REPORT OF THE
DEPARTMENT OF HEALTH PROFESSIONS

STUDY OF THE NEED TO REGULATE PHARMACY TECHNICIANS

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

SENATE DOCUMENT NO. 9

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December 7, 1998

TO: The Honorable James S. Gilmore, III
Governor of the Commonwealth of Virginia

The Members of the General Assembly of Virginia

It is our privilege to present this report which constitutes the response of the Board of Pharmacy to the request contained in Senate Joint Resolution 61 of the 1998 Session of the General Assembly.

The report provides the findings of the Board from its Study of the Need to Regulate Pharmacy Technicians and its recommendation that no additional regulation is necessary to ensure the health, safety and welfare of the citizens of the Commonwealth.

The Board acknowledges the work of a task force of representatives from various types of pharmacy practice and of the members of the staff who conducted the research and prepared the final report.

John W. Hasty
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Executive Director
Board of Pharmacy

STUDY OF THE NEED TO REGULATE

PHARMACY TECHNICIANS

IN RESPONSE TO SENATE JOINT RESOLUTION 61

OF THE 1998 GENERAL ASSEMBLY

OCTOBER 15, 1998

VIRGINIA BOARD OF PHARMACY

PREFACE

The Virginia Board of Pharmacy conducted a Study of the Need to Regulate Pharmacy Technicians in response to Senate Joint Resolution 61, patroned by Senator Yvonne Miller and passed by the 1998 General Assembly. Members of the Board are as follows with those who served on the Regulatory Committee indicated by an * by their names:

*Jackson T. Ward, Chair	John J. Hannigan	Luella A. Lightfoot	Mark A. Oley
*William S. Tiffany	E.W. Owen, II	Adina C. Krum	
*Sonny Currin, Jr.	Michael J. Ayotte	Michael C. Maloney	

For the purpose of reviewing the research and information on pharmacy technicians and developing the recommendations for the Board's consideration, the Regulatory Committee served as the Study Task Force for SJR 61. To achieve broad representation of pharmacy practices, the Board invited several additional persons to serve on the Task Force for consideration of findings and development of recommendations to the Board. Those persons were:

Rebecca Snead, Virginia Pharmacists Association
John Beckner, Director of Pharmacy Services for Ukrop's
Debbie Conley, Pharmacy Technician for Buford Road Pharmacy
David Kozera, CVS Pharmacy
Janet Silvester, Director of Pharmacy Services, Martha Jefferson Hospital

The Executive Director of the Board of Pharmacy, Elizabeth Scott Russell, and Senior Regulatory Analyst for the Department of Health Professions, Elaine J. Yeatts, provided staff and research assistance for the Board.

In 1996, the Board of Health Professions contracted with a pharmacist at the Medical College of Virginia to conduct research and report of the need to regulate pharmacy technicians. Since there was an extensive amount of time and effort put into that report, portions have been incorporated into this report with the generous consent of the researcher Kristine Cox. We acknowledge her work as a large part of this report.

Final Recommendation of the Board of Pharmacy on the Need to Regulate Pharmacy Technicians:

The Board recommends that no changes in law or regulation for the regulation of pharmacy technicians are necessary. It would consider a requirement that pharmacists, pharmacy interns, pharmacy technicians or technician-trainee be clearly identified as such to the public.

STUDY OF THE NEED TO REGULATE PHARMACY TECHNICIANS

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Executive Summary

Senate Joint Resolution 61, patroned by Senator Yvonne Miller and passed by the 1998 Session of the General Assembly, requested the Virginia Board of Pharmacy to examine the need to regulate pharmacy technicians. The resolution refers to the integral role of the pharmacist in providing health care along with the additional responsibility to provide patient counseling on prescriptions. Demands on pharmacists' time are requiring them to employ persons who are not regulated health professionals to "perform important and responsible activities, such as counting pills and distributing the prepared prescriptions". (See Appendix I)

In the words of the resolution, "given the complexity of prescriptions and their lack of formal training, pharmacy technicians are placed in a situation where serious mistakes could occur". The resolution further expresses the concern that "many citizens are unaware that untrained or only moderately trained personnel are handling their prescriptions". To address the "concerns about the lack of regulatory purview over the activities and training of these technicians," the Board of Pharmacy was requested to examine the need to regulate pharmacy technicians and present its findings to the Governor and the 1999 General Assembly.

To achieve broad representation of pharmacy practices, the Board utilized the Regulation Committee of the Board and invited several additional persons to serve on a Task Force for consideration of findings and development of recommendations to the Board. Those persons represented the Virginia Pharmacists Association, hospital practices, retail chain pharmacies, independent pharmacies, and pharmacy technicians.

In conducting the study and making its report to the 1998 General Assembly, the Board of Pharmacy has examined the need to regulate pharmacy technicians according to the criteria for regulation established in 1992 by the Board of Health Professions and reaffirmed by that board in 1997. The criteria and comment as to their applicability are as follows:

Criterion 1: Risk for harm to the consumer.

> *The unregulated practice of the health occupation will harm or endanger the public health, safety or welfare. The harm is recognizable and not remote or dependent on tenuous argument. The harm results from (1) practices inherent in the occupation, (2) characteristics of the clients served, (3) the setting or supervisory arrangements for the delivery of the health services, or (4) from any combination of these factors.*

If current Virginia pharmacy laws and regulations are strictly followed, the risk of harm to the consumer if pharmacy technicians are not regulated is minimal. Current law and regulations requires that all work performed by a pharmacy technician be checked and

verified by a registered pharmacist. Hence, the risk of harm to the consumer resulting directly from a pharmacy technician is small. The problem arises, however, when the pharmacist is unable to adequately supervise pharmacy technicians. This failure to adequately supervise may be due to time constraints imposed by federal OBRA'90 requirements or state law requirements (i.e., prospective DUR, patient profiling and counseling), demands by upper management to increase sales without adequately increasing pharmacy personnel, or low compensation by third party payers or other financial issues where pharmacists cannot afford to hire additional pharmacists to meet increasing demands. Changes within the pharmacy profession itself may also encourage pharmacists to assume more clinical responsibilities. These added responsibilities may cause a pharmacist to spend time on other activities rather than on the close supervision of the technician.

Several other potential situations regarding pharmacy technicians may pose a risk of harm to the consumer. Currently, there is no way to track pharmacy technicians as they change jobs. A pharmacy technician may continue to work in the pharmacy field even if they have diverted or abused drugs, have been convicted of a felony or have willfully acted negligent while working in a pharmacy in the past. The risk of harm to the public results when a pharmacist is unaware of past or current problems. Although the law requires that a pharmacy technician must be directly supervised by a pharmacist, many times the pharmacist does not actually watch the technician perform the task. Therefore, a mistake may be made by the pharmacy technician and, if the mistake is not reported to the pharmacist, the pharmacist may not know about the error. The risk of harm to the consumer in these potential situations is very real.

