The Magazine of SUNY DOWNSTATE MEDICAL CENTER 2002 Vol. 1 SCIENCE & HEALTH

Research A GROWING ENTERPRISE AT DOWNSTATE

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ON THE COVER:

This image of live neurons was produced by SUNY Downstate's Pathology Department using a confocal laser scanning microscope — one of the advanced technologies that will be available to biotechnology companies choosing to locate in the proposed Advanced Biotechnology Research Park (see page 7).

Confocal microscopy is a powerful, multidimensional imaging advance that has enabled new approaches to cell imaging. The instrument captures fluorescentlylabeled specimens much more rapidly and with significantly more detail than conventional microscopes.

Here, using rhodamine conjugated antibodies directed against neurofilament protein (red) and fluorescein conjugated phalloidin which stains f-actin (green), two cytoskeletal proteins can be rendered in exquisite detail (where they overlap or colocalize is yellow).



Improving Health-Care Access 2 Dr. Dennis Andrulis lays out a blueprint for an issue that is key to urban health. With accompanying graphs from Downstate's Health Report Cards.

Downstate's Direct Entry Program for Midwives16

A Downstate program – first in the nation – trains students without nursing degrees to be midwives.

Recommended reading....Cable industry supports STAR Program....Free health services to continue at Wingate High School and P.S. 13...Faculty appointments.

Strategics

to Improve Health-Care Access in the Changing Urban Environment



by Dennis P. Andrulis. Ph.D., M.P.H.

Dr. Andrulis, former director of the Office of **Urban Populations at the New York Academy of** Science, is a professor in SUNY Downstate's **Department of Preventive** Medicine and Community

Health and M.P.H. Program

Improving the health of the nation's urban areas is a formidable challenge. At the very least, providers must recognize not only a patient's specific medical challenge but also the complex social context within which that patient works and lives.

Moreover, efforts to improve the health of urban residents face new uncertainties: the health consequences of welfare reform and work-fare initiatives; the increasing role of managed care in both private insurance and Medicaid; and questions about the fate and mission of providers and organizations that form the urban safety net. Couple this with the changing composition of urban communities, the aging of the population, and growing cultural diversity, and you have an altered terrain that suggests new opportunities as well as emerging concerns.

Recent research demonstrates that effective health interventions can improve the lives of urban residents. However, it is clear that additional research is necessary. This essay lays out a blueprint for the challenge ahead.

The Access Challenge: Scope and Consequences

Higher rates of health problems in the nation's central cities reinforce the importance of improving healthcare access. Between 1985 and 1995, 45 of the 100 largest cities experienced increases in low-birthweight infants exceeding 10 percent. In 1996, the tuberculosis rate for these cities was three times higher than that of their greater metropolitan areas and almost twice the rate for the nation overall. And while cities made remarkable strides during the 1990s in addressing violent crime, their crime rates are almost three times the suburban county rate.

Central cities in general have witnessed greater poverty rate increases, with adverse health consequences. Poverty is associated with lack of health insurance, and uninsured individuals face major obstacles to care because of their inability to pay. The consequences of not having insurance include a lower likelihood of having a regular source of care for uninsured children, higher rates of postponed care and unfilled prescriptions among adults, and fewer checkups, mammograms, and other preventive services.

We know that insurance is linked to positive health outcomes. Medicaid-enrolled individuals in poor health have greater numbers of health-care visits than uninsured individuals in poor health. Studies of children and adolescents have linked health insurance with increased access and reductions in unmet or delayed care. While insurance is an essential ingredient in improving access and outcomes, it is not the only factor. Personal and community factors must be considered as well. And we need to remember that insurance inequities remain a glaring part of the urban landscape.

If ignored, individual and community characteristics can exacerbate urban access problems. Level of

education, transportation, language and culture, proximity to providers, health literacy, and health beliefs are key factors that influence efforts to reach urban populations. In addition, neighborhood conditions affect the breadth and type of access required.

Research has documented continuing, significant disparities in health services and outcomes affecting diverse racial and ethnic populations. Studies have shown race-based differences in courses of treatment for cardiac conditions, colorectal cancer, and earlystage lung cancer as well as hospitalizations for asthma. The implications are far-reaching: access challenges extend far beyond insurance status.

Urban Populations and the Responsibility of the Health Care System

Urban populations are changing and health-care practitioners need to be aware of the new demographics. Culturally diverse populations and the elderly are two urban groups likely to increase well into the twentyfirst century. Changes in welfare create new concerns, while health literacy is becoming a greater challenge. More research is needed to assess the effectiveness of new and emerging models for improving access to care, with special attention to the following:

- Cultural diversity. Urban populations are increasingly characterized by their diversity, and health professionals need to understand the characteristics of these populations, identify effective ways to deliver services, and focus on health beliefs, customs, and behaviors that affect patients' willingness to seek and continue in treatment.
- The elderly population in the nation's cities. As the number of elderly in America increases, health-care providers and organizations must reach out to a growing, frequently poor, population that may find it difficult to leave the immediate environment due to physical inability or psychological barriers. We must extend accessible care into areas where large numbers of elderly live, as well as develop cross-sectional skills that incorporate training in geriatrics with an understanding of cultural diversity, poverty-related concerns, and community characteristics.
- Welfare-workplace transition and access to health *care*. With the introduction of urban residents formerly on welfare into the workforce, access to health care should be provided in settings where the welfare-to-work population both resides and is employed. Employers may be interested in offering on-site, extended-hour care that minimizes time away from work.
- *Health literacy and urban populations*. Estimates suggest that almost 50 percent of American adults have less than adequate literacy skills for functioning in society, which also limits their ability to understand and navigate the health system. Health literacy cuts across the urban sociodemographic spectrum as well, touching the continued on page 6

Brooklyn: Its People and Their Access to Care

One of the first steps in developing strategies to improve urban health care is to accurately assess the health status of a community. What are the problems? The strengths? How do population dynamics impact health?

As Dr. Andrulis points out, a community's health is influenced by many factors. Education, the environment, access to medical professionals, demography, economic status, and housing are only a few of the elements that contribute to a community's health status.

If it were a separate city, Brooklyn would be the nation's fourth largest. Two years ago, SUNY Downstate began looking at key indicators of the borough's health, as well as the broader forces that affect disease and illness in the borough. These studies have led to a series of reports focusing on major health issues, including infant mortality, heart disease and stroke, and HIV/AIDS.

Taken together, these studies clearly demonstrate that Brooklynites suffer much higher rates of diseases - many of them preventable — than other New Yorkers and Americans. And yet, their access to care whether it be a visit to a family doctor or a referral to a specialist - is dramatically less.

Working with community organizations

throughout the borough, we at SUNY Downstate are convinced that we can raise the standard of care in Brooklyn, so that its citizens — whether they were born here in East Flatbush or in a distant village, whether they are young or old, whether they have insurance or not - can lead purposeful and happy lives.

The charts on these pages are a representative slice of the data contained in the Health Report Cards.

Copies of SUNY Downstate's Brooklyn Health Report Cards are available from the Office of Institutional Advancement (718) 270-1176.





Brooklynites are twice as likely to live in poverty as New York State and U.S. residents. The median household income in the borough was \$24,034 in 1995, compared to the national average of \$34,076. Brooklyn's children fare worse: nearly half live in poverty. Source: Small Area Income and Poverty Estimates, U.S. Census Bureau





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TOP TEN CAUSES OF DEATH

Three of the top ten causes of death in Brooklyn-AIDS, homicide, and drug dependence-are not leading causes of death elsewhere. These diseases, which primarily affect younger Brooklynites, could be greatly reduced through public health intervention.

