The James A Vohs Award for Quality
The third annual Permanente Journal special issue

Introduction
Our commitment to improving the health of our members remains a driving force in the Kaiser Permanente (KP) dedication to quality improvement. With our integrated health system and defined population of members, we are in a unique position to continually explore opportunities to refine the care we provide. By continuing to focus on new or improved ways to deploy the right care at the right time, we enhance the health of our members, build upon our existing reputation as a provider of quality health care, and improve service and cost-effectiveness of care for our members and group customers.

History
During his 17 years as President, CEO, and Chairman of the Boards of Kaiser Foundation Health Plan, Inc, Kaiser Foundation Hospitals, and of Kaiser Foundation Hospitals, James A Vohs continually emphasized the moral and strategic importance of quality and quality improvement. On the event of his retirement as Chairman of the Board, the James A Vohs Award for Quality was established by the Boards to recognize and honor projects that advance the quality of care, showcase innovative techniques and knowledge that can be transferred throughout the Program, and underscore the value of multidisciplinary teamwork.

Criteria
The Vohs Award recognizes exceptional KP efforts to address quality-of-care issues and acknowledges multidisciplinary team efforts representing Kaiser Foundation Health Plan, Inc, Kaiser Foundation Hospitals, and the Medical Groups. As before, the criteria for selecting a winner assure that the project measurably improves patient care and has the potential for transfer as a “successful practice,” thereby benefiting many members across the Program. The Vohs Award is designed to encourage projects that demonstrate leadership within KP and the health care industry and that develop and apply new approaches to improve quality of care.

Annually, each KP Division or Region is invited to nominate one or two projects for consideration for the James A Vohs Award for Quality. The award is presented for the project that best represents a well-established effort to significantly improve quality through substantial, objectively documented, and institutionalized changes in direct patient care, through either new programs or significant improvements in existing ones.

2001 Projects
We present here the 2001 winners of the Vohs Award: the first place winner: “Kaiser Permanente West Los Angeles Sickle Cell Medical Care Program,” from KPSCR of the California Division; and the program that received honorable mention: “The Kaiser Permanente Therapy Management Strategy (KPTMS),” from the Denver Local Market of the KP Colorado Region.

In addition to presenting the basic elements of each program, we hope to remind the reader of the Vohs Award application process to stimulate similar project development on diverse topics throughout our organization. Multidisciplinary involvement and strong team leadership is critical to the success of these projects. Just as the quality planning process and methods for making programs operational served as the framework for several other successful program rollouts within the local markets, all programs described should serve as a model for quality improvement programs throughout KP nationally.

Recognition
Incentive is provided to all TPMG/KP professional staff to apply for the James A Vohs Award for Quality. There is no monetary gift with this award. The winning KP Division or Region receives an engraved award, and project team members receive awards. The “real” award is recognition for good work. Winners and runners-up are invited to present their projects at a reception hosted by the Boards of Directors, Division Presidents, and other Program Officers. The award winners also receive publicity through the Quality Notes newsletter and through local, state, and national press releases.

We thus hope that the following entries for this year’s James A Vohs Award will serve as models to motivate all KP staff to present projects for consideration and motivate us to continually improve the process of providing direct patient care and access to health information for our members.
The Kaiser Permanente (KP) West Los Angeles (West LA) Medical Center serves a diverse population of approximately 195,000 Kaiser Foundation Health Plan members, of whom (53%) are African American. A major health concern of this population is sickle cell disease: in 1999, 307 members under 18 years of age and about 225 patients at least age 18 years had sickle cell disease. At its worst, sickle cell disease is both severely debilitating and potentially lethal; at its best, the disease compromises lifestyle and longevity.

Until recently, management of sickle cell disease was mainly the province of pediatricians; better medical care, parent education, and penicillin prophylaxis now allow most patients with sickle cell disease to survive long into adulthood. However, because this increase in longevity is a recent phenomenon, few published studies have described care of adults with sickle cell disease. These patients face a lifetime of complications and crises: The hallmark of the disease is severe debilitating pain and multiorgan failure, ie, of lung, kidney, brain, eye, and liver.