Criterion 2: Specialized skills and training.

> *The practice of the health occupation requires specialized education and training, and the public needs to have benefit by assurance of initial and continuing occupational competence.*

While there is specialized education and training needed to perform the tasks of a pharmacy technician, there is currently no training mandated for technicians in Virginia. Most pharmacy technicians receive their training on-the-job. The type of specialized skills a technician possesses depends on the practice setting, their job function and their employer's needs. In some pharmacies in Virginia, technicians may only be allowed to remove drug from shelves, count out the appropriate number of tablets, type labels and perform clerical duties involving inventory and third party payers. Whereas in other pharmacies around the state, pharmacy technicians under supervision may be allowed to enter prescriptions into the computer, enter information into the patient file, reconstitute oral liquids, compound medications for dispensing, do pharmacy calculations, prepare IV and parenteral nutrition solutions as well as chemotherapy, and work in a controlled substance vault.

Technicians should have a working knowledge of pharmacy laws, how to read prescriptions and enter information into the computer, how to label prescriptions with appropriate auxiliary labels, how to compound preparations, how to prepare intravenous solutions using aseptic technique and what precautions to exercise when handling medications (e.g., chemotherapy). Most of the above skills are hospital oriented and taught on-the-job, but even community technicians must know about pharmacy law, how to read prescriptions and how to compound. Also, with the increase the home health companies, many must also learn the skill of aseptic technique.

Criterion 3: Autonomous practice.

> *The functions and responsibilities of the practitioner require independent judgment and the members of the occupational group practice autonomously.*

The independent judgment required for a technician depends on the practice setting and what tasks technicians are allowed by their employers to perform. If only counting tablets, placing into the appropriate container and labeling the container, which is then checked by the pharmacist, not much independent judgment is involved. However, when doing calculations and compounding or selecting the drug for filling the prescription, however, there is a higher degree of judgment and accuracy required. While pharmacists are supposed to be supervising a technician and checking all of their work, there are many times when the pharmacist is not constantly watching the pharmacy technician perform the task. The pharmacist depends on the technician to be honest and responsible and must trust the technician to let them know if they made a mistake.

According to Virginia law, the pharmacist must directly supervise all unlicensed personnel, must initial and verify all work a technician performs and assumes all responsibility for the final product, therefore independent judgment of pharmacy technicians is minimal. All semi-judgmental tasks given to them must always be checked by the pharmacist by law. Hence, what autonomy technicians are given is minimized. Unless legislative or regulatory changes are made so technicians responsibilities are increased, independent judgment will continue to be minimal. Currently in Virginia, pharmacy technicians do not make choices regarding doses or product selection, they perform no patient counseling or advising, they do not make final checks before dispensing, and they are not allowed to accept call prescriptions or refill authorizations.

Criterion 4: Scope of practice.

> *The scope of practice is distinguishable from other licensed, certified and registered occupations, in spite of possible overlapping of professional duties, methods of examination, instrumentation or therapeutic modalities.*

The 1996 study of the need to regulate pharmacy technicians by the Board of Health Professions compared their practice to that of dental assistants who are not regulated by the Board of Dentistry. However, it might be more appropriate to compare the practice of

pharmacy technicians to veterinary technicians, radiologic technologists-limited, or nursing assistants – all of whom are licensed or certified by boards within the Department of Health Professions. Comparisons with other regulated professions may not be informative for this study. Comparisons with the regulation of pharmacy technicians by other jurisdictions in the United States may provide more information about the current practice of technicians and the need to regulate. (See Appendix III)

The scope of practice of pharmacy technicians is distinguishable from that of pharmacists. Pharmacy technicians are not accountable for their mistakes, they are not allowed to practice pharmacy, and they cannot counsel patients or advise other health care professionals. Technicians are supposed to perform non-judgmental duties while being directly supervised by a registered pharmacist. While these duties are not currently listed in Virginia pharmacy regulations, a list of duties that only a pharmacist can perform is outlined.

Criterion 5: Economic impact.

> *The economic costs to the public of regulating the occupational group are justified. These costs result from restriction of the supply of practitioners, and the cost of operation of regulatory boards and agencies.*

The economic impact of regulating pharmacy technicians is difficult to predict. If they are allowed to assume greater responsibility because of education and certification, pharmacists may be able to spend more time on pharmaceutical care, which should improve patient outcomes and decrease overall health care costs. Amendments to current regulations regarding the pharmacist to technician ratio may also occur with increased technician responsibility. If the pharmacist to technician ratio is increased from 1:1 to 1:3 if all technicians in the pharmacy are certified by PTCB, as is proposed by the Board of Pharmacy, the cost of health care may be affected. Care must be exercised to ensure that technicians are supervised by a pharmacist at all times and cannot make decisions of independent judgment. Failure to do so could result in potential medication errors that would greatly outweigh any potential benefit of technician regulation.

Because the concept of pharmacy technician regulation is relatively new, the available economic data regarding their regulation is minimal. Limited information is available about the average pharmacy technician salaries in the United States, and even less information is available about salary differences between regulated and unregulated technicians. While the Virginia Association of Chain Drug Stores opposes regulation of technicians based in part on a contention that it would increase cost, their comments state that "no study has been undertaken attempting to quantify this increase in cost". Consequently, a cost-analysis can not be provided with any accuracy.

Criterion 6: Alternatives to regulation.

There are no alternatives to State regulation of the occupation which adequately protect the public. Inspections and injunctions, disclosure requirements, and the strengthening of consumer protection laws and regulations are examples of methods of addressing the risk for public harm that do not require regulation of the occupation or profession.

While pharmacists continue to assume responsibility for the actions and training of pharmacy technicians on an individual basis, changes in the pharmacy profession and in the delivery of health care may have increased the risk of harm to the consumer.

There are several alternatives to regulation which may include:

- A requirement for pharmacy technicians to be formally trained by a pharmacist, using a training program approved by the Board. The training may be completed either on-the-job or prior to employment to ensure that pharmacy technicians have the knowledge required to perform designated tasks in the pharmacy.

- A definition of pharmacy technicians in Virginia regulations/statutes according to pre-requisites for employment and the duties that technicians are allowed to perform. Further defining of pharmacy technicians may decrease the potential harm to the consumer by limiting their duties. If definitions are too narrow, however, they may hinder the pharmacists' ability to provide pharmaceutical care to his patients and fulfill OBRA'90 and state counseling requirements.

Criterion 7: Least restrictive regulation.

When it is determined that the State regulation of the occupation or profession is necessary, the least restrictive level of occupational regulation consistent with public protection will be recommended to the Governor, the General Assembly and the Director of the Department of Health Professions.

