhere else to turn for cancer care in today's health care reimbursement environment. While we are proud of our record, we cannot afford to continue to extend this component of our care delivery beyond 10% of our operating budget. This is especially true because the funding we receive from our state appropriation now falls below these indigent care figures. One way to address this challenge is to devise ways to partner with cancer specialists throughout the state to deliver care, in which we participate,

to the increasing numbers of indigent Texans and other patients who seek our services.

3. Create an "Institute of Health Care Excellence" to discover and share knowledge about safe and effective health care delivery.

We have recruited industrial engineers and quality experts who are working closely with our clinical operating units. A highly competitive Patient Safety Center of Excellence Grant was recently awarded to the hospital by the Agency for Health Care Research and Quality (DHHS) which provides extramural support for research on quality of care. An example of a tactic to improve quality of patient care is our new "close call" reporting system, designed to encourage identi-



fication of potential errors caught before they affect a patient and to stimulate implementation of interventions to prevent recurrences. Reporting of close calls is anonymous and voluntary, modeled after successful "non-punitive" best practices in aviation. Our close call reporting system is already being copied at other UT academic medical centers, and is under consideration for a state of Texas demonstration project.

4. Promote maximum employee effectiveness through appropriate recruitment, deployment, and development — to be the "Employer of Choice" in health care.

An early focus of this program has been with the Division of Nursing, stimulated by the growing short-

age of skilled nurses and the increase in RN vacancies at hospitals nationwide. Our current efforts are to identify career opportunities, invest in the development of high potential candidates, and improve reward systems. These approaches have helped reduce the nursing turnover rate from 18% to 11% during the past five years, and they are applicable to all categories of employees. The overall employee turnover rate has fallen from 20% to 10% during this period.

Another area of focus for improving our patient care and improving our recognition of clinical faculty contributions involves nurturing and rewarding outstanding clinicians at M. D. Anderson. The Management Committee recently received two reports from ad-hoc committees:

- Work Group on Criteria for Promotion of Non-Tenure Track Clinical Faculty.
- Task Force for Rewarding Clinical Excellence.

The two committees have made some excellent recommendations. Faculty with primarily clinical care responsibilities would welcome additional rewards and recognition for clinical excellence, productivity, and collaboration. The contributions of pathologists, radiologists and anesthesiologists, who provide critical collaboration in patient care and clinical research, should be better recognized. The Management Committee will be implementing suggestions to achieve the goal of recognizing and rewarding these clinical contributions during the coming academic year.

Information Technology

A major way of dealing with the threat of overload and the need for efficiency in the clinics is to improve the support provided by our information systems. The ultimate vision of a paperless, completely computerized medical record remains a distant goal. Meanwhile, we have made progress in providing access to laboratory and imaging data, and tools for collecting patient research data in optimal and accessible formats are being developed. We are evaluating the feasibility of obtaining or designing information technology

that will pull together and provide easy access to all relevant clinical and research data, for both an individual patient and groups of patients. This will require engagement and collaboration of many different groups at M. D. Anderson and an openness to changes and uniformity in the ways we collect data.



2 Creating a Learning and Mentoring Workplace for All Our Employees

M. D. Anderson is committed to creating a nurturing and supportive environment that will enable faculty and staff of diverse backgrounds to take on increased authority and responsibility in a sharing, collaborative environment. This was identified as goal #5 in our *Strategic Vision 2000-2005*. It is essential for delivery of the very best care to those we serve and for success in all of our mission areas. And it is essential to meet the needs of our most precious resource, the people who devote their lives to working at M. D. Anderson. In the coming year we will place increasing emphasis on our education mission for everyone who works here.

We are also committed to creating an environment in which volunteers are well-trained and well-recognized. We already have the largest and finest hospital-based volunteer program in the nation. Our growth and increasing sophistication means that we will need even more of these highly talented individuals in the future.

Leadership Development Program

We aim to become a learning organization that seeks solutions to problems at the level of individual operating units and promotes the advancement of individual employees. This requires strong and enlightened leadership that focuses on mentoring, open communication, and commitment of significant effort. Last year the Management Committee initiated a Faculty Leadership Academy designed to nurture competencies and success factors for faculty leaders at M. D. Anderson. The goal is to help them develop skills needed for leadership in a complex, matrixed organization with diverse employees who must work together collaboratively and collegially in order to achieve success. The first cohort of faculty leaders graduated last week, and the third cohort will soon begin the program. The feedback from participating faculty has been positive, especially in terms of their ability to incorporate what they have learned into team-building with those they supervise. A parallel program for senior level administrators began earlier this month.