The Sickle Cell Medical Care Program at KP West LA is an award-winning program that serves as a model for sickle cell treatment by providing comprehensive and culturally sensitive care to all sickle cell patients. At the KP West LA Center for Culturally Competent Care—the clinical facilities of the Sickle Cell Medical Care Program—children and adults affected with sickle cell disease receive continuous, appropriate, individualized culturally sensitive care along with counseling and support for their family members.

The Sickle Cell Medical Care Program was initiated in two phases: Its Pediatric Program was started in 1989, and the Adult Program began at the end of 1998.

Origin of the Pediatric Program

In the late 1980s, with the support of Oliver Goldsmith, MD, then Area Medical Director of West LA and presently Medical Director of the SCPMG, two KP West LA physicians—Drs Elaine Smith and Nancy Shinno—began a program of prenatal screening for all African American female Health Plan members to identify those with sickle hemoglobin. From its inception, the program provided prenatal counseling along with family screening. The program was later expanded to the screening of all women prenatally, including thalassemia. This program was made available to Health Plan members at all Kaiser Permanente Southern California Region (KPSCR) medical centers. The program currently has four goals:

• to provide medical care to infants with sickle cell disease
• to educate parents of infants with either sickle cell or hemoglobin trait
• to obtain and provide additional consultation at the request of the physician or parent
• to offer genetic counseling to families of affected infants.

The premise of the Pediatric Program is that children with sickle cell disease need more than episodic care to survive into adulthood and maximize their quality of life. Thus, the Pediatric Program has included medical management and health maintenance as well as involvement in the patient’s education process, social development, and community services. The most current and cutting edge medical interventions are provided to our patients when available. These interventions include transcranial Doppler monitoring of all children ages two through 16 years, the use of bone marrow transplant (BMT) and hydroxyurea if indicated, and appropriate, carefully planned, individualized home pain management. The Regionwide Sickle Cell Medical Care Program in Pediatrics is overseen by West LA.

With the support of the Southern California Permanente Medical Group (SCPMG), this comprehensive Pediatric Program now operates in the Department of Pediatrics at West LA under the direction of the following team leaders: Elaine Smith, MD, Director and Pediatric Hematologist; Nancy Shinno, MD, Co-Director and Medical Geneticist; Charlotte Hoof-Dixon, RN, Sickle Cell Nurse Educator; Mary Boyd, LCSW, Social Medicine; and Stephen Keiles, MS, Genetic Counselor.

Origin of the Adult Program

KP West LA observed that the success of the Pediatric Program translated into an increased number of adult patients whose care must be part of a con-
continuum to ensure appropriate utilization of medical resources.

Indeed, pediatricians were among the first to recognize a gap in continuity of care as sickle cell patients transitioned from pediatric to adult care. No structured process existed to transition former pediatric patients to physicians who had expertise treating adults with sickle cell disease. This absence of an adult program resulted in frequent hospital admissions, long hospital stays, and dissatisfaction among patients and their health care providers.

Then, in 1996, the KP West LA Quality Improvement Team identified three clinically significant adult sickle cell cases which prompted concern about the quality of care received and about adverse outcomes that might have been avoided. Aware of the limited support available to adult patients with sickle cell disease, Dr Frederic Alexander, SCPMG West LA Area Medical Director, commissioned a task force of physicians, nurses, and department administrators to formally evaluate the treatment of adult sickle cell patients and to recommend ways to improve their care and health outcomes.