If the regulation of pharmacy technicians is necessary, the least restrictive level would be registration, which is favored in the "White Paper on Pharmacy Technicians", as endorsed by the American Pharmaceutical Association and the American Society of Health-System Pharmacists. Certification by the state would constitute title protection and would be confused with the private certification offered through examination by the PTCB. Licensure would imply a level of independent practice inappropriate for the technician, who should continue to work under supervision of the licensed pharmacist who remains accountable for the quality and safety of services provided.

Findings of the Board of Pharmacy:

- Information gained from the survey of pharmacies indicates that 90% employ fewer than 6 technicians with a mean number of 3.8 per pharmacy; the mean drops to 2.8

per pharmacy if only community/retail pharmacies are examined. Hospital pharmacies reported that 84% of their technicians had worked 3 years or longer; only 2% had worked less than one year. On the other hand, 15% of technicians in community pharmacies had worked less than one year, and 52% had worked 3 years or longer. Technicians in hospitals are more likely to work a full 40-hour week, while more of those in community/retail settings work less than 40 hours a week.

- Almost all pharmacies report that their technicians are trained on-the-job. In addition, approximately 25% report that there was formal in-house training and self-study coursework. Most had their competency checked by observation of the pharmacist; only 15% reported their technicians had national certification.

- In evaluating the risk of harm to the patient, any of the mistakes/errors - **if they were to go undetected** – could have catastrophic results for a patient. The risk of harm is recognizable and not based on tenuous arguments. What is debatable is the risk of an error going undetected by a professional pharmacist who has the responsibility for supervising the work of the technician. By regulation, that supervision is required to be direct and that drug is not supposed to be delivered to the patient without checking by the pharmacist. In practice, that may not always be the case, judging from letters the Board has received from pharmacists and technicians.

- Pharmacists estimated that the typical technician makes about 3 mistakes per week. The mean (or average) number is 6.5 mistakes/errors per week, meaning that a number of those surveyed reported relatively large numbers of mistakes/errors by their technicians. The number of mistakes/errors does not seem to be related to the type of training, but instead has more to do with the experience of the technician and to whether the technician works part-time or full-time.

- The mistakes that appeared on the survey as being made either often or occasionally included: wrong drug selected from stock (31.4%); wrong drug selected from computer (23.2%); wrong direction for use (22.2%); miscalculation of dose/quantity (16.2%). Persons who commented on the survey mentioned counting errors and incorrect information being given to a patient most frequently. While the press has reported egregious cases of prescription error, a scientific study on prescription error has not been conducted to indicate either the extent of the increase in errors or the involvement of technicians in those errors.

- All indicators reveal that the practice of pharmacy is evolving as a result of the changes in health care delivery systems, financial pressures of managed care, workload issues, legal requirements for drug reviews and counseling, the extension of pharmacy education from five to six years with an emphasis on training the pharmacists to provide patient care in addition to dispensing prescriptions. It is logical to assume that the use of technology (robotics, automated dispensing

machines, etc.) and technicians will become an increasingly important aspects of pharmacy practice.

- Loss and theft reports indicate a significant number of units of prescription drugs being diverted by employees of pharmacies. If a pharmacist is involved in that diversion, a disciplinary case is opened by this Department. If a technician is involved, there would be no report made and no disciplinary action taken. The technician may be able to be re-employed by another pharmacy unaware of a prior history of abuse or diversion.

- The issue of the public's lack of knowledge about who is filling their prescriptions and what is the training and experience of such persons was not specifically addressed by this study. Requests for public comment did not product comment from consumers, and the Board did not attempt to specifically survey consumers of pharmacy services.

- Based on the criteria established by the Board of Health Professions, the practice of pharmacy technicians does not warrant **licensure**. It is not an autonomous practice with highly specialized, formal education and training. Though the risk of harm to the consumer is significant, there are adequate safeguards currently in place to minimize that risk.

- Likewise, state certification of pharmacy technicians would provide title protection but would not provide any additional assurance of competency or safeguards from the risk of prescription error or drug diversion.

- Registration of technicians would provide a means of tracking technicians who have diverted or abused drugs and would offer the possibility of establishing minimal requirements for a technician to register.

Final Recommendation of the Board of Pharmacy:

The Board recommends that no changes in law or regulation for the regulation of pharmacy technicians are necessary. It would consider a requirement that pharmacists, pharmacy interns, pharmacy technicians or technician-trainee be clearly identified as such to the public.

VIRGINIA BOARD OF PHARMACY
DEPARTMENT OF HEALTH PROFESSIONS

Study of the Need to Regulate Pharmacy Technicians Pursuant to SJR 61 (1998)

Background and Authority

Senate Joint Resolution 61, patroned by Senator Yvonne Miller and passed by the 1998 Session of the General Assembly, requested the Virginia Board of Pharmacy to examine the need to regulate pharmacy technicians. The resolution refers to the integral role of the pharmacist in providing health care along with the additional responsibility to provide patient counseling on prescriptions. Demands on pharmacists' time are requiring them to employ persons who are not regulated health professionals to "perform important and responsible activities, such as counting pills and distributing the prepared prescriptions". (See Appendix I)

In the words of the resolution, "given the complexity of prescriptions and their lack of formal training, pharmacy technicians are placed in a situation where serious mistakes could occur". The resolution further expresses the concern that "many citizens are unaware that untrained or only moderately trained personnel are handling their prescriptions". To address the "concerns about the lack of regulatory purview over the activities and training of these technicians," the Board of Pharmacy was requested to examine the need to regulate pharmacy technicians and present its findings to the Governor and the 1999 General Assembly.

Members of the Virginia Board of Pharmacy

SJR 61 requested that the Board of Pharmacy within the Department of Health Professions conduct the study of pharmacy technicians. In doing so, the Board considered the criteria for regulation of a new occupation or profession established by the Department, weighed those against several policy options, and presents its findings and recommendations in this report. The Regulatory Committee of the Board is a standing committee with responsibility for consideration of regulatory and legislative issues and recommendations to the full Board. Members of the Board of Pharmacy are as follows with those who served on the Regulatory Committee indicated by an * by their names:

*Jackson T. Ward, Chair	John J. Hannigan	Luella A. Lightfoot	Mark A. Oley
*William S. Tiffany	E.W. Owen, II	Adina C. Krum	
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For the purpose of reviewing the research and information on pharmacy technicians and developing the recommendations for the Board's consideration, the Regulatory Committee served as the Study Task Force for SJR 61. To achieve broad representation of pharmacy practices, the Board invited several additional persons to serve on the Task Force for consideration of findings and development of recommendations to the Board. Those persons were:

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Pharmacist Survey – Studying the Need to Regulate Pharmacy Technicians

As it approached this study, the Board recognized a lack of information concerning the current number of pharmacy technicians, training practices, level of technician supervision provided by pharmacists, and the typical mistake or error rates for filling prescriptions even if the error/mistake was detected by the pharmacist prior to dispensing to the patient. To gather data relating to these and other relevant issues, the Board designed a survey and requested comment from all state pharmacies concerning their experience with pharmacy technicians. A copy of the survey instrument and report is attached as *Appendix II.*

Survey Methods and Limits of the Data

The survey was mailed out by the Board to all 1,590 licensed pharmacies on May 12, 1998. In an effort to get the most honest and accurate responses, the surveys were designed to be completely anonymous and contained no individual information such as the respondent's identity or pharmacy name or location. Surveys were addressed to the pharmacist-in-charge and were requested to be completed and returned by mail or fax by May 20, 1998. A follow-up letter reminding pharmacies to return the survey was sent ten days after the initial mailing (the reminder did produce a follow-up surge in returns).