Employee Education

We aim to provide all employees at M. D. Anderson with opportunities to advance their personal and professional development and to increase their skills. Human Resources offers over 50 different program opportunities through its course catalog which is available on the intranet. Each of us has the opportunity to improve our leadership and management skills, build confidence, and improve writing and speaking skills (in more than one language). In FY '03 alone, over 5,000 of us did just that, attending at least one of almost 350 sessions. In the future we will include more computer-based training so we can access programs on our own schedules. I encourage everyone to look at what is available and take advantage of our internal experts.

Employee Opinion Survey

Our most precious resource at M. D. Anderson is our people, and we are committed to listening to them carefully and responding to their needs. Our Employee Opinion Survey completed last year was sponsored by the Management Committee. It was the first survey of its kind at this institution, and we are proud of the

60% level of participation at all levels of the organization. The results provide valuable input into how we can become the Employer of Choice in health care. By Employer of Choice, I mean that we attract and retain people with the most valuable talents and skills, and create an environment in which creativity and collaboration thrive. The views expressed in the survey show that our employees are engaged and committed to our mission and core values. A number of areas for improvement were identified, and each operating unit has selected two upon which to concentrate. In addition, the institution as a whole is focusing on two areas for improvement:

- Our behavior and actions toward each other should be better aligned with our “caring” core value — which targets both those we serve and our co-workers.
- Empowerment and acceptance of responsibility require management to provide improved support, mentoring, and protection from retribution when questions are raised.

Another area of concern brought to our attention by employees is the desire that we reward performance and productivity, as opposed to longevity, with new compensation and paid time-off programs. Our Human Resources department is moving forward with plans that address these concerns.

As solutions to these challenges are developed by the individual operating units, they are being shared on our intranet site and they will be the subject of future discussions. I invite you to look at these reports, so that we can learn from each other.

Communication

Of course, open two-way communication makes the most critical contribution to our efforts to become an employer of choice. We have revised and expanded our internal communications program to better reach and serve our employees and, over time, to build a strong culture that encourages the easy and open exchange of ideas and information. Some initial steps:

- Our internal publications have been redesigned to provide employees with more relevant, mission-oriented and timely information.

- Inside Line, our intranet site where employees can ask questions of senior leaders, has grown tremendously. Last year, more than 1,000 questions were answered and the site received more than 275,000 hits.
- We've introduced OFFLINE sessions so small groups of randomly selected employees can meet with executive leaders to get acquainted and discuss issues of interest. More than 600 employees took part in 70 sessions last year.

Our goal is to ensure that communication is a priority for everyone at M. D. Anderson — we want to share more, listen more and, most importantly, give all our managers the skills and information they need to be better at communicating. I think we are making good progress, but there is much more to be done.

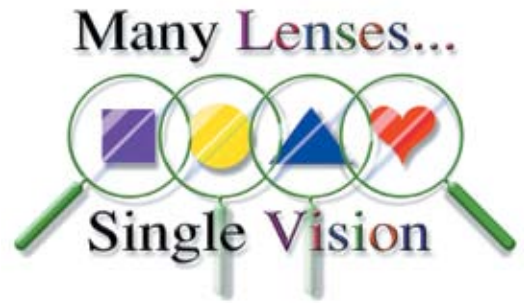
Diversity

Diversity at M. D. Anderson is not just important, it's essential. The rapid and significant changes occurring in clinical medicine require that academic health care institutions, especially those whose emphasis is placed on research-based therapies, continually change old concepts, design innovative and provocative hypotheses, and convert positive results into definitive action. And this is only possible if these institutions are composed of individuals who have a variety of backgrounds and experiences that can be drawn upon to examine cancer and its impact on all kinds of people. This is our commitment at M. D. Anderson.

