throughout students’ academic training, of the importance of lifelong learning; testing at the point of admission, to determine students’ academic training of the importance of lifelong learning; testing to determine what lifelong learning skills the student may already possess; developing appropriate professional attitudes in the classroom and through mentoring as well as faculty role models; training to help students identify their personal learning needs; and fostering the development of independent study skills to include problem solving, inquiry, critical thinking and analysis. The interface at which schools have an opportunity to foster lifelong learning is not limited to the undergraduate setting. Rather, the opportunity and responsibility is part of a lifelong continuum. After graduation, the responsibility shifts somewhat resulting in a focus on providing pharmacists with an opportunity to achieve their lifelong learning needs. Roles to fulfill this responsibility would include: providing encouragement, advice and counselling to help pharmacists identify their learning needs as well as match these needs with available educational opportunities; offering realistic and significant educational opportunities for practicing pharmacists to enhance their skills; extending the walls of the on-campus classroom to provide pharmacists with access to credit-based course work; and serving as a leader in the educational marketplace to help pharmacists meet their ongoing learning needs dictated by practice changes within the profession.

The responsibility for schools of pharmacy relative to lifelong learning is not on a limited time basis. As outlined here, responsibilities and roles may differ between the undergraduate and postgraduate environment. However, the common thread that transcends these responsibilities distinguished by time is the ultimate responsibility for advancement of the profession of pharmacy. This advancement can only be achieved through a close liaison between schools of pharmacy and the profession itself. The liaison will help foster a common vision of the profession of pharmacy and thus, support the role which education will play in achieving this vision.

The Role and Responsibility of the Profession. C.J. de Blaye, Royal Dutch Association for the Advancement of Pharmacy, The Hague, The Netherlands. To define the role and responsibility of the profession on any subject is only possible if the subject itself can be related to the goals a profession has. Therefore the goals of the pharmacy profession will be defined, using the mission statement that was recently adopted by the Dutch public pharmacists. This means that for this presentation community pharmacy is taken as the central point. The discussion of the subject, however, will take place on such a level of abstraction that the reasoning will be equally valid for hospital and industrial pharmacy. Mission statement: The pharmacist is competent on drugs. He promotes the justified use of drugs. He advises on the choice and safe use of prescription and OTC drugs, through medication surveillance and personal information. He also advises on medical supplies and enables justified and individual home care. He confers with physicians on choice and use of drugs and medical supplies.

In this way he promotes a qualitative high standard and affordable health care. The pharmacy is a modern establishment with specialized personnel, which dispense and compound drugs. Translated in position terms this means: quality, safety, reliability, accessibility, client friendliness, competency but also being a center for information and a public advisor. To achieve this a set of tasks can be defined. For these tasks the level on which these are performed is needed. Following this it is necessary to operate a system of evaluation and to develop ways of improvement. The way in which Dutch pharmacists have done this will be subject of the presentation. From this illustration it will rapidly become apparent that one single education, of however high quality, can never provide the required knowledge, skills and attitude to function during one’s lifetime. Continuing education therefore is the only way to cope with the needs of a profession in a rapidly changing world. The profession has to task to continuously make clear what the needs of the pharmacists are that will enable them to satisfy the needs of their customers. The university education of pharmacists should lay a sound basis for this, consisting of a thorough academic training in which a scientific basis is created in the field of drugs and patient care and the ability to judge coming developments on its true merits. Permanent continuing education should do the rest.

Continuing Education and the Specialization. DJ. Temple, The Welsh Centre for Postgraduate Pharmaceutical Education, The Welsh School of Pharmacy, King Edward VII Avenue, Cardiff CF1 3XF, Wales, U.K. The pharmacy profession has now well accepted the concept of life-long learning. Until recently in the UK as in other countries, there has been a clear distinction between continuing education (CE) on the one hand and the other, further education and training in specialist areas of professional practice. The former is recognized as on-going or refresher training, required by all practitioners to keep up-to-date with changes in the use of drugs as well as legal aspects of pharmacy. This is often provided as evening and/or weekend courses or as self study material.