A total of 882 surveys were returned for a response rate of 55.4%. The data were analyzed and presented by VisualResearch, a research and policy analysis firm independent of DHP and the Board of Pharmacy. The Board of Pharmacy and its staff determined the survey content and provided direction and interpretive comments during the analysis and report writing phases.

Pharmacist Attitudes vs. Actual Counts

The survey analysis describes the experiences and work of pharmacy technicians from the perspective of the pharmacist-in-charge. In this context, the survey represents general pharmacist attitudes concerning the supervision, work, training, and error rates of pharmacy technicians. The survey is designed to capture information on the typical technician, not on each technician in a particular pharmacy. Questions are worded so that the respondent is asked to assess the average hours worked, number of mistakes, and level of supervision provided by pharmacists. In this sense, it is possible for a respondent to assess the average hours worked and typical number of mistakes while thinking about two different employees.

The actual number of mistakes, hours worked per week, training level of technician, etc. are not possible to capture through an anonymous survey of this type. Exact counts of mistakes and hours worked would have to be collected through an error and time field study, requiring the tallying and collection of data on a number of individual technicians in a variety of locations and environments. In this case, officials would have to collect field data that not only described the number of mistakes, but also critical information related to the technician or pharmacy (age, experience, training, geographical location, etc.), allowing for a more comprehensive explanation of the findings. A study of this magnitude and sensitivity would require significant staff time and resources, and a high (perhaps impractical) level of pharmacy commitment. The current survey is a compromise, capturing the pharmacist's experiences with technicians more generally, without incurring significant project costs or unduly burdening or intruding on the operation of any particular pharmacy.

Summary of the survey

The results of this study fairly represent the attitudes of 882 pharmacists concerning their experiences with 3,122 pharmacy technicians. By most standards, this is a sizable number of employees to evaluate in any of the various health professions. However, the previous discussion relating to attitudes vs. counts, census vs. sampling, and non-response bias leads to two important caveats concerning this study: 1) the results cannot necessarily be generalized to all pharmacies or pharmacy technicians, and, 2) the results represent pharmacist attitudes, not actual or individual level technician counts.

The information in this report provides a first look at the pharmacist's perception of their technicians. Many of the issues examined are complex and some may be considered sensitive in nature. The Board fully acknowledges and appreciates the time spent by pharmacists to answer the questions honestly and accurately. The results fill a gap in our knowledge

concerning the role, function, and adequacy of pharmacy technicians, and the findings should be useful for informing policy discussions concerning technician regulation and oversight.

Major survey findings include:

- Just over half (55%) of technicians are employed 3 or more years; the number jumps to 84% when just examining hospital pharmacies.
- The median number of pharmacy technicians is 2 per pharmacy (the average was 3.8, indicating some pharmacies have relatively large numbers of technicians).
- 56% of technicians work part-time (less than 40 hours per week); the number falls to 35% when just examining hospitals.
- Most technicians receive "on-the-job" training (97%), less than a third receive formal in-house training (29%) and less than a quarter (21%) are tested by pharmacies for minimal competency.
- For determining and maintaining minimal competency, home infusion and hospital pharmacies most often reported using methods such as competency checklists, testing, national certification, and refresher and self-study courses; community pharmacies were least likely to use these methods.
- The median (midpoint) number of technician mistakes/errors is 3 per week, with 70% of pharmacists reporting their technicians make between 0-5 mistakes per week.
- Of the pharmacies reporting, mistakes/errors seem to vary somewhat according to duration of employment and hours worked per week, but do not seem to be related to type of training received.

Role of Technician in the Future of Pharmacy

In an era of health care reform, the role of the pharmacist is changing and the demands for greater productivity have intensified. With an increase in demand for primary health care and more patient management, the demand on the pharmacist's time for pharmaceutical patient care is expected to expand. This expansion will, by necessity, involve the increased use of pharmacy technicians, automation (e.g., robotics), computers, computer networks and computer software (e.g., drug information databases). Automation and communication technologies are likely to have a profound effect on the profession of pharmacy and may increase the need for well trained, competent pharmacy technicians who will be doing more of the filling of prescription orders.

Changes in legislation (e.g., OBRA'90) as well as trends in pharmacy practice (e.g., the pharmaceutical patient care movement) confirm that pharmacists are becoming more involved in the direct delivery of patient care. The Omnibus Budget Reconciliation Act of 1990 (OBRA'90) required all state Medicaid agencies to develop and implement prospective and retrospective drug use review (DUR) programs by January 1, 1993. A prospective DUR is a review process conducted by the pharmacist before a prescription is dispensed. Here the pharmacist looks at a complete patient profile detailing current medications and the medical history of the patient. Also, the pharmacist studies the use of a particular drug to evaluate the drug's effectiveness. Pharmacists must screen prescription orders and counsel patients for problems due to therapeutic duplication, drug-disease contraindications, drug-drug interactions, incorrect dosage or duration of therapy, drug-allergy interactions, and clinical misuse and abuse.

As part of the prospective DUR, OBRA'90 says pharmacists must offer to counsel all Medicaid patients about their prescription medications. The purpose of OBRA'90 DUR programs is to ensure that prescription orders for outpatient drugs are appropriate, medically necessary, and not likely to cause adverse results. A retrospective DUR is conducted by a state's DUR board. This DUR is an ongoing, periodic, after the fact examination of data obtained from Medicaid prescription drug claims. The goal of a retrospective DUR is to identify patterns of inappropriate prescribing and dispensing and to provide educational programs to teach physicians and pharmacists how to minimize fraud, abuse, overuse, and inappropriate or unnecessary care. The effects of OBRA'90 include:

- Most states, including Virginia, have required pharmacists to offer to counsel all patients, not just those on Medicaid.

- To accommodate OBRA'90, some pharmacies have added staff, redesigned their facilities, and updated their computers.

- Disciplinary actions by state boards and legal liability are potential results of failing to comply with OBRA'90.

As of July 1, 1992, Virginia law requires pharmacists to provide prospective DUR screening, patient medication profiling and patient counseling for all Virginia patients, not just Medicaid recipients. Some pharmacists say that since the implementation of OBRA'90, more time is spent conducting DURs and counseling patients, but that those important activities are often neglected in favor of the demands to fill large quantities of prescriptions in a timely manner. Although patients consider the information pharmacists are providing to be useful and important, some pharmacists are concerned that patient counseling is not optimal because of time constraints.