Our diversity initiatives are coordinated through the Office of Institutional Diversity. The Diversity Council, with members from all parts of the institution, contributes to strategic planning for this office's activities. The goal is to enhance respect, inclusiveness and teamwork at M. D. Anderson. Our comprehensive diversity program is guided by the motto, "Many Lenses, Single Vision." Major emphasis has been placed on educational programs, forums and seminars that are widely advertised and have been well attended; employee support groups; use of evidence-based hypotheses to design and implement pilot interven-

tions; and recruitment and retention of diverse people at all levels of the institution. We want M. D. Anderson to be the employer of choice for everyone.

Recruitments for leadership positions now are charged to identify and include consideration of diverse candidates, and the Office of Institutional Diversity participates on search committees.



To facilitate recruitment of staff and students of diverse backgrounds, the office has developed exhibits and presentations about working at M. D. Anderson, which are taken by appropriate staff to meetings of the NAACP, LULAC, the Urban League, and the Hispanic Forum — both in Houston and nationally.

3 Increasing Our Mission-Driven Collaborations Outside the Institution

Our widely circulated *Strategic Vision for Making Cancer History: 2000-2005* is focused primarily on strengthening and growing our mission-directed activities at the Texas Medical Center site and at the Science Park campuses in Smithville and Bastrop. Now it is time to expand our collaborations and programs that reach out into the greater Houston community, the United States and worldwide. Our vision to be the world's premier cancer center means sharing our clinical expertise and our science with the world, in addition to receiving worldwide recognition for our patient care and research. Extramural collaborative activities should not infringe upon the quality and excellence of the mission-directed programs at our main campuses. Rather, these activities should enrich our local programs and leverage their

impact upon greater numbers of cancer patients and cancer researchers, without detracting from our primary focus on pursuing our mission here in Houston.

The following are areas in which our collaborations will grow during the next few years.

The University of Texas Research Park on our South Campus

Together with the UT Health Science Center-Houston we are developing a 116-acre Research Park on our South Campus, 1½ miles from the Texas Medical Center. The park provides space for expanding our research and clinical activities, attracting construction of facilities by pharmaceutical and biotechnology companies, and commercializing discoveries made by our investigators.

The city and state plan to invest \$60 million for infrastructure and roads. In September we will break ground for our second new South Campus research facility for molecular therapeutics, gastrointestinal malignancies and molecular pathology, as well as a 300-seat auditorium and a cafeteria for faculty and staff on the South Campus. A new building which will include experimental diagnostic imaging and an expanded animal facility is planned for the future.



South Campus Research Buildings One and Two and Conference Center

Research Collaborations

Collaborations with Pharmaceutical and Biotechnology Companies

We are planning visits with a dozen pharmaceutical, biotechnology and medical instrument and equipment companies, to create collaborative research partnerships that specifically target new products impacting on the prevention, diagnosis and treatment of cancer. These will involve exchange of scientists and scientific information, and are designed to take advantage of the unique capabilities that both industry and academia can bring to bear on advances in biotechnology. The design and execution of “smart” clinical trials led by experts from M. D. Anderson will be an important component of these collaborations.

Academic Collaborations

We have many collaborations with universities in Houston, as well as with UT Austin. Our joint Graduate School of Biomedical Sciences with the UT Health Science Center-Houston now includes a joint Graduate Program in Biostatistics with Rice University. Among other examples are collaborative engineering programs with Rice University, UT Austin and UT Health Science Center-Houston, and the structural biology program of the Gulf Coast Consortia of six universities.

Affiliations with Hospitals and Academic Medical Centers

M. D. Anderson is beginning to create formal sister institution agreements and collaborative arrangements with some of the world’s leading hospitals in Europe, Asia and Latin America. These affiliations are individualized to provide clinical consultation at the level of programs or individual patients, and to create training and research collaborations.

Our formal partnerships in Orlando and Madrid with health care providers who are using our approaches to multidisciplinary, research-driven cancer care and quality assurance are making considerable progress in achieving our mutual goals.

4 Placing a New Emphasis On Risk Assessment, Prevention and Early Detection of Cancer

Our outstanding Division of Cancer Prevention will celebrate its 10th anniversary in 2004, and its contributions in epidemiology, behavioral sciences and chemoprevention have gained international recognition. A new Strategic Plan for Cancer Prevention has been formulated, which clearly defines research, screening and counseling programs within the Division of Cancer Prevention and throughout the institution. It includes disease site-targeted detection and prevention programs within the various multidisciplinary care centers.