Sources: 1997 Vital Statistics Report, NYSDOH. Deaths: Final Data for 1997, CDC.

matches the nation's for the

percentage of uninsured, Brooklyn's is far greater: nearly 3 in 10 Brooklynites

Sources: Survey of Healthcare in NYC, 1997. Five Boroughs,

The Commonwealth Fund.

lack insurance.



SUNY Downstate's Health Report Cards give a snapshot of the key indicators of Brooklyn's health.

UNINSURED ADULTS LIVING IN BROOKLYN, NEW YORK STATE, AND THE UNITED STATES



"A national effort to develop and financially support replicable strategies is called for." elderly, underserved populations, immigrants, and those living in poverty. Health literacy has farreaching implications for practitioners, healthcare organizations, the pharmaceutical industry, health plans, and all levels of government.

Reassessment of the Urban Safety Net: The Changing Role of Traditional Providers of Care

Policymakers should consider how access to quality health care is affected by the new alliances being forged by managed care and community health centers. The impact of changes on vulnerable populations should be tracked over time. Absent a national health insurance initiative, policymakers should work to develop a sustainable system of care for disenfranchised populations. Experiments with publicprivate financing and other strategies to incorporate the uninsured into managed care should be encouraged. Without such initiatives, managed care plans are likely to view vulnerable populations as outside their mission.

• Community intervention. Models are emerging that extend health care beyond clinic or hospital walls to integrate community-based mission and strategies into urban health. Quality-of-care studies have linked processes of care to improved outcomes. When critical community characteristics-environment, culture, age, literacy-are not included as part of intervention designs, the effectiveness of those interventions is weakened.

Health care interventions might include a range of actions that the community deems critical to its health. Trash removal, elimination of roach infestation, and prevention of violence, for example, could be seen as points of entry to improving health and combating specific conditions, such as asthma, trauma, and disease. Outcomes research should focus on identifying potential models in which community-provider collaborations and knowledge of urban populations together can yield greater health improvements.

• Averting the health professional crisis in America's urban areas. Of particular concern is the increasing erosion of affirmative action. This loss is likely to have a major untoward effect on the availability of urban health care. Research suggests that providers from diverse ethnic and cultural backgrounds tend to serve diverse and poor populations, and that managed care may discourage plan participation by providers who treat urban populations.

Public Policy and the Role of Government

Health and social services programs suffer from long-standing, serious fragmentation. Solutions to urban health problems require cutting across categorical lines, developing strategies, and creating common data banks that extend across health and social settings.

States should encourage active collaborations between local governments and providers to address urban health concerns. The primary intent should not be to make unreasonable demands, but to encourage targeted initiatives.

Cultural competence requires linguistically competent outreach. California's Medi-Cal managed care contracts, for example, require linguistic services, 24-hour access to interpreter services, and information on health topics, plan coverage, and appointment scheduling in languages appropriate to area demographics. As part of this initiative, community advisory committees guide and monitor services for cultural competence. Other states — Minnesota, Massachusetts, and New Jersey, to name a few — are also developing cultural competency initiatives.

Conclusions

We must encourage providers and health-care organizations to address urban health challenges. The rapidly changing world of heath care, the dynamic environments of the nation's urban areas, and new limits on resources, require more than the idiosyncratic application of promising initiatives to achieve sustainable long-lasting effects. Rather, a national effort to develop and financially support replicable strategies is called for. To set an effective agenda for improving access in America's cities, we must recognize the changing urban landscape and take advantage of collaborations among traditional and new players.

*Adapted from an article that appeared in the *American Journal* of *Public Health* (2000:90:858-862). Dr. Andrulis has been awarded \$90,000 by the Robert Wood Johnson Foundation and the California Endowment to create a new organization, the National Cultural Competence Coalition.

Concerned about access to health care?

Then Downstate's new Urban and Immigrant Health M.P.H. Program is for you.

First class launches in June 2002. See www.downstate.edu for program and admissions details, or call 718-270-1065.



A Biotech Park Grows in Brooklyn

By Doris Youdelman and Ron Najman

xperts agree that biotechnology is destined to become a major pillar of the nation's economy and have an enormous impact on health care. According to the Biotechnology Industry Organization, from 1995 to 2000, nearly three times as many biotech drug products were approved than in the previous 13 years. Taking advantage of this surge in biotech, SUNY Downstate has created the first comprehensive plan for biotechnology - from incubator to manufacturing — in New York City. Downstate's plan for an advanced biotechnology research park is unique in New York because it is attracting both mature and start-up companies and it includes provisions for successful ventures to locate manufacturing facilities in the borough.

Getting Started

ImClone Systems, Inc. is launching a new division at the research park to develop small-molecule drugs that fight cancer and rheumatoid arthritis. ImClone's operation is leasing existing space from Downstate, which ImClone is renovating. To make room for additional companies, Downstate will build a \$20 million biotechnology incubator in a converted warehouse. Both ImClone's space and the incubator are located within two blocks of the campus. Together, these sites will serve as the anchors of Downstate's growing biotech park.

"The world is on the threshold of a new era in

biotechnology that will dramatically change our

lives," observes Downstate's president, Dr. John C.

Previous page: Rendering of Downstate's proposed Advanced Biotechnology Incubator.



LaRosa. "Downstate is now assured to play a major role in biotech's exciting future."

The incubator will include modular wet and dry laboratories and office spaces, plus common areas to allow biotech companies to share costly equipment and other resources. The incubator and biotech park will provide affordable space and access to faculty researchers, the medical/scientific library, and other specialized facilities—in short, everything new biomedical companies need to prosper.

Many agree that the effort holds vast promise. Keith Brownlie, area industry leader for biotech at Ernst & Young, says, "I see Downstate as having enormous potential for developing and retaining biotech companies in New York. The idea is sound, and Downstate has already made great progress. It will be a boon to New York and the region." He adds that when the economy rebounds, biotech will help lead it. "Health care represents about a third of our economy, and pharmaceutical companies already look to biotech firms for innovation in drug development and research."

Translating Basic Research into New Products

Dr. Eva Cramer, vice president for biotechnology and scientific affairs, is spearheading the project. "One of the purposes of the biotech park is to develop an entrepreneurial environment for our faculty and students," says Dr. Cramer. Several of our faculty researchers will be renting space in the incubator.

Biotechnology Park

The Biotechnology Park will be sited adjacent to the Downstate Campus:





50,000 sq.ft. Advanced Biotechnology Incubator

3 Tenant ImClone Systems, Inc., Small Molecule Drug Discovery Division



Dr. Eva Cramer, Downstate's vice president for biotechnology and scientific affairs.



Fernando Martinez, formerly of the Department of Housing and Urban Development, is executive director.

Pathology Professor Randall Barbour plans to manufacture an imaging device that uses laser beams to detect breast tumors. Built on research started 15 years ago, this apparatus will be safer and more economical than mammography equipment. Unlike standard mammography equipment, the technology can even be miniaturized to a portable size. In addition, the technology can be used to detect peripheral vascular resistance disease.

Distinguished Professor and Chairman of Biochemistry Alfred Stracher has long been interested in therapies to treat neuromuscular and neurodegenerative diseases. His company is developing a drug delivery system that targets drugs toward muscle and nerve tissue to treat such disorders as muscular dystrophy and multiple sclerosis.

Another faculty member, M.A.Q. Siddiqui, chairman of anatomy and cell biology, is investigating a means of inhibiting the signaling mechanism that activates certain cardiovascular disorders. Based on his research at Downstate, Dr. Siddiqui has discovered an agent that affords protection

against hypertrophy of heart muscle and ischemic injury. His company will research the physiological and pharmacological effects of this inhibitor in animal models to establish the groundwork for clinical trials. Ultimately, he may be able to develop a new treatment for preventing or reversing heart disease.