Pharmacists in many areas of practice have increased their use of pharmacy technicians. This is true in part because of trends of pharmacy practice, education, law, and drug product development, which have created an environment in which pharmacists are encouraged to use their knowledge and expertise to manage drug therapy for patients. One way to accomplish

this is to delegate certain tasks in the prescription and dispensing process to trained technicians working under the supervision of a licensed pharmacist with the added safeguards offered by newer technology. In addition to typing labels and retrieving drugs from stock, technicians are now compounding chemotherapy, parenteral nutrition and other intravenous solutions, compounding prescriptions for dispensing, maintaining inventory, performing calculations and dispensing controlled substances to nursing units. If there is a trained technician available, it is the technician who may alleviate the time constraints imposed on the pharmacist by the demands of the pharmacy environment and legal requirements such as OBRA'90. With the increased responsibilities of pharmacy technicians comes an increase in the attention to the legal status of pharmacy technicians.

Comprehensive pharmaceutical patient care requires that the pharmacist's focus increasingly shift from the dispensing role to patient care. This shift in duties and responsibilities constitutes a significant change from current practice. While the pharmacist remains responsible for legal dispensing requirements, delegating dispensing functions to support personnel allows the pharmacists the time needed to provide this care. Changes of this magnitude require that all pharmacy personnel, including the management of the organization in which the pharmacy exists, commit to providing the trained personnel necessary to ensure that the public is protected as the changes are made and pharmacists and technicians assume new roles.

Anxiety about the future of pharmacy largely centers around the economic uncertainties which are caused by the following factors: health care reform issues; industry practices including multi-tiered pricing; the competitive nature of the health-care marketplace including managed care contracts; the involvement by other dispensing professionals such as physicians into traditional pharmacy practice areas; and mail service pharmacy operations. Other trends in the practice include:

- Pharmacists will need to expand or alter their knowledge and skill base to keep up with their expanded practice role.

- There will be an increased focus on being a drug information expert. Much more time will be spent consulting with physicians, other health care practitioners and patients.

- Computer networks, drug information databases, and robotics will profoundly influence the practice of pharmacy.

- All pharmacy practitioners will face increasing economic pressure and greater competition from a variety of sources.

- Trends toward more government regulation, managed care, and restrictions on formularies are changes identified as contributing to pharmacists continuing loss of professional autonomy.

So, while one can only speculate what the future role of the pharmacist will be, if current trends continue, the primary responsibility of the pharmacist of the future will be to provide pharmaceutical care, while supervising dispensing activities either directly or indirectly. The profound changes that are taking place in the delivery of health care and in the practice of pharmacy will likely lead to an expanded role for pharmacy technicians.

In 1992, the American Association of Colleges of Pharmacy, the American Pharmaceutical Association, the American Society of Hospital Pharmacists, and the National Association of Boards of Pharmacy initiated a study of the scope of pharmacy practice which included a task analysis of pharmacy technicians. The Scope of Pharmacy Project also identified the changes occurring in the practice of pharmacy in terms of changes that may affect pharmacy technicians and the knowledge and skill base required in the future. Those changes are outlined below.

- Pharmacy technicians are performing more and more of the routine and technical tasks that are a part of the practice of pharmacy, thereby freeing the pharmacists to perform more of the unique and clinical responsibilities inherent in the provision of pharmaceutical care.

- Pharmacy technicians perceive the need for more extensive and uniform education in order to perform work that comprises an expanding set of responsibilities and tasks.

- Pharmacy technicians support the development of a national certification program for pharmacy technicians. They perceive that such a national certification program will contribute to qualitative improvements in their work as they gain formal recognition for their contributions to the profession, and to improvements in pay.

While the trends in pharmacy practice point toward the increased utilization of technicians to extend or, in some cases, replace the work of the pharmacist, Joe E. Smith, Pharm.D. wrote in the 1995 American Journal of Health Systems Pharmacists that there remain the following concerns related to technicians:

1. Lack of uniformity in technician training.

2. Lack of understanding of the functions that trained pharmacy technicians can perform under appropriate supervision.

3. Possible displacement of pharmacists by technicians.

4. Risk that corporate and hospital managers may view the expanded use of pharmacy technicians primarily in terms of cost reduction and profit enhancement, without equal regard for the quality and scope of pharmaceutical services.

Despite this resistance, approximately 80% of pharmacists responding in 1992 to the survey for the Scope of Pharmacy Practice Project reported being assisted in practice by pharmacy

technicians. In the survey conducted among Virginia pharmacists-in-charge in 1998 for this report, only 6.8% of the surveys returned reported having no technicians. Though we do not have an actual count of the number of technicians in the state or the nation, it is apparent, both from the surveys and from anecdotal information, that the number and importance of technicians in pharmacy practices is growing.

Today, the duties and responsibilities of pharmacy technicians depend greatly on where they are employed. In many community pharmacies, technicians are only allowed to retrieve a drug from stock, count the appropriate number of tablets and fill and label the container. Other community pharmacies may allow technicians to gather information from the patient, enter prescription and patient information into the computer, control inventory, answer the telephone, compound prescriptions for dispensing and reconstitute oral liquid medications.

In hospital, mail order and home-health pharmacies, pharmacy technicians may also be allowed to fill unit dose cassettes, to repackage drugs, to prepare intravenous solutions including chemotherapy and parenteral nutrition solutions, to compound drugs (eye drops, topical preparations, oral medications, etc.), to maintain inventory in controlled substance vaults, to dispense controlled substances to nursing units, and to perform nursing unit inspections. Usually, the supervising pharmacist decides which duties the pharmacy technician will be allowed to perform. Their decisions are based on current legislation, employer policies, technician training and experience and how much the pharmacist trusts the technician.

Traditionally, the pharmacy technician could be anyone whom the pharmacist is willing to hire and train, usually but not necessarily with a high school diploma. This tradition is changing. There is an increasing acceptance of technicians in practice. They will have to perform a wider range of tasks (e.g., compounding, purchasing/inventory duties, intravenous solution preparation, and packaging/repackaging medications in addition to assisting the pharmacist with routine prescription dispensing), thereby allowing the pharmacist to assume more clinical responsibilities. Economic considerations also play a role in the increased reliance on pharmacy technicians. As pharmacy technicians are given responsibility for a wider range of tasks, education and certification initiatives for pharmacy technicians will become increasingly important to the profession.

A definition of the practice of pharmacy technicians.