It can be likened to Lewis Carroll’s picture of Alice in ‘through the looking glass’ running faster and faster to remain in the same place. In contrast, further education usually is an intensive on-off course studied over a specific time period.
which leads to a greatly increased knowledge and ability in a specialized area. Often it is provided as a university course culminating in a higher degree or diploma. Usually such specialization is required or at least highly recommended before a pharmacist can be employed in certain areas of practice. In the UK, such courses have been offered by many of the schools of pharmacy since the late 1960s, in areas such as biopharmacy, hospital and clinical pharmacy, and pharmacy management. Some of these courses have looked outside of pharmacy for further qualifications, such as to business or law degrees. Very recently, some pharmacists have been encouraged to become formally trained in social science research methodology. In the UK at least, these concepts are no longer quite so easily separated. A realization has crept in that even after further training, the specialist pharmacist still requires CE, although not of the same form as his less qualified colleagues. But most changes are occurring with CE itself. The Nuffield Report in 1986 suggested a number of new roles for community pharmacists in particular, but recommended that suitable initial training be undertaken before a pharmacist embarked on such roles. Provision of pharmaceutical services to residential homes for the elderly and the maintenance of patient medication records for certain at-risk patients were the first of these for which payment has been made since 1989. In both cases it is mandatory for pharmacists to have completed the official self-study packages available from the National centers of CE before receiving such professional fees. These packages were clearly breaking new ground and not merely providing a refresher. Since then almost half of the educational opportunities offered by the National centers of CE is training CE, although many of the interesting possibilities have been missed. But most changes are occurring with CE itself. The Nuffield Report in 1986 suggested a number of new roles for community pharmacists in particular, but recommended that suitable initial training be undertaken before a pharmacist embarked on such roles. Provision of pharmaceutical services to residential homes for the elderly and the maintenance of patient medication records for certain at-risk patients were the first of these for which payment has been made since 1989.
meet these developments.

**Protection of Human Research Subjects: An European Example.**

P.A. Sado, Pr., President - 4th Symposium of Consulting Committee for Protection of People in Biomedical Research’s (CCPPRB) National Conference, 3 Av. Pr. L. Bernard -35000, Rennes, France. The first French bioethical law, enacted in late 1988, has been applied for the last five years. Its initial objectives were the regularization and moralization of clinical research. Each project of research has to be approved by one of the independent regional committees (CCPPRB = 53) before a study is allowed to start. The advice of the committee is based on: science, law, and ethics. Pharmacists are concerned by the law on the following points: storage and dispensing of the drugs concerned by clinical trials (Hospital) and, as a specialist of pharmacological problems, on the committees (minimum: two of twenty-four members/Hospital and Community pharmacists) participation to the organization, development and survey of clinical trials (Industry and Public Health Administration/Students and Industry pharmacists) education in order to acquire professional competence (Faculties—Students) The author presented the original law (Law HURIET-SERUSCLAT) and the CCPPRB (organization and functioning) the evolution of the fields of application the limits and/or inconveniences of the law.

**Health Care Ethics in Perspective.** Tore Nilstun, Department of Medical Ethics, Lund University, Lund, Sweden. What should and what should not be expected of health care ethics? The proposal put forward in this address is that the main task of health care ethics is to provide the relevant value premises, but not balance them when in conflict. Four value premises are presented: the addressee (the principle of efficiency), equality, liberty, and solidarity. Any decision inconsistent with one of these principles can only be justified by pointing to the overriding application of one or more of the others. However, the principles do not by themselves provide solutions to ethical conflicts, i.e., situations where there are, at the same time, a moral obligation to adopt two conflicting alternatives. In my opinion the task of solving such conflicts is not within the competence of health care ethicists. They have no mandate to do this job.