Other faculty members may also be interested in incubator space as their research progresses. Henri Tiedge, Ph.D., and Ellen Hsu, Ph.D., associate professors of physiology and pharmacology, have started a company to develop a new diagnostic tool for breast cancer. It is based on the discovery by Dr. Tiedge and his researchers that an RNA

molecule specific to nerve cells is also manufactured in cancerous cells in the breast. As this molecule is absent in normal breast tissue, a molecular test for breast cancer is being developed to complement conventional detection methods such as mammography.

Educational and Economic Benefits

The incubator and biotech park project will be a great asset in recruiting top faculty researchers and students to Downstate. It also will strengthen our biomedical engineering education and research collaboration with nearby Polytechnic University.

Having a biotech park in their own backyard will spur interest in biotech careers among local high school students. Downstate expects to offer a course in biotechnology to secondary school teachers to help them encourage their students' scientific interests. Both graduate and medical student internships, as well as a program for technicians who wish to learn modern biotechnical methods, are planned. The campus will also offer entrepreneurial training to help researchers turn their scientific discoveries into commercial products.

Long a source of educational and economic opportunity for the people of Brooklyn, Downstate is poised to become an instrument of revitalization for the borough. Locally, the expected influx of new biomedical companies—as well as new stores, banks, and restaurants in the neighborhoods Downstate serves—will be a boon to the economy, creating new jobs and new opportunities for area vendors.

"Downstate has created the first comprehensive plan for biotechnology — from incubator to manufacturing — in New York City."

To ensure that this happens, Downstate established the Brooklyn Biotechnology Consortium in cooperation with elected officials, community leaders, and local institutions, including the Brooklyn Economic Development Corporation, the Brooklyn Chamber of Commerce, the Brooklyn Borough President's Office, the New York Biotechnology Association, Con Ed, Keyspan, and the Empire Development Zone. This effectively takes the concept of a Biotechnology Park borough-wide. Says Joan Bartolomeo, director of the Brooklyn EDC, "It is really to Downstate's credit that they have reached out to the entire borough, making the campus the center

point of what is truly a regional effort to help the economy."

Crain's New York Business estimates that 30 biotech companies are begun each year in New York City. Almost all of them leave, however, due largely to the high price of Manhattan real estate and, up until now, few efforts to relocate them in less expensive sites in other boroughs. Downstate's project is designed to keep such companies in the city, specifically in Brooklyn. As businesses grow in the biotech park environment, they will need to find manufacturing space to produce their products. The Consortium will assist in finding it. The Consortium also will engage in joint marketing to the business community and provide a support network, helping companies find housing and other services for their employees.

Recognizing the need for additional management experience for this ambitious project, Fernando Martinez was hired from the Department of Housing and Urban Development to manage the biotech park. Economic support for the project has come from local elected officials through the New York City Economic Development Corporation (NYEDC) and the New York State Office of Science, Technology, and Academic Research (NYSTAR), with additional funding anticipated from United States Economic Development Agency and the Empire Development Corporation. But because mature companies with their own resources such as ImClone are participating, the project is not dependent solely upon public support.

ImClone is renovating 16,000 square feet of space in the warehouse using its own funds, and other established firms are expected to do the same. Moreover, a venture capital group has expressed strong interest in sending new businesses it is financing to the biotech park.

"This project has stimulated enormous interest not only on campus and in the borough, but within the city and the state," says Dr. Cramer. "Brooklyn is a perfect place for biotech. The biotech park will provide an affordable scientific and business environment and the Consortium will help companies expand into a wide range of low-cost industrial space in other areas of Brooklyn."

For more information, contact the Office of Biotechnology and Scientific Affairs at SUNY Downstate, 718 270-2680



Downstate's Biotechnology <u>Park</u>

- For start-up and mature biotech companies
- Modular 500 sq. ft. wet lab and dry lab/ office space
- High-speed telecommunication services
- Shared core services
- Conference space
- Access to university resources:
 Basic and clinical scientists
 - Medical and scientific library
 - ▶ Animal facilities
 - Specialized research facilities and equipment
 - Clinical trials
- Access to:
 - Experts in business, personnel, regulatory issues, accounting, tax, and legal services
 - Venture capitalists

Brooklyn Biotechnology Consortium

Incubator space adjacent to Downstate

Space

- For expansion/manufacturing in NYS Empire Zones
- Competitively priced

Incentives which can reduce operating costs

Extensive public transit and vehicular network

One-stop shopping for real-estate, financing, and technical assistance



Above: Downstate's predecessor institution, the Long Island College Hospital, 1883.

Portrait: Alexander Johnston Chalmers Skene. Contemporaries described him as a physician who had "no superior in diagnosing diseases." He was also an inventor, a sculptor, and a prolific writer who had over 100 scholarly articles, five textbooks, and a romance novel to his name.



Dr. Powderly is acting director of the Division of Humanities in Medicine.

A Look Back: Alexander Skene, M.D., L.L.B. by Kathleen Powderly, Ph.D.

From its earliest years, SUNY Downstate has been known for its clinical excellence, a legacy that perseveres. What are the roots of this celebrated reputation? How did those who went before help shape the school that exists today?

A look at the life of one of Downstate's earliest graduates, Alexander Johnston Chalmers Skene, Class of 1863, provides a lens through which to examine these questions. Skene, a specialist in the diseases of women, spent virtually his entire career at Downstate — first as student, then as faculty member, dean, and, ultimately, college president. He made his mark on medical history by describing the paraurethral glands in the female genitalia that are named for him — Skene's glands.

Brooklyn, LICH, and Clinical Care

After emigrating from Scotland in 1857, Skene attended classes at several medical schools before settling in at Downstate's predecessor institution, the Long Island College Hospital (LICH). Most of the schools at that time were "proprietary" — that is, owned by the physicians who served as their faculty, dependent on student fees, and not linked to a university or hospital.

In contrast, LICH offered Skene hospital-based medical education. It was the first medical college founded within a hospital — an historic precedent — and students had more exposure to clinical care than at virtually any other medical school. The curriculum consisted of lectures, but also bedside



Alexander Skene's monument today in Grand Army Plaza.

instruction and practical teaching. Skene received broad practical training in midwifery and the diseases of women.

When Skene graduated from LICH in 1863, Brooklyn was the third largest city in the country (behind New York and Philadelphia) and an entry port for immigrants. It was a growing, evolving, and bustling urban center, with the public health crises and health problems that such an environment engenders. Skene and his fellow practitioners at LICH saw more than their share of waterfront and industrial accidents, as well as infectious diseases and illnesses caused by crowded housing and poor nutrition. Forty percent of Brooklyn's residents were foreign born, and LICH, founded to meet the health-care needs of Brooklyn's immigrants, treated a significant number of the newcomers. In 1870, for example, of 1,008 inpatients treated at LICH, only 301 were "native" Americans. The vast majority were immigrants: 329 Irish born, 95 German born, 104 from Norway and Sweden, with the remainder from other countries.

As at Downstate today, clinical teaching was a central component of the LICH curriculum. In 1872, Skene and his fellow faculty members created a new type of appointment within the hospital— "clinical teacher." Hands-on patient care was a must for students, who were divided into small



Anatomical drawings of Skene's glands by Dr. B.F. Westbrook. From: Skene, AJC. "The anatomy and pathology of two important glands of the female urethra."

groups and accompanied professors on rounds. After examining patients, students would be rigorously questioned and their diagnoses critiqued. Not all schools offered this experience. Even at the better schools, students often graduated without ever having attended a delivery, witnessed an operation, or examined a patient. This was true at Harvard in 1869.

In Skene's specialty area, all senior students spent time in the clinics of the gynecologists of the dispensary, and advanced students were present at all important gynecological operations. The curriculum announcement of 1887 noted that "graduates in medicine desiring to make a special study of the diseases of women will find every opportunity and the most abundant facilities at the Long Island College Hospital."