One of the challenges of conducting this study was the lack of a commonly understood and widely accepted definition of a "pharmacy technician". There is a lack of clarity about job titles and job descriptions, so persons who are hired as "clerks" are not considered to be "pharmacy technicians" but <u>are</u> in fact assisting the pharmacist and performing some of the tasks necessary for the filling and dispensing of prescription drugs. In responding the survey sent to all pharmacies in Virginia, pharmacists would occasionally say that they have no technicians but do have "helpers" to count out and/or package the drugs. Some commented that they have to use the clerks who were hired to operate the cash register to help out in the

pharmacy when the pharmacist needs assistance. While those persons are not employed as "technicians", they are in fact performing as technicians when they are utilized in that manner.

A practice definition which sets the parameters for the profession would assist the pharmacists and the public in understanding the appropriate role and function of pharmacy technicians. In the "*White Paper on Pharmacy Technicians*" published in 1996 in the American Journal of Health System Pharmacy and in the Journal of the American Pharmaceutical Association, the definition which is endorsed and advocated for use in the practice of pharmacy is: **"Pharmacy technician" means an individual working in a pharmacy who, under the supervision of a licensed pharmacist, assists in pharmacy activities that do not require the professional judgment of the pharmacist".**

However, the paper also notes that the occupation of "pharmacy technician" is "still in the process of becoming defined consistently throughout the profession." While there is progress being made, there continues to be a lack of consensus about what knowledge, skills and training are essential for minimal competency. Likewise, there is a lack of uniformity in the opinion of the profession about the appropriate functions for technicians, the amount of supervision required, and the need for regulatory accountability.

Some states that have regulated pharmacy technicians have specifically excluded persons used solely for clerical duties, record keeping, cashiering, bookkeeping, and the delivery of medications released by the pharmacist. Drawing a distinction between clerical assistance or supportive personnel and the pharmacy technician would serve to clarify the duties of such persons and the competencies that should support performance of those duties.

Pharmacy Technician Education and Training

Education and Training across the Profession

Basically, there are three types of pharmacy technician training programs in existence today. They are composed of core material which is subject matter important to all technician positions, specialty training which is work environment specific or job-function specific, and procedural training which is employer specific.

1. The first type of training program is conducted by an employer and exists to meet that employer's specific needs. Typically, they provide informal didactic instruction in areas employers feel are core, followed by on-the-job training for the specific position for which the technician trainee was recruited. Employers typically pay for training.

2. The second type of training program is a non-degree program that may or may not be conducted by an employer. The program is usually three to six months in duration and includes formal didactic instruction of core material as well as various specialty training modules to prepare the technician for work in a number of pharmacy areas. These programs

may be accredited by the American Society of Health-System Pharmacists (ASHP) or a state board of pharmacy. Trainees may pay tuition or employers may pay for all of the training.

3. The last type of training program is a degree-granting program available in community colleges. These programs require the completion of a minimum number of general education courses in addition to the required pharmacy technician curriculum. At the end the program, graduates are awarded an Associate of Arts degree.

The Pharmacy Technician Educators Council (PTEC) is an organization of educators of pharmacy technicians to assist the profession in preparing well-trained technical personnel. The PTEC advocates that training programs evolve into at least 9 months and/or 45 quarter or 32 semester credit programs within the next 5 years; and within the next 10 years, programs should offer 2-year associate degrees. Programs should cover topics in: pharmacy law and ethics; pharmacology including anatomy and physiology, prescription and over-the-counter medications, and chemistry; microbiology; pharmacy operations including drug distribution systems, records management and inventory control and ambulatory and institutional practice; compounding including aseptic technique and non-sterile compounding; general education including medical terminology, interpersonal relations and computers/keyboarding; problem solving and critical thinking; and experiential training.

In practice, education of pharmacy technicians is a hit-or-miss proposition with most technicians receiving some type of training on the job. While some industry experts say regulators need to ensure that technicians are properly and uniformly trained, technician instruction is typically left to the discretion of the pharmacy. Educators say that most on-the-job training has little academic basis; in-house educational programs range from not-so-good to good.

Since the duties of technicians vary considerably from one pharmacy setting to another, there are considerable differences in opinion among proponents of formalized technician training programs concerning what the objectives for training ought to be. Some believe training should be tailored to a certain environment or to a particular job, while others believe there should be a core training program, covering basics, followed by specialty tracks. Still others believe that entry level technician training programs ought to be broad enough for a wide variety of jobs and work environments. Programs based on ASHP guidelines appear to be successful, but these are designed for hospital settings. Some people suggest, however, that it is possible to broaden the scope of such training programs by adding one or two more modules. As community pharmacies become involved in home health-care and extended services, their need for technicians with hospital-type skills grows. Conversely, as hospitals become more and more involved in ambulatory care programs, their need for technicians skilled in outpatient operations increases.

Most community pharmacists train their technicians on-the-job with or without didactic instruction. The National Association of Chain Drug Stores and the National Association of Retail Druggists have developed the Community Retail Pharmacy Technician Training Manual that can be used as a guide for pharmacists training technicians. The manual is

composed of eight sections including an introduction to pharmacy, types of prescription medications, interpreting prescriptions, patient interactions, the dispensing process, third-party prescriptions, non-dispensing duties and alternative drug distribution systems. The manual consists of educational material that the technician can read and study as well as competency assessments at the end of each section. The manual presents core material essential for community pharmacy technicians and can be used by the pharmacist as a tool to support technician training in the workplace.

In 1997, the Community Retail Pharmacy Working Group, a coalition representing retail community pharmacy in the United States, produced a manual entitled, *Model Curriculum for Pharmacy Technician Training* with support from the American Association of Pharmacy Technicians, American Pharmaceutical Association, American Society Health System Pharmacists, and Pharmacy Technician Educators Council. It is intended to be a model for adaptation in each setting. After reviewing the list of goal statements and educational objectives, the training entity should: 1) select those modules that pertain to the employment environment. contain the chosen objectives; 2) select those modules that contain the chosen objectives; and 3) study any of the modules to be certain that through the process elimination, prerequisite learning has not overlooked.

Individualized programs have been created by many of the retail chains to prepare persons for technical assistance to the pharmacist. An example of the training programs is one being implemented by the Rite Aid Corporation, which provided information about its new Pharmacy Technician Training Program and the Technician Certification Examination. Designed to extensively cover all aspects of the practice of pharmacy the manual for training consists of five separate pieces: 1) Pharmacy Managers Guidelines; 2) Instructor Guide for Classroom Training; 3) Student Manual; 4) Student Workbook; and 5) Instructors Guide. Once a technician has completed the training, a certification examination is administered by the management in the field. Rite Aid intends for its examination to be an alternative to the one administered by the Pharmacy Technician Certification Board.

Education and Training in Virginia

In Virginia, programs have been made available through community colleges or may be obtained through in-house educational programs developed by the health systems that employs the technician. For example, Northern Virginia Community College has had a curriculum "designed to prepare persons to perform skilled duties and to assist the pharmacist-in-charge"; there are 29 credits in the program over two semesters of school.