As a result of its assessment, the task force recommended the development of a Sickle Cell Medical Care Team (Table 1) to

| Table 1. Members of Sickle Cell Medical Care Program Project Team at KP West LA |
|---------------------------------|---------------------------------|
| **PEDIATRIC CARE CORE TEAM**    |                                 |
| **Physicians**                  |                                 |
| Elaine M Smith, MD              | Director of Regional Pediatric Hemoglobinopathy Center and Pediatric Hematologist |
| Steven B Keiles, MS, CGC        | Genetic Counselor               |
| Nancy A Shinno, MD, MPH         | Co-Director of Regional Pediatric Hemoglobinopathy Center and Medical Geneticist |
| **Nursing**                     |                                 |
| Diane Batham, RN, MSN           | Specially Nurse, Hematology/Oncology |
| Charlotte Hoof-Dixon, RN        | Sickle Cell Nurse Educator/Coordinator Regional Pediatric Hemoglobinopathy Center |
| **Social Services**             |                                 |
| Mary Boyd, LCSW, BCD            | Clinical Social Worker          |
| Linda Perry, MSN, FNP           | CDRP Nurse Practitioner, Culver Marina MOB |
| **ADULT CARE CORE TEAM**        |                                 |
| **Physicians**                  |                                 |
| Osbourne A Blake, MD            | Physician, Inglewood MOB, Internal Medicine |
| Manuel L Myers, MD              | Physician in Charge, Inglewood MOB, Internal Medicine |
| Kimberly C Reece, MD            | Physician in Charge, Playa Vista MOB, Family Practice |
| **Nursing**                     |                                 |
| Shirley Brown, RN, MN           | Sickle Cell Case Manager        |
| **ADMINISTRATION**              |                                 |
| Judy M Aguilar                  | Administrative Specialist       |
| Frederic Alexander, MD          | Area Associate Medical Director  |
| Mary Ann Barnes, RN             | Medical Group Administrator, KP LA |
| Gloria Blackburn, RN, BSN, MHA  | Chief Nurse Executive, Director of Hospital Operations |
| Amy J Brotzman, MHA, RD         | Manager, Special Projects, Medical Group Administration |
| Tracy Fietz, RNP                | Medical Group Administrator     |
| Florine Henderson, RN           | Department Administrator, ING, CVM, PLV Medical Office Buildings |
| Helen J Jones, RN               | Assistant Department Administrator, Playa Vista Medical Office Building |
| Carole J Lebert, RN, BS         | Department Administrator, Pediatrics, Allergy, Dermatology, ENT |
| Arti G Panjwani, JD             | Administrative Fellow           |
| Patricia A Roach, RN, BS        | Department Administrator, Family Practice |
| Sheree J Small, RN              | Assistant Department Administrator, Inglewood Medical Office Building |
| **ANALYTICAL SERVICES**         |                                 |
| Joel I Whittaker Jr, MPH        | Analyst, Metropolitan Los Angeles MSA |
| **OTHER ASSISTANCE**            |                                 |
| Lynnette M Broussard-Walker, RPh| Pharmacist, Inglewood Medical Office Building |
| Pauline Vickers, RN, MAOM       | Clinical Supervisor, Home Health Bellflower Medical Center |
| **PROJECT CONTACT PERSON**      |                                 |
| Amy J Brotzman, MHA, RD         | Project Manager                 |

NANCY A SHINNO, MD, MPH, (top) is a Clinical Professor of Pediatrics and attending physician in the Genetics Division at the USC School of Medicine. With KP for over 20 years, she is medical director of the Southern California KP Cleft Palate Craniofacial Team, and co-director of the Sickle Cell Hemoglobinopathy Center.

ELAINE M SMITH, MD, FAAP, (bottom, left) is an Assistant Clinical Professor of Pediatrics at the USC School of Medicine. She has been a Pediatric Hematologist/Oncologist with SCPMG for 25 years. Dr Smith has been the Director of the Sickle Cell Hemoglobinopathy Center for Southern California Kaiser Permanente since its inception in 1990.