Skene's Glands

The most lasting accomplishment of Skene's career is the description of the female paraurethral glands. His "discovery" was actually a rediscovery: they had been noted in 1672 by Reinier de Graaf, who equated them with the prostate in the male. The absence of any mention of them for two centuries accounts for Skene's belief that they were unknown. Skene wrote, "So far as I know, the

20 James Correct Enclarged de 14 Frazer Mais dert-Boil 12 Music Came ala Law?

Dr. Skene was known for the thoroughness of his patient records.

anatomy of these glands has not been described.... At least, this much may be said, that the standard textbooks on anatomy and gynecology in English, German, and French contain no references to them."

Skene discovered the glands by accident while treating a thirty-year-old woman whose complaints included profuse leucorrhea, inflammation of the vulva and vagina, and painful urination. Skene diagnosed subacute vaginitis, but was unable to resolve her condition. None of the standard treatments worked. Then, during an examination, Skene noted minute yellowish-gray ulcerations on either side of the meatus. These oozed a purulent discharge when pressure was applied, and Skene found they were actually canals into which he was able to insert a probe. Skene cleansed and cauterized the canals and the patient's symptoms improved. She recovered completely in two months.

Skene followed up with a study of over 200 patients. He concluded that the glands he had discovered were significant only when inflamed, and that the disease that most often caused inflammation was gonorrhea. This was an important clinical finding in an era when treatment for sexually transmitted diseases was nonexistent, and women of all classes were at-risk for infection by partners who frequented prostitutes. Skene's discovery offered the possibility of at least symptomatic relief for female victims of gonorrheal infections.

Skene as Practitioner

Over 3,000 of Skene's clinical records, spanning some 20 years, have survived, and they provide a picture of a busy practitioner with a patient base reflecting Brooklyn's ethnic and social diversity. Patients who came to the LICH dispensary were largely poor, while Skene's private practice drew affluent women from all over the country and even Canada. He also saw asylum patients at Kings County.

His records paint a portrait of a physician whose relationship with female patients was ahead of its time. Although born and trained during the Victorian era, when most male doctors maintained a paternalistic "doctor knows best" attitude toward the women they treated, Skene often negotiated with patients and recommended treatment regimens based on their wishes. He also appears to have respected the impact of child-care and work activities on decision-making among his patients.

Skene set a strong model for clinical care. His records repeatedly emphasize the importance of a thorough physical exam, including history, observation, auscultation, and palpation. He was a strong proponent of a differential diagnosis, establishing a final diagnosis only when other possible causes had been ruled out.

Skene's legacy persists today. The quality of Downstate's clinical education continues to draw students, and our graduates are known as innovators who are well-honed in the art and science of medicine.



May 14, 1906. Unveiling of Skene Monument, Prospect Park Plaza (Courtesy of the Brooklyn Public Library.)

Memorial to an Outstanding Physician

Dr. Skene is the only physician in Brooklyn and one of only a very few in all New York City to be honored with a memorial statue. The memorial — a bronze bust atop a white marble pedestal — stands in what at the time of its unveiling in 1906 was one of the most prominent locations in Prospect Park (opposite the Soldiers and Sailors Arch in Grand Army Plaza, at the corner of Flatbush Avenue, then the highest point of land in Prospect Park). The monument cost \$5,000 and was paid for with donations, small and large, from colleagues, friends, and patients.

Its artist, J. Massey Rhind, was the sculptor who created the bronze doors of Trinity Church in lower Manhattan. The architects, M.L. and J.G. Emery, are credited with designing at least part of the Polytechnic campus. M.L. Emery was also the architect of the Polhemus Building at LICH, which was erected when Skene was LICH president.

One intriguing — possibly scandalous historical note: M.L. Emery, 38, married the 60-year-old widow Skene in 1903, three years before the memorial's unveiling. The family refused to talk to the press at the time of the marriage, though it did not seem to dampen the unveiling ceremony, which was attended by the City Parks Commissioner and many of Brooklyn's best families.

Downstate's University Hospital of Brooklyn is **Seeking Patients** for Three New **Clinical Trials**





As Brooklyn's only academic medical center, Downstate and its University Hospital of Brooklyn allow physicians and patients to take advantage of clinical research trials and advanced medical therapies that they might not otherwise be able to access. Three of the latest trials available to patients are the NY ELCAP, SELECT, and DREAM studies.

ELCAP: A Pioneering Study to Detect Early Lung Cancer

This trial is looking at a new technique for detecting lung cancer in high risk, asymptomatic patients. As part of a study sponsored by the New York Early Lung Cancer Action Program (NY ELCAP), Downstate researchers, in conjunction with Kings County Hospital Center, are attempting to validate preliminary results of an earlier study led by Claudia Henschke, M.D., chief of chest imaging at Cornell Medical Center. Her team of researchers used low-dose spiral computed tomography (CT) scanning to detect earlystage lung cancer in 1,000 smokers.

Also known as helical CT, low-dose spiral CT scanning allows patients to undergo a painless 20-second procedure; the entire screening takes about 10 minutes. Spiral CT scanners can image entire anatomic regions like the lungs some ten times faster than conventional CT scanners, with less overall radiation exposure. It offers the added advantage of producing no intersplice gaps within the scanned region, meaning that data sets can be reconstructed to provide highly detailed three-dimensional images of complex structures. In the EL-CAP study, if the scan picks up anything suspicious, participants are given a repeat screening followed by treatment with antibiotics to rule out ordinary infection. Based on the results, further diagnostic tests or surgery may be indicated for follow-up.

Radiologist David Gordon, M.D., is leading the study with the assistance of Drs. Harry Zinn (Radiology), Spiro Demetis (Pulmonary Medicine), Josh Burak (Surgery), and Constantine Axiotis (Pathology). Volunteers past the age of 60 who have a ten-pack year history of smoking (meaning one pack a day for ten years or two packs a day for five years, etc.) are sought to participate in the study. All subjects found to have early-stage lung cancer will receive immediate treatment for the disease.

Early detection is especially important in minority communities, such as those Downstate serves. Lung cancer accounts for 25 percent of diagnosed cancers among African American men, and the mortality rate is nearly 50 percent higher than that of white men; cancer death rates for African American women are also higher than average. Dr. Gordon's research team hopes that enough minority members will participate in the trial so that we can begin to find ways to prevent cancer deaths in our community.

SELECT: Selenium and Vitamin E Cancer Prevention Trial

Healthy men age 55 and older are being recruited for the largest-ever prostate cancer prevention study. Downstate is participating in this NCI-funded study through the network of research sites known as the Southwest Oncology Group (SWOG). The study seeks to learn if these two dietary supplements can protect against prostate cancer, the most common form of cancer, after skin cancer, in men.

More than 400 sites in the United States, Puerto Rico, and Canada are recruiting participants for SELECT, which will take up to 12 years to complete. The study will include a total of 32,400 men. "SELECT is the first study designed to look specifically at the effects of vitamin E and selenium, both separately and together, in preventing prostate cancer," said Dr. Richard J. Macchia, professor and chairman of the Department of Urology at SUNY Downstate. "Previous research involving vitamin E and selenium suggested that these nutrients might prevent prostate cancer, but we don't know for sure. When SELECT is finished, we will know whether these supplements can prevent prostate cancer."

Selenium and vitamin E, both naturally occurring nutrients, are antioxidants. They are capable of neutralizing toxins known as "free radicals" that might otherwise damage the genetic material of cells and possibly lead to cancer. These nutrients were chosen for study because of the results of two other large cancer prevention trials.