Many hospitals in Virginia provide some form of formal pharmacy technician training program. Technicians may have to pass written exams as well as learn and demonstrate necessary skills required to perform a particular task (e.g., aseptic technique for sterile intravenous preparation). Only two Virginia pharmacies have pharmacy technician training programs accredited by ASHP (Medical College of Virginia Hospitals and The Naval School of Health Sciences). ASHP requires that an accredited training course consist of lectures, informal discussions, practical experience sessions and a training manual. Eleven objectives

are listed with competencies and training guidelines for each. The Medical College of Virginia Hospitals' ASHP accredited training program is taught by MCV pharmacy staff, students and residents. Tom Reinders, PharmD., former Director of Pharmacy at MCV Hospitals, supports structured education for pharmacy technicians to ensure a minimum database of pharmacy knowledge, but he also believes that work experience is essential for good training of pharmacy technicians. While training and working, a technician's ability to perform various tasks can be evaluated by a pharmacist using a list of competencies. Dr. Reinders points out that these task-specific competencies would be hard to assess if only an exam was given at the end of a training class.

All supporters of formalized pharmacy technician training programs agree that pharmacists should be in charge of a technician's practical training. They also realize that there is currently an insufficient number of formal training sites available to meet needs, so requiring training could have the effect of decreasing the number of qualified technicians. In the past, employers, through necessity, have borne the cost of training programs. Many people opposed to formalized training explain that the cost, the time required to formally train technicians, and the possibility of a decrease in the number of qualified technicians are the main reasons for their opposition.

Pharmacy Technician Survey – Information on education, training and determination of competency in Virginia

While training programs are becoming more structured in large retail chains and health care systems, the Pharmacy Technician Survey conducted for this report revealed that almost all pharmacies rely on "on-the-job" as a method for training technicians (97.2%). Only about a quarter of the respondents reported "formal in-house training" and roughly a quarter report "self-study course work" as training methods they use. (Respondents could check more than one answer.)

"Formal in-house training" was most likely reported by home infusion pharmacies (72.7%) and hospitals (43.7%), and least likely reported by long term care (15.6%) and community pharmacies (25.3%). Course work by self-study was also most commonly cited by home infusion and hospital pharmacies. Regardless of pharmacy type, relatively few reported course work in and educational institution (ranging from 5.2% to 15.6%).

For determining minimal competencies once training has been completed, "observation by pharmacists" was listed most often (96.5%), while using a "checklist" was the next most popular method for determining minimal competency (44.% of respondents). "Other" methods for determining minimal competency included observation by other technicians or nurses, periodic job evaluations, or in-house certification programs. (Respondents could check more than one answer.)

Using a "Checklist of competencies" was cited by most hospital (88.7%) and most home infusion pharmacies (95.5%). Roughly 4 out of 10 community and long-term care pharmacies also report using a checklist. "Testing by pharmacy" was also most likely cited by hospital

(50.7%) and home infusion pharmacies (77.3%). "National certification" is least likely used as a method for determining initial competency, with just over 10% of community pharmacies reporting this method. As with other methods shown, home infusion pharmacies most often reported (40.9%) using "national certification."

Other than "on-the-job training or re-training, "using "self-study courses or manuals" was the most common method (21.2%) for maintaining minimal competency. "Other methods" reported for maintaining minimal competency included reading trade magazines, journals, manuals or other written materials, and attending programs or seminars.

National certification by the Pharmacy Technician Certification Board (PTCB).

The PTCB has developed a broad-based examination testing the competencies necessary to determine minimal competency for entry to practice. At present, there is no mechanism for certifying additional competencies or specialized training, which must be gained by experience and training in the particular pharmacy setting.

Since its inception in 1995, PTCB has certified 33,103 pharmacy technicians (as of September 8, 1998) with a passage rate of 82% over the administration of the exam. In Virginia, 743 persons have been granted certification by PTCB with an overall passage rate of 85%. Examinations are given in 49 states (3 locations in Virginia) on 3 dates during the year. The PTCB announced that a record number of technicians, over 7,100 registered to sit for the July 18, 1998 – which represents a 100% increase over the July 12, 1997 examination. According the Executive Director, a number of major employers are "embracing the PTCB certification program...leadership by employers such as Walgreens, Kmart, Owen Healthcare and Schnucks not only encourages pharmacy technicians to take the PTCB examination, but also offers salary and reimbursement incentives to successful candidates."

To be eligible to sit for the examination, a candidate must have a high school diploma or a GED. Though formal training programs are available, technicians normally prepare for the examination through self-study manuals, such as the *Manual for Pharmacy Technicians*, a 380-page reference for technicians in all practice settings, and the *Pharmacy Technician Certification Review and Practice Exam*, organized to reflect the function areas in the PTCB handbook.

The broad function areas covered by the examination are: 1) *Assisting the pharmacist in serving patients*, including activities related to traditional pharmacy prescription dispensing and medication distribution, and collecting and organizing information - 50% of the examination; 2) *Medication distribution and inventory control systems*, including activities related to medication and supply purchasing, inventory control, and preparation and distribution of medication according to approved policies and procedures - 35% of the examination; and 3) *Operations*, including activities related to the administrative processes for

the pharmacy practice center - 15% of the examination. Under each of the three functions, there are 29 specific activities or tasks on which the candidate is to be tested.

The examination contain 125 questions from the three function areas; questions are developed by the Certification Council and Pharmacy Technician Resource Panel under the direction of the PES testing experts.

In an effort to provide some evidence of continuing competency, PTCB has also initiated a recertification process with a 75% success rate in July of 1997. A total of 29 contact hours in pharmacy-related topics is required within a two-year period; 10 of those hours may be gained in the practice setting under the supervision of a pharmacist and at least 1 hour must be in pharmacy law.

It is the belief of the PTCB that the profession of pharmacy has evolved to the point where a consistent approach is needed in the development of pharmacy technicians as a well-recognized component of pharmacy. For this reason, a single, voluntary, national certification program is needed, rather than individual state programs.
Some of the benefits of the national pharmacy technician certification program, according to PTCB include:

- Provision of a consistent and standard certification program for pharmacy technicians and creation of a national registry for certified pharmacy technicians.

- Employers know they have hired someone who has already proven that they have mastered a basic core of knowledge relevant to the work of pharmacy technicians.

State pharmacy associations are playing major roles in the promoting of the PTCB exam. Both the Virginia Society of Hospital Pharmacists and the Virginia Pharmacists Association are involved in marketing the exam in Virginia. They are advocating the value of training and encouraging participation in the certification program by offering review courses and continuing education for pharmacy technicians, distributing training manuals to prepare for the exam and providing specific testing information.