JOSEPH L WHITTAKER JR, MPH, (bottom, right) has been working with the Adult Sickle Cell Program since 1999. He currently provides research design and analytical support to various Disease Management programs throughout the Los Angeles Metro Service Area.
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form a comprehensive Adult Program that would incorporate the principles of the Pediatric Program to provide consistency and stability in the care of sickle cell patients throughout their adulthood. The success of the Pediatric Program was thus a critical element in the development of the Adult Program and was the foundation on which the Adult Program was built. Together, the two programs—adult and pediatric—provide seamless medical care throughout the lifetime of the sickle cell patient by delivering health maintenance services and managing complications of the disease while being involved in the patient’s education process, social development, and community.

Team members incorporate patients’ cultural values and beliefs into the design of individual treatment plans.

Structure and Methods of Pediatric and Adult Programs

Pediatric Program

The program at KP West LA provides care to 307 pediatric patients. Each year since its inception, the Pediatric Program has added to its patient roster 15 to 20 newborn infants affected with a major hemoglobinopathy; 75% of these infants have sickle cell disease. The program has also provided family screening and genetic counseling to more than 80% of the 600 to 700 member families whose infants were born with a hemoglobin trait.

In providing a continuum of care from pediatric to adult care, team members incorporate patients’ cultural values and beliefs into the design of individual treatment plans using an age-specific approach. As pediatric patients mature into adults, efforts are directed more toward the individual patient. For a sickle cell patient in infancy, the program’s primary objective is to educate the patient’s family. As the child grows older, the clinical focus evolves to incorporate the child into the education process. As the child matures and becomes an adolescent, the program’s focus shifts to the adolescent, whose family members are then given a supporting role in the patient’s care. This process allows sickle cell patients and their families to move easily and comfortably along the transition process from pediatrics to adult care.

Adult Program

The four clinical members of the Adult Sickle Cell Medical Care Team include three physicians—Manuel Myers, MD, Kimberly Reece, MD, and Osborne Blake, MD—and a sickle cell clinical case manager, Shirley Brown, RN, MN. These clinicians are the cornerstone of the KP West LA Adult Sickle Cell Medical Care Program. Together with the other team members, they created and implemented an aggressive system for identifying and monitoring adult members with the disease. The system’s ultimate goals are to foster self-care among patients with sickle cell disease, to allow these patients to retake control of their lives, and to standardize the level of sickle cell care.

Each individualized plan contains preprinted orders that are used when the patient is seen in the emergency department.

The Adult Sickle Cell Medical Care Team manages patient care by serving as consultants for the adult sickle cell population hospitalized at KP West LA. In a partnership of physician and patient, the team formulates individualized care plans and has created a system to closely monitor the health status of each outpatient as well as each inpatient. Each individualized plan contains preprinted orders that are used when the patient is seen in the emergency department (ED); both the ED physician and the patient thus know exactly what course of action to take.

The team places great emphasis on the educational aspect of the program, which is geared not only to the patients but also to their families and health care practitioners. Patients are given a Sickle Cell Medical Care Program Source Book,* which contains information about the Adult Program and the disease. Patients are also invited to attend a series of five group sessions that explain the disease and its potential complications and address the psychosocial issues that patients may face. Group appointments are used to help determine patients’ level of understanding of the disease and to explore aspects of their cultural beliefs, values, and lifestyles that may affect the medical care of these patients.

In the Adult Program, best practices include daily hospital rounding by the Adult Sickle Cell Care Management Team, group appointments for patients, consultation with ED and other clinicians, care in the ED by Primary Care physicians, coordination of needed psychosocial and cultural services, and formulation of individualized care plans. Day clinic treatment is available for acute problems, including vaso-occlusive crisis. As part of the Adult Program, comprehensive annual health evaluations are performed and include ophthalmologic screening, genetic counseling, and health maintenance. As of 1999, 165 pediatric patients had graduated from the Pediatric Program and transitioned to the Adult Program. At the end of 2000, medical care for 226 adult sickle cell patients was being managed.