**Model of a Quality System for the Faculty of Chemistry, UNAM.** Carmen Giral Barnes and Alpizar Ramos, Secretaría Académica, Facultad de Química, Edificio A P.B., Circuito Escolar, Delegación Coyoacán, C.P. 04510, Mexico, D.F. Objective: To establish the process to support the integration of development and improvement of academics, students, workers and all personnel who participate in the activities of the Faculty. In Mexico, like in all countries, the enhancement of human resources through education has become a first national priority. In the last 5 years the specialists have recommended reforms. The problems of education in Mexico are not only related to the educational system, the failures can be explained in big part by the structure and management of our schools. Most of our institutions have been working with the same model for the last century, therefore we need urgently a reengineering, because economic growth, competitiveness and living standards directly correlate with the quality of our education. We need cultural changes from the top to modify the authoritarian management and bureaucratic practices that have been a part of our educational system for many years. With this in mind, in a country that is changing experimented in our country toward globalization, we decided to establish Total Quality in our Faculty. Total Quality is a process of continuous improvement, pursuing integral development and improvement of our creativity, abilities, skills and knowledge. For many years Total Quality was only applied to productive organizations. However in 1985, for the first time the system was applied in institutions of higher education in the USA. In Mexico, and in particular within our Faculty, we started to work in the process some years ago. Our program involves the following steps: 1. Establishment of the Objectives: The Total Quality System; 2. Internal Audits; 3. Development of Training Programs; 4. Development of a Central Document System; 5. Development of an System of Assessment of Customer Satisfaction; 6. Evaluation: External Audit; 7. Feedback; and 8. National Certification. Conclusions: The first results of our internal evaluation demonstrate: Heavy load of information and work for students; Deformation of the relation knowledge/skills for the students; Low terminal efficiency; Low relation university/external environment (costumer satisfaction); and Necessity to define standards.

A Postgraduate Diploma in Community Pharmacy: Three Years Experience. Claire Anderson, Department of Pharmacy, King’s College London, London SW3 6LX, U.K. This part-time day release course was the first of its kind in Britain when it began in 1992. The course design was based on the results of training a needs analysis for community pharmacists in North West Thames Regional Health Authority. The aims of the course are: to provide a sound academic basis for the practice of pharmacy in the community; to meet the training needs of community pharmacists who are changing their role: to enable them to work as an integral and effective member of the primary health care team; and to produce research and encourage development in community pharmacy practice. Graduates of the course have gone forward in many ways, and are abreast forefront of commitment to improve and develop pharmacy practice. One has become a lecturer in pharmacy practice, others give lectures and some have presented their research at international and national conferences. Some have embarked on further research for PhDs. They have become national and local committee members. Other universities and a major pharmacy employer have started similar courses; there is also interest from universities outside the UK. A MSc is now also available; it provides opportunities for work with General practitioners and a substantial research project. The course has equipped pharmacists to become agents of change. If community pharmacists are to become established members of the primary health care team, training interventions such as this course is essential.

**Pharmacy Student Self-Assessment Portfolios for Clinical Pharmacy Clerkship Competencies.** Cynthia L. Raeli, C.A. Bond, Kathy Marty and Michael Pitterle, University of Wisconsin-Madison, School of Pharmacy, 425 N. Charter St., Madison, WI 53706 U.S.A. The purpose of this longitudinal project is to develop and implement a portfolio model for pharmacy student self-assessment of professional practice competencies. This 5 phase project began in 1991. Phase I was development of 7 core competencies (with an emphasis for all clerkships-practice efficiency, equality, liberty and solidarity). Any decision inconsistent with one of these principles can only be justified by pointing to the overriding application of one or more of the others. However, the principles do not by themselves provide solutions to ethical conflicts, i.e., situations where there are, at the same time, a moral obligation to adopt two conflicting alternatives. In my opinion the task of solving such conflicts is not within the competence of health care ethicists. They have no mandate to do this job.

**Development of a Postgraduate Community Pharmacy Residency Program.** Dick R. Gourley, Roger L. Davis, James C. Eoff, David K. Solomon and Rex Brown, College of Pharmacy, The University of Tennessee, 847 Monroe, Memphis, TN, U.S.A. The primary objective of this presentation is to describe the development of a postgraduate community pharmacy residency program. Community pharmacy has struggled with the development of postgraduate training programs over the past several decades. However, over the past years The University of Tennessee College of Pharmacy has made a commitment to the development of postgraduate community pharmacy residency programs. The promotion and expansion of sites for the community pharmacy residency programs is the responsibility of Dr. Roger Davis, Assistant Dean of the College of Pharmacy, and Vice-Chairman of the Department of Clinical Pharmacy. The community pharmacy residencies are designed to provide advanced education and training for pharmacists who plan to participate in comprehensive, community based settings. On July 1, 1994, there were 6 sites available for the community pharmacy residency program. The current residency sites are Mufreesboro Community Pharmacy in Murfreesboro, Clinton Drug Store in Clinton, Wilson’s Pharmacy in Johnson City, Kroger Pharmacy in Nashville, and City Drug Company in Huntingdon, Tennessee. Recruitment of residents is on a regional basis, including all colleges of pharmacy in the Southeast as well as national pharmacy associations and other contacts on a national basis. The community pharmacy residency programs have a required research
component which focuses on the development of pharmaceutical care and measurement of outcomes of pharmaceutical care in community pharmacy. The College of Pharmacy has a goal of establishing 15 community pharmacy residencies by 1997. There are currently 8 sites that have been funded for community pharmacy residency programs in 1995-96. Each resident requires a total of $30,000 in funding which includes the stipend for the one-year program and fringe benefits which require the 200 hour program. The community pharmacist preceptor must provide 25% of the resident funding. In order to develop pharmaceutical care to an appropriate level in community pharmacy, community pharmacy residents are essential to this endeavor.