Men in the study from Brooklyn will visit SUNY Downstate's University Hospital of Brooklyn or Kings County Hospital Center once every six months. Upon enrollment, they will be assigned by chance to one of four groups. One group will take 200 micrograms of selenium daily plus an inactive capsule, or placebo, that looks like vitamin E. Another group will take 400 milligrams of vitamin E daily along with a placebo that looks like selenium. A third group will take both selenium and vitamin E. And a final group will be given two placebos.

During this year alone, prostate cancer will be diagnosed in about 198,100 Americans and more than 31,500 men are expected to die of the disease. In New York, 12,700 will get prostate cancer and 2,000 men will die of it. Risk factors for the disease include being over age 55, being African-American, or having a father or brother with prostate cancer.

DREAM: Preventing Diabetes

Diabetes mellitus is a growing health problem that is estimated to affect more that 140 million people worldwide. Dr. James Sowers, professor of medicine and director of the Division of Endocrinology, Metabolism, Diabetes, and Hypertension, believes that unless we take strong preventive measures now, we could see a dramatic decrease in life expectancy in the years ahead.

With major funding from the American Diabetes Association, Dr. Sowers and his co-investigators, Drs. Mary Ann Banerji and Samy McFarlane, are participating in a three-year, multi-site, national study to test whether two known drugs—one used to control high blood pressure, the other to treat diabetes—can also prevent type II diabetes in people with impaired glucose tolerance. The DREAM (Diabetes Reduction Assessment with ramipril and rosiglitazone Medication) trial seeks to build on the success of the HOPE (Heart Outcomes Prevention Evaluation) study, which found that ramipril, an ACE inhibitor used to treat hypertension, was also effective in reducing the incidence of heart attack, stroke, and diabetes.

"If the results of the DREAM study are positive, we may be able to prevent or reduce the severity of a disease that has reached epidemic levels in many of the communities Downstate serves," says Dr. Sowers. "It would be a milestone in medicine."

Blazing a New



Downstate's Direct Entry Midwife Program

by Carol Milano

nd when Rachel was in her hard labor, the midwife said to her, 'Fear not, for now you will have another son.'"(Genesis, 35:17).

Midwives are mentioned in ancient papyri, Hindu records, and the Biblical book of Exodus, when two Hebrew midwives defied the King of Egypt by refusing to kill male infants.

They've helped women throughout recorded history, yet midwives remain somewhat mysterious. Midwives are not specialized nurses — but the misperception is logical: American midwifery programs, traditionally based in schools of nursing, require students to become registered nurses before earning a certified nurse-midwife (C.N.M.) credential.

Breaking New Ground

Now, SUNY Downstate Medical Center's College of Health Related Professions is blazing a new trail for this ancient vocation. Its Direct Entry Program is training midwifery students without nursing degrees – and was the first in the country to do so.

Downstate's curriculum prepares college graduates to become certified midwives (C.M.s), recognized by New York State and eligible to take the American College of Nurse-Midwives (ACNM) national certifying exam. So far, all 16 non-nurse graduates have passed the New York State licensing exam and are ACNM certified.

Launched in 1996, the Direct Entry Program was developed by Lily Hsia, M.S., C.N.M., F.A.C.N.M., and Maryann Shah, M.S., C.N.M., F.A.C.N.M., with the assistance of the faculty and in partnership with the Midwifery Division of North Central Bronx Hospital (NCBH), after the 1992 passage of New York State's Professional Midwifery Act permitted non-nurses to become midwives. "We formed a task force and advisory council within the college. University administration, especially our senior vice president, Dr. JoAnn Bradley, was very supportive," recalls Ms. Hsia, chairperson of midwifery, who serves on the New York State Board of Midwifery.

Entry Midwifery Program, non-R.N.s learn side-by-side with licensed nurses. Here, students are given tips on neonatal care by Suzanne Schechter, M.S., C.N.M. (far right).

In Downstate's Direct

North Central Bronx Hospital's Midwifery

Division agreed to provide a major clinical site for Direct-Entry Program students. Its director, Charlotte Elsberry, C.N.M., M.S.N., FACNM, helped create the program, initially a one-year post-baccalaureate advanced certificate. It was pre-accredited by the ACNM, which had recently changed its criteria to admit direct-entry midwives. Without the new state statute and ACNM policies, "we couldn't have started a Direct-Entry Program — graduates wouldn't have been able to practice midwifery," Ms. Hsia observes.

Program Content

The Direct Entry Program admits R.N.'s and non-R.N.'s who share "the same curriculum, core competencies, clinical sites, teachers, exams, standards, and outcome," explains Ms. Hsia. Nonnurses take three special courses to fulfill the New York State licensing requirements.

Clinical placements begin in the first year, at over 20 different sites, from birthing centers to major hospitals. "When students start the program, they only talk about labor and delivery," Ms. Hsia finds. "I keep saying, "That's only part of what you do.' Midwives provide prenatal care, gynecologic care, family planning, and post-menopausal services."

Reflecting the profession's range, Downstate's Direct Entry Program began offering an ACNMapproved, accredited two-year master of science degree in midwifery by 1998. (The advanced certificate option remains available to students holding an M.S. degree.)

Men are welcome in the small, selective program: graduate Barry Wright, a former physician's assistant, is a certified midwife at a Staten Island hospital. Whatever their background, direct-entry students share enthusiasm for Downstate's curriculum.

Sakina O'Uhuru, a member of the first graduating class, had been a physician's assistant in maternal and child care in the Bronx. "The program helped me see pregnancy from another perspective and treat patients with a more holistic approach – one that was compatible with my own values," she says. "It opened my eyes to a different way of managing care for women." Ms. O'Uhuru was tended by a midwife during her own pregnancy in 1986.

"As a graduate, I'm so grateful that I went through Downstate," she adds. "All the midwives who helped as preceptors were great. I can't say enough about how challenging yet fulfilling the training was at my placement."

"I would absolutely recommend the SUNY program!" says Sage Clarke, a former medical assistant in Boston, who applied to Downstate only after it introduced a master's degree. She commends the combination of classroom and clinical work, and



Midwives without nursing degrees: Direct Entry Program graduates Sage Clarke, Class of 2000; Sakina O'Uhuru, Class of 1997; and Bevin Cahill, Class of 2001 (I to r).

side-by-side education of direct-entry and nursing students. "I got a really solid midwifery education, including the variety of settings in which midwives could work." Ms. Clarke's training included hospital, birth center, and home birth practice placements. It is rare for midwifery students to get exposure to all three settings.

"I'd known for so long that I wanted to become a midwife, the education felt like a privilege," confides Bevin Cahill, who worked as a doula (a labor/ postpartum assistant) in Massachusetts for six years before entering Downstate's program in 1999. She was surprised her training required becoming wellversed in every aspect of a woman's life. "The first semester was difficult — I don't have a clinical background, unlike many other students, and had to learn the whole language of medicine. The program is academically rigorous, and the faculty supportive."

Ms. Cahill praises Downstate's "incredible resources," as well as its extra courses for nonnurses, immediate clinical training, and affiliation with North Central Bronx Hospital. "You're with midwives constantly," stresses the 2001 graduate, who valued her three semesters at NCBH's longestablished midwifery service and its support for direct-entry students. "They taught me to be efficient, sensitive, precise, compassionate, yet clinically savvy. As a beginning midwife, I feel so wellprepared!"

Funded by a grant from the ACNM Foundation, a two-year study, begun in 1996, compared process and outcomes for nurse and non-nurse students. No differences were found in length of time required for completion, grade point average, employment, or passing rates at either national or New York State certification exams.

Opportunities for Graduates

Most Direct-Entry Program alumni work in hospital-affiliated programs in New York State. The department shares news of job openings with alumni and students, who also hear about opportunities at clinical placements. Some new graduates simply send resumes to all metropolitan area midwifery services.