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Evaluation Process for Adult Program

The Adult Program was evaluated by comparing key process and outcome indicators for adult sickle cell patients before and after program implementation.

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For process and outcome indicators that required chart review, the before-and-after comparison was based on sickle cell cases managed by KP West LA for two years: 1998 (ie, before program implementation) and 1999 (ie, after program implementation). For indicators that used only computer-stored data, trends in process and outcome indicators were compared for adult sickle cell patients seen at KP West LA and other Southern California Region facilities during the period 1994 through 1999. In 1999, 226 adult sickle cell patients were identified at KP West LA, and 200 adult sickle cell patients were identified at other KPSCR facilities. Patients were included in the evaluation if they were at least age 18 years in 1999 and met one or more of the following criteria:

- tested positive for sickle cell disease at a KPSCR facility from January 1994 through December 1999;
- were discharged from a KPSCR hospital from January 1994 through December 1999 after being diagnosed with sickle cell disease and assigned the ICD-9 code for sickle cell disease;
- were included on the sickle cell patient lists provided by the Pediatric Program’s database and Shirley Brown, RN, MN.

These patients were further categorized according to the KP facility visited (West LA or other KPSCR facilities), residential zip code of patient, primary care physician’s “home” facility, and whether the patient had been discharged from West LA after 1994. Outcome indicators studied included number of hospital days per patient as well as the amount and type of drug therapy (ie, hydroxyurea or demerol) appropriately prescribed for patients at West LA and at other KPSCR facilities. Prescription of hydroxyurea, a drug used to decrease acute crisis and chronic symptoms and to improve general well-being, was considered inappropriate (contraindicated) in women who were or planned to become pregnant. Because demerol—an analgesic drug—is addictive and has adverse side effects for sickle cell patients, the West LA medical center established a policy of severely limiting its use. The Adult Program analyzed the rate of use to determine its progress toward a program goal: eliminating demerol therapy as treatment for pain in sickle cell patients. The Pediatric Program has not used demerol for over a decade.

### Results of Adult Program Evaluation

The Adult Program has been highly successful, as evidenced by a decrease in number of visits to the ED (Figures 1,2) as well as an increase in appropriate use of medication (Table 2). Provision of these services has led to improved patient care and quality of life and to lower rates of morbidity and mortality—better health outcomes overall.

#### Medical Utilization

Before 1998, hospital day and ED utilization patterns were varied and were not closely moni-
tored. Tables 2 and 3 compare process and outcome indicators for 1998 and 1999 among adult sickle cell patients seen at KP West LA. Using 1998 as the baseline, the data showed improvement (ie, reduction) in number of ED visits and in number of hospital days per patient.

Table 3 shows that after implementation of the program, adult sickle cell patients at KP West LA had 22% fewer ED visits, whereas sickle cell patients at other KPSCR facilities had 1% fewer ED visits. Table 3 shows similar results for inpatient medical utilization (ie, hospital days per patient) by the two KP member populations: After implementation of the program, adult sickle cell patients at KP West LA had 26% fewer hospital days, whereas adult sickle cell patients at other KPSCR facilities had 37% more hospital days than before implementation.

With continued monitoring and longevity of the Adult Program, we can expect both these trends to continue.

Use of Hydroxyurea

In 1998, hydroxyurea was appropriately prescribed for 75% of the adult sickle cell patients seen at the West LA facilities; in 1999, this percentage increased to 92%—a 17% improvement in appropriate prescription of hydroxyurea for patients with sickle cell disease.

Use of Demerol

The number of inpatients who did not receive prescriptions for demerol increased 7% from 1998 to 1999 and increased 2% for adult sickle cell patients who visited the ED. In the next few years, we expect to reach our goal of not prescribing demerol to sickle cell patients to control pain.
Treatment Cost
During the study period, the mean treatment cost per patient decreased by 27% for the KP West LA population of adult sickle cell patients but increased by 9% for other adult sickle cell patients seen at other KPSCR facilities. These data do not include surgical or operating suite costs.