Re-Engineering the Continuing Education Programs of the College of Pharmacy in Response to Health Care Reform. Dick R. Gourley, Glen Farr, Roger Davis and James C. Eoff, College of Pharmacy, The University of Tennessee, 847 Monroe, Memphis, TN, U.S.A. The University of Tennessee College of Pharmacy is the only college of pharmacy in the State of Tennessee. As such, the College has the responsibility of providing continuing pharmaceutical education for pharmacy practitioners in the State of Tennessee. Historically, the College has provided a wide range of CE, offering the opportunity for practitioners in any part of Tennessee to obtain 15 hours of continuing pharmaceutical education per year. Courses have included correspondence, video and live continuing education programs. The live continuing education programs have focused on topics such as therapeutic frontiers, updates on specific therapeutic entities, management of disease states, and the areas of disease management, i.e., diabetes, asthma, etc. The College, working in concert with the pharmaceutical industry, the Tennessee Pharmacists Association and RxCare has developed a diabetic pharmacist program, an asthma pharmacist program, and a continuing education program. The live continuing education programs have focused on topics such as therapeutic frontiers, updates on specific therapeutic entities, management of disease states, and the areas of disease management, i.e., diabetes, asthma, etc. The College, working in concert with the pharmaceutical industry, the Tennessee Pharmacists Association and RxCare has developed a diabetic pharmacist program, an asthma pharmacist program, and a continuing education program. The live continuing education programs have focused on topics such as therapeutic frontiers, updates on specific therapeutic entities, management of disease states, and the areas of disease management, i.e., diabetes, asthma, etc. The College, working in concert with the pharmaceutical industry, the Tennessee Pharmacists Association and RxCare has developed a diabetic pharmacist program, an asthma pharmacist program, and a continuing education program. The live continuing education programs have focused on topics such as therapeutic frontiers, updates on specific therapeutic entities, management of disease states, and the areas of disease management, i.e., diabetes, asthma, etc. The College, working in concert with the pharmaceutical industry, the Tennessee Pharmacists Association and RxCare has developed a diabetic pharmacist program, an asthma pharmacist program, and a continuing education program. The live continuing education programs have focused on topics such as therapeutic frontiers, updates on specific therapeutic entities, management of disease states, and the areas of disease management, i.e., diabetes, asthma, etc. The College, working in concert with the pharmaceutical industry, the Tennessee Pharmacists Association and RxCare has developed a diabetic pharmacist program, an asthma pharmacist program, and a continuing education program. The live continuing education programs have focused on topics such as therapeutic frontiers, updates on specific therapeutic entities, management of disease states, and the areas of disease management, i.e., diabetes, asthma, etc. The College, working in concert with the pharmaceutical industry, the Tennessee Pharmacists Association and RxCare has developed a diabetic pharmacist program, an asthma pharmacist program, and a continuing education program. The live continuing education programs have focused on topics such as therapeutic frontiers, updates on specific therapeutic entities, management of disease states, and the areas of disease management, i.e., diabetes, asthma, etc. The College, working in concert with the pharmaceutical industry, the Tennessee Pharmacists Association and RxCare has developed a diabetic pharmacist program, an asthma pharmacist program, and a continuing education program. The live continui
Adapting Pharmacy Education to Meet the Changing Needs of Pharmacy Practice. Sidney J. Stols, School of Pharmacy and Allied Health Professions, Creighton University, 2500 California Plaza, Omaha, NE, U.S.A. Managed health care and health care reform are resulting in profound changes in the practice of pharmacy. The impact of factors associated with cost containment as the increased emphasis on ambulatory care and outpatient surgery clinics, the increased role of both private and federal third party payors, discriminatory pricing by drug companies, pharmacy automation and computerization, and the use of pharmacy technicians have resulted in significant changes in pharmacy practice. Furthermore, prescribing by pharmacists under protocol as well as reimbursement for cognitive services are associated with the changing complexion of pharmacy practice. In order to meet the rapidly changing needs of pharmacists, the curricula within schools/colleges of pharmacy must adapt to the changing health care environment. Changes in curricula over the past 25 years will be reviewed, and projected curricular changes will be presented. These curricular changes will reflect the decrease in the number of hospitalized patients with a shift to intermediate and ambulatory care settings, the decrease in compounding functions of pharmacists, the emphasis on seamless health care, the increased role of pharmacists as drug information specialists and therapeutic consultants, and managed health care and health care economics. Greater emphasis in pharmacy education is being placed on patient counseling, drug information management, patient physical assessment, pathophysiology, therapeutics, ethics, communication skills, and health care systems and economics with less emphasis on physicochemical and analytical laboratory-based courses. These changes are essential to meet the evolving roles of pharmacists. In order to meet the changing needs associated with health care delivery and in order to remain an integral component of the health care delivery system, pharmacists must rapidly evolve from a profession known for providing a product to a profession known for providing pharmaceutical care, and become primary health care providers.