Sakina O'Uhuru returned to her former employer, Morris Heights Health Center. Promoted in 2000 to manager of midwifery, she's now the site director of its Women's Health & Birthing Center, with a staff of 25, including five full-time midwives. She still practices as a midwife about 10 percent of the time.

Sage Clarke, a midwife at Woodhull Hospital, typically attends one or two births a day and provides primary care at its ambulatory clinic in Fort Greene. "The work is very challenging. Often in New York City, we see an under-served population that doesn't fit the criteria for 'normal' — a complicated group to work with.

"I've had great interactions with patients, which has been very rewarding. Delivering babies is a real privilege," she affirms. When she graduated in 2000, midwife employment was slow. An acquaintance at Downstate worked at Woodhull, and recommended her for an opening there. "My lack of R.N. training only affected me in not being as familiar with a hospital setting as nurses who have previously worked in a hospital," says Ms. Clarke, who felt academically well-prepared for her job.

Relationships with the Medical Community

The C.M. credential is still new, but professional acceptance is growing. In September, the American College of Obstetricians and Gynecologists (ACOG) officially recognized the C.M. designation. A new Joint Statement from ACOG and ACNM expresses strong support for collaborative practice between obstetricians, C.N.M.'s and C.M.'s.

Downstate graduates report positive interactions. "Because the ob-gyn who hired me was receptive, I've had no major impediment to my practice at Woodhull. So far, it appears that once employed, C.M.'s. have as much success and are as well-regarded as C.N.M.'s," says Ms. Clarke.

However, Lily Hsia recognizes obstacles. Some clinical placements prefer nurse-midwife students to their directentry classmates. "Many nursemidwives who never had the opportunity to work with a certified midwife may hesitate to accept a direct entry person, wondering how someone who isn't a nurse and hasn't gone through the same process could have the same skills and knowledge as a C.N.M."

Among doctors, Ms. Hsia sees "some physicians who don't know the difference [between C.N.M.'s and C.M.'s]; others who have worked only with C.N.M.'s are not familiar with direct entry. Acceptance by hospitals and health care facilities will be a gradual evolution," she predicts.

Some students do encounter discrimination against C.M.'s while jobhunting. One graduate was told by a representative of a local hospital, "Don't even send a resume," upon hearing that she was a not a nurse-midwife.

An Evolving Profession

America's 7,500 midwives delivered 287,298 babies in 1999, according to the National Center For Health Statistics. ACNM considers this figure low, since a resident often signs the birth certificate. In New York State alone, C.N.M.'s delivered almost 11 percent of all infants in 2000.

With other schools likely to initiate Direct Entry programs, ACNM seeks one standard and one licensing procedure for all professional midwives. "They'll go to the same programs and clinical placements, and take the same national certification exam," explains Marion McCartney, C.N.M., director of professional services for the ACNM. "We feel the Direct Entry Program is equivalent to preparing for the C.N.M. designation."

Active in ACNM's local chapter, Sage Clarke chairs a committee for Advancement of Midwifery Practice, promoting licensure of C.M.'s outside New York. "Other states are in the process of changing their legislation to make the practice of certified midwifery legal," she notes.

As for C.M. employment, Ms. Hsia concedes, "Once we educate an individual, unless the person wants to practice in New York State, opportunities are still limited."

Establishing a Reputation

When Bevin Cahill was applying to graduate schools in 1999, "midwives I knew highly recommended Downstate, saying they thought it was an amazing program." She was pleased to find SUNY far more affordable than other C.N.M. programs she'd considered.

After directing Downstate's Direct Entry Midwifery Program for five years, Lily Hsia is "very satisfied with the

Downstate Offers Three Paths to a Career in Midwifery

Students interested in pursuing a career in midwifery have a number of different degree options at SUNY Downstate:

Advanced Certificate — College of Health Related Professions

For individuals – both R.N.'s and non-R.N.'s – who already hold a master's degree, or students with bachelor's degrees who want to complete a certificate program first. (A Master's Degree Completion Option is available after graduation.)

MASTER OF SCIENCE - COLLEGE OF HEALTH RELATED PROFESSIONS

Students with prior baccalaureate degrees take the Advanced Certificate core curriculum, plus an additional 12 credits of research and policy courses to qualify for the master's.

Non-R.N.'s can pursue either of these options through SUNY Downstate's unique Direct Entry Program.

MASTER OF SCIENCE - COLLEGE OF NURSING

For R.N.'s who possess a B.S.N. only, who prefer to pursue a master's level degree through SUNY Downstate's nursing program. Students take the Midwifery core curriculum, plus an additional 14 graduate-level courses through the College of Nursing.

Recommended Reading



In One Hundred Days: My Unexpected Journey from Doctor to Patient, David Brio, M.D., a member of our Dermatology Department, describes his difficult journey from bursting good health to illness and gradual

recovery. He also relates the important discoveries he made about what it's like for a physician who becomes a patient. Diagnosed at the age of 31 with paroxysmal nocturnal hemoglobinemia, a rare stem cell disorder. Dr. Brio believed a bone marrow transplant might save him. But when he consulted two top experts in the field, they

delivered strongly opposing views. Whose advice should he follow? Dr. Brio decided to go ahead with the transplant operation, and his disease is now in remission. The loving support of family and friends went a long way toward helping him return to his former role of caregiver instead of patient.

After hearing a friend describe her panic and confusion before undergoing surgery, Dr. James Cottrell, chair of anesthesiology, decided to write a guide to help other patients alleviate their fears. Co-authored with Stephanie Golden, Under the

Mask: A *Guide to* Feeling Secure and Comfortable during Anesthesia and



Surgery describes, in layman's terms, some common surgical procedures, the risks involved, and a patient's rights in the decision-making process. The book explains the role of the anesthesiologist during surgery and after in helping patients manage pain. Under the Mask is valuable for anyone facing surgery who wishes to be more

knowledgeable and in control.

Cable Positive Makes a Positive Impact on HIV Programs at Downstate

Cable Positive, a nonprofit organization that represents the cable industry in its efforts to raise AIDS awareness, is helping Downstate's HIV Center for Women and Children in several ways.

First, the organization gave Downstate \$50,000 for a study to promote medication adherence and safer sex practices among women living with HIV. The check was presented at a news conference held at Brooklyn Borough Hall to focus attention on National HIV Testing Day. At the conference, President John C. LaRosa, M.D., unveiled Downstate's Report Card on HIV/AIDS, the fourth in a series of reports on Brooklyn's health.

introduced Cablevision and The Wiz to Downstate's HIV Center for Women and Children. The two companies recently donated new computer equipment and a children's room for the Center's

Special Treatment and Research (STAR) Program, which provides comprehensive treatment and support for people with HIV/AIDS.

The computer equipment will help create a medical records system to improve patient scheduling and



President John LaRosa and Dr. Jack DeHovitz, HIV Center director, are flanked by former Brooklyn Borough President Howard Golden and his deputy Jeannette Gadson at a news conference at Brooklyn Borough Hall. Steve Villano, executive director of Cable Positive presents a \$50,000 check to Downstate.



With an intro from Cable Positive, The Wiz and Cablevision teamed up to redesign the waiting room in the HIV Center's STAR program.

Second, Cable Positive

ments

nerships can create positive

change to help our communities."

Ashe Institute Attracts Major Funding

The Arthur Ashe Institute for Urban Health has been awarded \$1.2 million by the National Cancer Institute to spearhead an innovative breast cancer project. The four-year program will train hair stylists in Brooklyn beauty salons to provide breast health education for their customers.

In the past, through the Black Pearls program, health educators visited local salons to teach women what they need to know about breast cancer detection, asthma, heart health, diabetes, and other health concerns. While that work continues, the aim of the new program is to develop a curriculum and video to train stylists to be educators. "By training stylists, we will foster sustained health advocacy in underserved communities," says the Institute's director Ruth Browne, Sc.D.