Goal for the Future

A consistent theme in our strategic planning discussions during the past year has been the increasing importance of risk assessment, prevention, and early detection. We are preparing for a future where cancer care will begin with risk assessment and counseling, followed by interventions involving behavioral modification and chemoprevention, and ending with treatment of frank malignancy only when these measures fail. Our research is contributing to the national effort to develop the knowledge base needed to carry out this vision. M. D. Anderson investigators and physicians will pioneer ways to translate this knowledge into patient care, taking advantage of our outstanding expertise in translational research. While Medicare reimbursement for screening is currently limited to four cancer sites (breast, prostate, colorectal, and cervix) we are confident that reimbursement will be provided for additional sites as knowledge accumulates.

Clinical and Research Programs

Clinical research in cancer prevention has become a substantial component of our overall protocol research program. During 2002 there were 72 prevention screening studies and protocols open for patient accrual at the cancer center. The number of participants registered was 6,300. While the majority were seen in the

Department of Clinical Cancer Prevention, all of the clinical divisions participated in these activities.

Therapeutic intervention to treat precancer, in order to prevent development of cancer, was pioneered at M. D. Anderson in the 1980s. Our clinical investigators have taken leadership roles in large clinical trials exploring chemoprevention of breast, prostate and colon cancers, as well as mucosal leukoplakia. Research on tobacco cessation in youth is a major thrust within the Department of Behavioral Science. Its programs have gained national recognition and are setting best practice standards for training care providers in youth counseling and for pharmacological interventions to reduce tobacco usage. Since one-third



Cancer Prevention Building

of all cancer-related mortality is attributed to carcinogens in tobacco, this is the most critical component of our effort to reduce cancer risk.

A major new project of the Department of Epidemiology involves collection of demographic and laboratory data on a large cohort of Mexican-Americans in Houston and the Rio Grande Valley for longitudinal studies of risk factors for disease in these populations.

Research on Health Disparities

A major new focus at M. D. Anderson involves research on health disparities, especially in medically underserved populations in which the burden of cancer-related

illness and deaths is far greater than it ought to be. This was initiated by the formation of the Center for Research on Minority Health, a federally funded project with the goals of increasing participation in clinical trials by minority and medically underserved patients and educating the medically underserved on cancer prevention and good health. This innovative program will be incorporated in a new Department of Health Disparities Research, which we will propose to establish within the Division of Cancer Prevention this year. The research activities of this department will focus on population studies that identify the causes of differences in cancer incidence and outcomes in diverse ethnic and socioeconomic groups. These disparities may result from biological differences, environmental differences, cultural and socioeconomic differences, or outright discrimination and lack of access to health care. Remedies will require better understanding and addressing the roles of each of these factors.

5 Targeting Our Research to the Opportunities of the Post-genomic Era

Emerging Research Themes for an Updated Strategic Vision

A series of meetings held with members of the faculty on the Clinical Strategies Advisory Committee and Research Strategies Advisory Committee focused upon our research and clinical agendas during the next five years. We will continue to explore new targeted diagnostic and therapeutic approaches to specific cancers in each of our multidisciplinary centers. In addition, six emerging research themes were identified at our meetings for emphasis in the future:

- Identification of molecular and genetic markers that predict an individual's cancer risk and response to treatment.
- Development of new therapies targeting genes that cause cancer and molecular pathways that promote cancer cell proliferation, survival and metastasis.



Mitchell Basic Sciences Research Building

- Improved understanding of the critical role of surrounding normal tissues in promoting cancer growth, e.g., angiogenesis, paracrine growth factors.
- New immunological approaches to the treatment of cancer, and characterization of the cells, antibodies and cytokines involved in these processes.
- Elucidating the molecular mechanisms regulating the differentiation and function of stem cells and cells at various stages of development.
- Identification of genetic, environmental and lifestyle risk factors for cancer and investigation of therapeutic agents and behavioral modifications that can reverse precancerous conditions.

Scanning of this list leads to important predictions concerning the nature of our clinical trials in the future. The endpoints for many trials will be validation of surrogate markers that predict risk of developing malignancy and probability of a positive response to specific therapies. New clinical trial design and biostatistical approaches will be required, and the need for larger numbers of patients will necessitate collaborations with other institutions.