Short-term Recall of a Continuing Medical Education Journal: Comparative Intervention Study. D. Broclain, P. Mura, D. Nivet-Carré and G. Bardelay, La revue Prescrire, 83 bd Voltaire, 75011 Paris. Aim: To measure the influence of participation in readers’ tests contained in a continuing medical education journal on short-term recall of information applicable to general practice. Materials and Methods: We carried out an intervention study in a population of general practitioners belonging to an association for continuing medical education (Collège des Hautes Études de Médecine Générique Crêne-Crâle de Bretagne, CHEMG). The study consisted of four phases: an assessment of participants’ baseline knowledge (pretet); publication of a readers’ Test concerning the information contained in the previous issue (second intervention); final assessment based on the same series of questions (posttest). 363 CHEMG members were sent a letter inviting them to accept a telephone interview on acquisition of knowledge through reading. 91 doctors accepted both the pre-test and posttest assessments. They were distributed as follows: 25 nonsubscribers to La revue Prescrire (group 1); 42 subscribers not participating in the readers’ Test (group 2); and 24 subscribers participating in the readers’ Test (group 3). Nine true/false questions were put over the phone by two sociologists who were unaware of the correct answers and to which group the subjects belonged. Correct and incorrect answers were given values of 1 and 0, respectively, permitting a global score to be calculated. The variable used to determine whether knowledge progressed in each group was the difference between the posttest and baseline scores (A = S2 - S1). A t-ranked test was used to compare mean values, P values of 0.05 or less being considered significant. A statistical analysis of each question was also carried out. Results: The baseline scores (S1) did not differ significantly between groups 2 and 3. The difference in the posttest mean scores (S2) between groups 2 and 3 was highly significant (P=0.0001). In contrast, the baseline scores in group 1 were significantly lower than those in groups 2 (P<0.04) and 3 (P<0.02). Scores in group 1 (non-subscribers) increased significantly (S1=4.2, S2=5.1; A =+0.9; P=0.02), but the progression was accounted for by answers to only one of the nine questions (on side effects). The posttest mean score in group 1 was equivalent to the mean baseline score in group 2. Scores in group 2 (subscribers not participating in the readers’ tests) did not vary significantly during the study (S1=5.1, S2=4.6; A = -0.5). In contrast, scores in group 3 (subscribers participating in the readers’ tests) increased significantly (S1=5.4, S2=6.8; = A +1.4; P<0.002). Conclusion: Short-term recall improved significantly among subscribers to La revue Prescrire participating in Readers’ Tests, but not among nonparticipating subscribers, suggesting that regular participation in readers’ Tests improves the absorption and recall of information contained in a continuing medical education journal.