Another important grant, in excess of \$20,000 from the William H. Donner Foundation, will allow four local high school students to join the Health Science Academy. In addition to participating in science courses taught by Downstate faculty, the students will form a team to investigate the effects of biofeedback on the brain and its possible benefits in helping children with learning disabilities.



Brooklyn's beauty salons are now health education centers, thanks to training provided to stylists by the Ashe Institute.



Family Practice Wins State Backing for School-based Programs

Thanks to a major grant from the New York State Department of Health, Family Practice will be able to continue offering free, comprehensive health services to students at two neighboring schools, George Wingate High School and P.S. 13. Totaling more than a half million dollars, the grant has been awarded to the School Health Program to provide care for children in high-risk, low-income communities.

"This grant is especially welcome in light of recent cutbacks in city funding," says Dr. Miriam T. Vincent, chair of Family Practice. "Now we will be able to maintain the same level of care for children who might otherwise never see a health professional outside of an emergency room. This program provides a healthy start for our community school children."

Ten years ago, when the Wingate Health Center opened its doors to students, it was

one of the first school-based clinics in the city. Today, the center handles close to 8,000 patient visits each year. The demographics of the school reflect Brooklyn's inner-city communities. The students are predominantly black or Hispanic; 70 percent are immigrants or first-generation Americans, and 90 percent come from lowincome families.

Under the direction of Dr. Kevin T. Custis, assistant professor in the Department of Family Practice, the center's staff — including a family nurse practitioner, physician assistant, and clinical social worker ---- offer physical exams, dental and vision care, immunizations, screenings for tuberculosis and sexually transmitted diseases, counseling on tobacco and drug use, mental health referrals, and social work evaluations.



Above: Dr. Custis is popular with students at Wingate High. **He runs Family Practice's clinic** there. Right: Immunizations are part of the services offered.



UHB Has Best Angioplasty Record in New York State

When the New York State Health Department released its latest data on angioplasty (1995–1997 Percutaneous Coronary Interventions Report) last November, SUNY Downstate's University Hospital of Brooklyn (UHB) had the highest performance standard of any hospital in New York State.

Out of 33 hospitals performing the procedure, UHB has the lowest mortality rate,

with zero deaths.

"Once again we are reminded that Brooklynites don't have to go into Manhattan for high quality health care," says Alan Feit, M.D., director of the Catheterization Laboratory at SUNY Downstate.

"For years now, our program has been providing exceptionally high quality service right here to the communities that are

among the most underserved in the state."

According to the Department of Health statistics, about 10 percent of all angioplasty patients are minority group members. At UHB, however, about half of the angioplasty patients are minority group members.

This is the second time that SUNY Downstate/UHB has led the state with no mortalities since the Department of Health began releasing this data in 1994.

New Faculty Appointments

Jeremy D. Coplan, M.D.,

formerly associate professor of clinical psychiatry at Columbia University, has been appointed professor of psychiatry and codirector of the Division of Neuropsychopharmacology.

Dr. Coplan's research focuses on the biological basis of psychological disorders, and their treatments. Working closely with Dr. Leonard Rosenblum, he is studying primates to determine how acute stress in the mother can produce elevated neuropeptide levels in her young, leading to anxiety and depression as they grow older. He is investigating the use of neuropeptide blocking agents and also doing clinical studies of glutamaturgic drugs that bolster the effectiveness of selective serotoninuptake inhibitors (SSIs), currently the most prescribed antidepressants. His chief interest is in the area of hippocampal neurogenesis, since altered patterns of nerve cell generation are critical for the effectiveness of antidepressant medications.

Jonathan Deitch, M.D., F.A.C.S.,

has been appointed chief of the Division of Vascular

Surgery in the Department of Surgery. Dr. Deitch received his M.D. degree and a master's in physiology from New York Medical College. After completing a fellowship in vascular surgery at Wake Forest University School of Medicine, he trained in endovascular surgery at the University of Medicine and Dentistry of New Jersey. Dr. Deitch specializes in vascular surgery, complex aortic pathology, renovascular mesenteric occulsive disease, as well as carotid and endovascular surgery.

André A. Fenton, Ph.D.,

assistant professor of physiology and pharmacology, received his doctorate in neural and behavioral sci-



Here at Downstate, Dr. Fenton is studying how "place cells" in the hippocampus organize spatial memories and allow animals to solve complex navigational problems. An integral part of this research on how space is represented in the brain focuses on neural networks' abilities to encode, store, and retrieve information.

Annette

Ki Pł pro ioł



microcircuits that comprise the enteric nervous system and pancreas to better understand the neural regulation of gastrointestinal motility and pancreatic secretion. When neurons within the intestinal tract are stimulated, neurons in the pancreas are activated as well. By studying these reflexes, Dr. Kirchgessner aims to determine the specific mechanisms that control insulin and amylase secretions.

Sheryl S. Smith, Ph.D.,

associate professor of physiology and pharmacology, is studying how hormonal fluctuations during the female men-



strual cycle can produce mood changes. Her research suggests that allopregnanolone, a metabolite of the hormone progesterone, acts in a manner similar to depressant drugs such as tranquilizers, sedatives, and alcohol by enhancing the action of GABA, a chemical that calms nerve cells in the brain. Just as withdrawal from sedative substances can produce increased anxiety, allopregnanolone may trigger mood swings and other withdrawal effects when its levels abruptly decline.

Withdrawal from this hormone alters gene expression of the GABA-A receptor in the brain, as evidenced by alterations in synaptic current recorded from the hippocampus. In rat models, the hippocampus is known to have a strong bearing on emotional tone. These results may further our understanding of PMS and similar mood disorders following pregnancy and during menopause.

Roger D. Traub, M.D.,

professor of physiology and pharmacology, comes to us from the University of



Birmingham, where he was professor of mathematical neuroscience. Through computer modeling, he is able to study the effects of gamma oscillations in the hippocampus and cortical regions of the brain. This research has important implications for understanding the kinds of stimulation that are likely to produce extreme excitability in the brain, leading to epileptic seizures.



In July, Dr. Dale Distant, assistant professor of transplant surgery (I), was invited to speak at Gracie Mansion by the Mickey Mantle Foundation and Mayor Rudy Giuliani, as part of ongoing efforts to raise awareness of the need for organ donation.

Looking for "The Grail"

The scientists who develop promising new medications are searching for their own "Holy Grail." That elusive prize, says **Gregory Burke**, **M.D.**, **Ph.D. (COM/SGS '72)**, is a drug to disable the chemical switch that turns healthy cells into cancerous ones.

He should know — in November, 2000, Dr. Burke was appointed global head of development for the Oncology Business Unit at Novartis, the pharmaceutical giant.

"Cancer cells are well-adapted for outsmarting the mechanics of normal cells," says Dr. Burke, who earned his M.D. and Ph.D. at Downstate in 1972. "Our 'grail' is anything that will identify and target the intrinsic vulnerability of cancer cells." Dr. Burke manages roughly 300 researchers and other professionals who design and analyze clinical trials of the company's new medications. "We've just put on the market a highly effective drug for chronic myeloid leukemia," notes the



Newark, New Jersey, native. "Now we need something similar for cancer of the colon or breast.

"I enjoy the creativity of this work," he adds. "Though we don't treat patients, we're intimately engaged in applying the scientific method for the benefit of those who can draw hope from our work."

The Focus Is on People

Like other students in SUNY Downstate's graduate nurse practitioner program, **Denise Broadnax**, **R.N., M.S. (College of Nursing, '97)**, took a course called Community Context for Continuity in Care.

"It opened my eyes," she says. "I saw that I could give something back to my community by caring for the health needs of its most vulnerable residents."