Statistical and Clinical Significance of Results
Tests of the differences in these measures of quality and utilization did not meet conventional criteria for significance when p values of .05 and two-sided statistical tests were used (Tables 2, 3). However, results for some measures approached statistical significance. Most important, the adult sickle cell patients showed improvement in all four measures. Thus, in only one year, results showed improvement in each process and outcome indicator measured. Moreover, the Adult Program established a strong foundation on which to continue these improvements. In coming years, we expect to maintain and improve on each of these positive gains.

Discussion
An estimated one in every 600 African Americans has sickle cell disease. However, an even higher proportion of the African American population is affected: Many persons are linked to the condition by being a genetic carrier or through family members who have the disease. Early identification, effective treatment, and disease-specific social support for these patients are critically important objectives that require development of systems for delivering comprehensive care. The KP West LA Sickle Cell Medical Care Team is achieving these objectives through a multidisciplinary approach.

The Sickle Cell Medical Care Program at KP West LA is the only sickle cell care program in the country outside an academic health center.

Because of the complexity of the condition, many sickle cell patients are managed at university-run, academic centers. The Sickle Cell Medical Care Program at KP West LA is the only sickle cell care program in the country outside an academic health center, providing comprehensive services throughout the patient’s life. This fact indicates that ours is among the earliest programs that has combined pediatric and adult services with the prime goal of transitioning adolescents to adulthood. Another distinctive feature of the program is its high level of sensitivity to patients' cultural values and beliefs.

The KP West LA Sickle Cell Medical Care Team started the program during a time of widespread practice variation in treatment of adults affected with sickle cell disease. Physicians had only the limited knowledge and skills taught in medical school and in medical residency programs. In addition, over the course of approximately five years, a sickle cell patient might see as many as 18 different physicians and receive as many different methods of treatment. This variation was confusing to patients. The KP West LA Sickle Cell Medical Care Team assembled all the best and most current research to develop consistent standards and best practices. The team's efforts have led
to better treatment and continuity of care for Health Plan members with sickle cell disease, reduced their need for hospitalization, improved their clinical outcomes and quality of life, and increased patient and physician satisfaction. Within the Adult Program, patients with the disease are now living well into their 50s and 60s.

This comprehensive program can be a model for all other sickle cell programs in the United States.

A search of the biomedical literature in English shows few programs at health maintenance organizations (HMOs) designed to care for sickle cell patients; this fact indicates that ours is among the earliest programs to have comprehensive pediatric and adult services with the prime goal of providing good continuity of care that provides transition for children with the disease from pediatric to adult care. Our organization’s work is thus at the forefront of treatment for this population. Our patients with the disease are living longer with the newer therapies, improved treatment, and care they receive. All aspects of our patients’ needs are being addressed by our program. This comprehensive approach is leading to enhanced clinical outcomes and to overall improvement in patients’ quality of life. This comprehensive program can be a model for all other sickle cell programs in the United States, especially those conducted within HMOs.

The work of the KP West LA Sickle Cell Medical Care Program can be replicated. The Sickle Cell Medical Care Program Source Book has been produced and distributed to the KP Board of Directors for the newly formed National Institute for Culturally Competent Care and to other KPSCR medical centers as well as other KP Regions; the book is also being made available to other medical institutions that wish to start a comprehensive program of sickle cell care.

Despite the variability inherent among patients with sickle cell disease, we believe that our work may be applicable to larger sickle cell patient populations.

KP West LA’s Sickle Cell Care Program won the RJ Erickson Diversity Champion Team Award in 1999; and in 2000, Dr Frederic Alexander, SCPMG Area Medical Director for West LA, won the RJ Erickson individual award.

References

Being Human
We lead by being human. We do not lead by being corporate, professional or institutional.

Paul G. Hawken, founder, Smith and Hawken, quoted in Nelson, B. “1,001 Ways to Reward Employees”