Learning how to predict responses to specific therapies will require “smart clinical trials” that include molecular imaging studies and assays of effects of treatments upon specific targeted pathways in samples of normal and malignant cells. Through a generous philanthropic gift we have created a Molecular



Monitoring “Core” Laboratory which is equipped to perform molecular and genetic studies on tissue specimens from patients on therapeutic clinical trials. Strong collaboration is provided by the genomics and proteomics core laboratories. However, to expand these types of studies to the desired level, we will need additional extramural sources of funding.

To facilitate our ability to conduct the most sophisticated clinical trials, we have opened a new and expanded Clinical and Translational Research Center in the Clark Clinic, which is equipped with 17 bed units and staffed with experienced nursing and support personnel who provide service 16 hours a day.

Because we are convinced that molecular imaging of tumors prior to and following treatment will lead to improvement in diagnosis as well as prediction of response to therapy, M. D. Anderson is investing in a new molecular imaging program within the Department of Experimental Diagnostic Imaging. Plans are under way to greatly expand our imaging capabilities with experimental animals, and to move the results of this research rapidly into clinical trials that focus on application of imaging technology. The goal is to measure in the patient parameters such as tumor metabolism, gene expression, activation of molecular pathways and stromal responses (e.g.,

angiogenesis, immunoreactivity). The results of these studies will be used to provide earlier and more accurate diagnosis of cancer, molecular characterization of individual patients’ tumors, and improved selection and monitoring of therapy.

Technology Transfer Initiatives

The goal of technology transfer is to convert our research discoveries into drugs, agents and tools that will improve the diagnosis, treatment and prevention of cancer. This effort involves three programmatic initiatives:

1. Support for Advancing Discoveries into Clinical Use

The Office of Technology Discovery sponsors mentoring programs in how to follow up research discoveries with experiments that can identify useful clinical applications, and in how to navigate intellectual property and commercialization issues. Institutional funds have been allocated and awarded for peer-reviewed support of research projects aimed at expanding new discoveries to the point where a patient application is appropriate and external collaborations or support from venture capitalists can be sought.

2. Pharmaceutical Development Center/GLP Facility

The Pharmaceutical Development Center and the Good Laboratory Practice Facility are shared resources of M. D. Anderson, created to advance research discoveries to the point where collaboration or transfer to a biotech/pharmaceutical company can occur. Expertise is provided in formulating anti-cancer agents for in vivo administration, assaying drugs and their metabolites, testing efficacy and toxicology in animals and performing pharmacokinetic measurements. On a few occasions, our facilities have been used to take new agents through to FDA approval.

3. Commercialization of Intellectual Property

During FY ‘03, the Office of Technology Commercialization received 123 invention disclosures, filed a total of 210 U.S. and foreign patent applications, received 32 U.S. and foreign patents, and concluded 17 licensing agreements, five of which were to new start-up

companies. Since 1999 the office has facilitated the creation of 10 companies based on M. D. Anderson technologies.

Conclusion

In conclusion, we have much to do in five areas. We must:

- Enhance the value and the **efficiency of our patient care**.
- Create a **learning and mentoring workplace** for all of our employees.
- Increase our **mission-driven collaborations** outside the institution.
- Place a new emphasis on **risk assessment, prevention and early detection** of cancer.
- **Target our research** to the opportunities of the post-genomic era.

As we work together to address these five priorities and others that challenge us, let me assure you that I remain committed to maintaining M. D. Anderson's existing and highly successful balance between our four mission areas: patient care, research, education and prevention. We have many exciting programs in these areas which I have not been able to review today due to the constraints of an hour's talk. I also wish I could have reviewed our many research accomplishments and expanded educational programs, as well as the outstanding clinical outcomes that we have achieved. And I've barely touched on the many contributions of our institutional support teams that keep our 20,000 computers humming, recruited 2,800 people last year, manage our

finances, and will open 1.8 million square feet of new space during the next two years.

To everyone who works and volunteers at M. D. Anderson, I say thank you — thanks for a job well done, and thanks for making cancer history. The final message I want to leave with you is my hope that each of us remembers the unifying themes underlying most of what I've discussed today: **The critical importance of each individual who works at M. D. Anderson and the tremendous benefits of collegiality and collaboration**. Little of lasting significance is done single-handedly. We all rely on others. To achieve the ambitious goals that we share, and that bring us together at M. D. Anderson, we must strive to do our individual best — and — we must respect and support our colleagues, because our success depends on **TEAMWORK**.



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