Giving back has become a mission for Ms. Broadnax, and it led her to establish her own practice in women's health, something that is still relatively rare for nurse practitioners. Her practice, which she opened several months ago in partnership with a physician, is in the Flatbush section of Brooklyn, and she provides gynecological and primary care for her own clients. Many of the women are poor and uninsured. Many are immigrants.

The decision to go out on her own was easy. After earning her master's degree in 1997, Ms. Broadnax worked for a Prenatal Care Assistance (PCAP) Program, but quickly



grew frustrated with the way the clinic was run.

"Too much of a business," she says. "Everything was about volume. I felt the focus should be on people.

"I could have taken a more lucrative position elsewhere," she observes. "But it's so satisfying to see an at-risk woman improve her health and lifestyle — with your help."

Inventor, Artist, Physician Holds Fast to His "Day Job"

Early in the 1980's, **Elliot Kornberg, M.D.** (**College of Medicine, '68**) decided there had to be a better way. A thoracic surgeon at Cape Canaveral and Weusthoff Memorial Hospitals in Florida, Dr. Kornberg was disenchanted with the standard procedure for treating aortic aneurysms, which was "extremely invasive. You had to open the patient up from the breast bone to the pelvis."

Then, he says, "a light bulb went off in my head." Dr. Kornberg devised a technique for inserting a "patch" through the patient's leg for application over the aneurysm, preventing the often deadly rupture of the aorta.

Today, the technique is among nine patents Dr. Kornberg has amassed for his innovative medical procedures. Another is a procedure for performing breast biopsies without damaging healthy tissue. The technique uses digital imaging to locate lesions for removal as single, intact samples. Today IMAGYN Medical Technologies markets the procedure under the brand name "SiteSelect."

Dr. Kornberg also has become an avid photographer. Last year he joined a group of

professional photographers traveling to Rio de Janeiro. Brazil's Ministry of Tourism wound up accepting eight of his photos for use in their promotional publications.

Despite his success as an inventor and photographer, Dr. Kornberg remains committed to clinical care. "I'm not about to give up my day job," he says.





Helping Others to Meet Life's Demands

As an occupational therapist in Downstate's Department of Psychiatry, **Mabel Martinez**, (College of Health Related Professions, '92) leads an in-patient unit that treats people for substance abuse and other emotional difficulties.

It wasn't the path she thought her life would take. In 1985, Ms. Martinez had just started a new job in Florida as an aerobics instructor. Two months later, a car accident landed her in the hospital with a broken neck and almost no hope of walking again.

The prognosis changed after Ms. Martinez dreamed of "a glowing figure" who encouraged her

to have faith. She told her physical therapist, who redoubled efforts to stimulate Ms. Martinez's leg muscles. One day her legs moved. "We both started crying," she recalls. Today, Ms. Martinez



can walk with a cane or mobile walker. And she is helping others to regain independent lives.

"My work is a blessing from God," she says, "and if it weren't for my accident, I might never have pursued it."

A Gentle Hand in Emergencies

A sick or injured child can turn a parent's life into a waking nightmare. But the situation can also trouble the doctors who provide emergency care.

"It's always disturbing to see a child in distress," says **Annie Miranda**, **M.D.** (College of Medicine, '96), medical director of the department of pediatric emergency medicine at North Central Bronx Hospital.

Yet Dr. Miranda insists that emergency pediatrics is a "happy" specialty. "We have a real chance to make things better."

She acknowledges that junior clinicians do not usually head a major medical department. But Dr. Miranda, known for her hard work, accepts the distinction with humility, saying that her supervisor has many years of experience, so it's easier for a junior clinician to manage the site. After earning her bachelor's degree in sociology at SUNY Stony Brook, the Brooklyn native went on for a master's degree in psychology at Hunter College and a Ph.D. in experimental psychology at CUNY's Graduate Center. She



spent several years in teaching and research before deciding upon medical school.

Dr. Miranda gained her love of pediatrics under Dr. Hermann Mendez. "He's a great mentor," she says. "He taught us that even when you're in a hurry, as in the emergency room, you must offer patients a gentle hand."

From Critical Care to the Board Room

Saul Wilen, M.D., (COM '70) is one corporate CEO who learned about business by serving as a physician. "The thinking you need for success," he says, "is similar to the kind of thinking you need in critical care."

Dr. Wilen says his experience as a critical care and pulmonary specialist prepared him for his responsibilities as chief executive officer of International Horizons Unlimited, a San Antoniobased educational resources and consulting firm that promotes organizational effectiveness. He joined the firm – originally Medical Horizons Unlimited – in 1993, after twenty years in private practice.

Dr. Wilen's latest brainchild is an "awareness initiative" on school safety. In March 2001, his firm launched its on-line School Safety Report Card, a nation-wide survey of Americans' views on school safety and accountability. With a goal of one million respondents, it is the largest survey ever on the Internet – and one of the largest in American history.



To have safe schools, he says, "the stakeholders need to have their say. For us, the stakeholders are residents of any community that relies on the school system. This initiative will give them a voice."

Know a fellow alum who's doing something interesting?

Let us know so we can profile her or him.

Contact Ellen Watson EMAIL ewatson@downstate.edu,

OR CALL (718) 270-2567 with suggestions.

Brunch in Boca



On January 5 President John C. LaRosa and his wife, Judie, hosted a reunion for alumni living in South Florida. The historic event, organized by Downstate's new senior vice president for institutional advancement and philanthropy, Dr. JoAnn Bradley, was attended by nearly 80 alumni and their spouses. Over brunch at Pete's Restaurant in Boca Raton, the president gave the alumni an update on campus developments, including the formation of a biotechnology park, the new MPH program, and the plans to install one of the first MRI units in the country that will allow surgeons to operate within the magnet. Sam L. Unterricht, M.D., COM '76, president of the Alumni Association, greeted the alumni and told those gathered of the many ways that the Alumni Association supports the College of Medicine and assists medical students.

Following the presentations, Dr. Unterricht and Jill Ditchik, executive director of the Alumni Association, spoke with the assembled alumni about the nuturing environment and strong scholarship that characterize Downstate today. All were invited to visit the campus and communicate with each other.

For the alumni gathered, the event struck a responsive chord. Many left asking that an alumni chapter be established in Florida. Plans are now being made to do so.

ATTENDEES INCLUDED:

1936 Saul Rotter 1943 George Delatush 1945 Nathaniel Berlin 1946 Alfonse Cinotti 1947 Brian Hoffman 1950 Lester Citrin 1951 **Bernard Kamhi** John Winston 1953 Sidney Serowitz Herbert Silverberg 1954 Franklin Glickman 1955 Martin Rosenthal 1956 Harold Goldstein Alfred Rosenthal 1959 Albert Oler 1963 **Morton Diamond Paul Winick** 1964 Allan Greenberg **Robert Pomerantz** 1965 Sanford Robbins 1967 **Roy Alterwein David Ducore** Walter Gassner 1971 **Paul Quentzel** 1972 **Randey Greenhouse** 1973 Alan Posner 1974 Peter Tuby 1975 Harold Altschuler 1979 Steven Bimbach **Bryan Wasserman** 1984 **Richard Mayron** 1985 Jonathan Berman 1986 Jonathan Kaplan 1987 **Rita Lantner** Jonathan Tarrash



MAKE WAY FOR CHILD'S PLAY

Since 1973, the Child Life Center has been a model for programs that serve the needs of chronically ill children who require frequent hospitalization. Recently the Center got a major face-lift. In June the opening of the new and improved Child Life Center on the fourth floor of University Hospital was celebrated.

Thanks to a grant from the St. Giles Foundation, which had been introduced to the Child Life Program by Pediatrics' Dr. Angela Bennett, the Center has been renovated and expanded, with a new playroom and library/ computer room.



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