Certification does not mean that employers would no longer have to train technicians for site specific tasks, but it would mean that technicians would have a mastery of basic core knowledge. According to John Gans, executive vice president of American Pharmaceutical Association, practitioners in all areas of pharmacy practice are devoting more time to pharmaceutical care, and they are turning to pharmacy technicians for assistance in functions that do not require the judgment of a licensed pharmacist. This is resulting in a greater need to formalize the occupation of pharmacy technicians. Voluntary national certification will be an important step toward making the pharmacy technician a well-defined position in pharmacy.

A job analysis of the tasks performed for pharmacy technicians.

Prior to the development of a competency examination for pharmacy technicians, four pharmacy organizations (including the National Association of Boards of Pharmacy) initiated a study entitled, the "***Scope of Pharmacy Practice Project***" which included a task analysis of pharmacy technicians. Funded by the Pew Charitable Trust and conducted by the Professional Examination Service, the study objective was to provide a delineation of the functions and tasks of pharmacists and technicians, as well as the underlying knowledge and skills necessary

In the survey instrument used in the performance of the study, 14% of technicians reported that they worked in a community pharmacy, 70% worked in a hospital practice, with the remaining in a other settings. Over 50% described their primary task as assisting in medication dispensing; about 17% reported their primary function was in the preparation of IV admixtures. On an average, the respondents had worked for more than 10 years. About 25% were certified by a pharmacy organization, and about 75% obtained their training on the job. About 30% responded that they supervise other technicians.

Pharmacy practice was divided into *functions* with *subfunctions* in each category; specific knowledge and skills were associated with each function and subfunction. Function 1, *Providing pharmaceutical care to individual patient* and Function 2, *Developing and managing medication distribution and control systems*, were named as the most important functions to the technician-respondents, have the greatest impact on protecting the public from harm, and occupy over 60% of the work time, regardless of practice site. The respondents spend less than 10% of their work time on each of the other functions and rated them as minimally important and less than critical to public protection.

Within Function 1, 40% of the work time was attributed to Subfunction 1.01, *Collecting, organizing, and evaluating information* and to Subfunction 1.03, *Providing medication and counseling to patients.* These two subfunctions rate higher in importance and in pubic protection than other subfunctions under Function 1.

Within Function 2, the respondents spend about 10% of their time on Subfunction 2.03, *Preparing, dispensing, distributing, and administering medications* and rate that subfunction as more important in their work and in public protection than the other three subfunctions. For each of the functions and subfunctions, the report presented the public protection and acquisition ratings of the responding technicians on the knowledge and skills. Those necessary for 1.01 and 2.03 (listed above), and 2.04 *Ensuring quality* were rated as having the greatest impact on protecting the public from harm.

From the criteria established in the project, a blueprint was constructed indentifying 35 responsibilities and 27 tasks associated with 10 subfunctions. The knowledge and skills associated with these subfunctions served as the basis for the national certification examination. Conclusions drawn from the project report were: 1) pharmacy technicians are performing more and more of the routine and technical tasks; 2) technicians want more

extensive and uniform education; and 3) there is support for a national certification program for technicians.

In a July 8, 1998 news release, the PTCB announced that it has embarked on the development of a new task analysis for pharmacy technicians. The organization has contracted with Professional Examination Service (PES) to provide the necessary psychometric expertise for their work and has put together a special task force representing a variety of pharmacy practices and demographics to conduct the year-long project. The immediate goal is to ensure that the PTCB certification examination is a valid measurement of the tasks that technicians currently perform. As the PTCB acknowledges, pharmacists are increasingly turning to technicians to do more tasks that do not require the professional judgment in order to allow the licensed pharmacist to time to be involved in pharmaceutical care.

The activities and tasks performed by pharmacy technicians.

Tasks which may be performed by a technician in Virginia as listed in the Pharmacy Technician Survey (some of which must be under the supervision of a licensed pharmacist) are as follows:

Inputting prescription information into computer
Pulling medication for prescription preparation
Packaging prescription product
Labeling final prescription product
Performing quality assurance checks on prescription product
Using automated counting/packaging device
Stocking pharmacy shelves/unit dose bins/automated dispensing devices
Filling unit dose carts/cassettes
Preparing IV solutions/compounding
Sterilize, clean or maintain equipment in IV preparation/compounding
Resolving drug interaction alerts
Ordering/receiving controlled substances
Performing inventory/audits/inspection of controlled substances
Bagging/packaging prescriptions for delivery to ultimate user

The Virginia Health Care Foundation and the Virginia Statewide Area Health Education Centers Program publishes a document describing the work of all health professions and listing the educational and other requirements for entering that profession. Information contained in the 1996-98 volume of "Virginia Health Careers" provides a similar list of tasks but the only task after which "under the supervision of a pharmacist" is noted is "Fill prescriptions with prepared drugs and compound sterile intravenous solutions". The information given on pharmacy technicians also notes that "because (they) deal with controlled substances, they must undergo background checks". Other sources have not confirmed that statement, so without a clearing house for checking on potential employees,

there is a concern about the potential for diversion from persons hired to work as technicians.

The risk of diversion of prescription drugs.

One of the criteria for regulation is the potential that the unregulated practice of a health occupation will endanger the public health, safety and welfare. Certainly, the diversion of prescription drugs presents a danger to the public, either through the individual abuse and impairment of the health professional or through the illicit sale of such drugs on the street. Therefore, in addition to looking at the risk of harm from technician mistakes or prescription error, the study examined the theft-loss reports made to the Board by pharmacies to determine the incidences attributable to employees in the prescription department.

The Board also solicited information from the Drug Enforcement Administration, which automates theft/loss reports and pursue reports of drug diversion. Data from the DEA show that employee theft (may include pharmacists and pharmacy technicians as well as any other employees who have access to the prescription department) in 1997 accounted for 22.3% of the total theft and 47.8% of the dosage units that were stolen (theft by outsiders accounted for the remainder).

Year	#Employee theft/Total thefts	%	Employee theft dosage units/ Total dosage units	%
1995	28 / 159	17.6	31,594 / 116,972	27.0
1996	20 / 139	14.4	25,134 / 114,7541	21.9
1997	35 / 157	22.3	114,076 / 238,859	47.8
1998 *	22 / 85	25.9	2,421 / 95,749	6.8

*As of June 30, 1998

Whether additional accountability and supervision in the prescription department would reduce the amount of employee theft and loss is debatable. What is understood is that regulation of all pharmacy personnel at some level would provide protection from those persons being re-employed by other pharmacies which are unaware of their history.

Survey of Research and Professional Literature

The 1996 *Study Regarding the Need to Regulate Pharmacy Technicians in the Commonwealth* included a comprehensive review of the professional literature and research of the training and use of pharmacy technicians. A summary of that review is provided as follows:

There have been few, well-designed studies that research the impact of pharmacy technicians on the profession of pharmacy, especially in community practice. Limitations of the studies reviewed include small sample size, inappropriate study design and analysis, and the investigator's generalization of results in the discussion section. These flaws bias the results and raise questions about the studies' internal and external validity.

One of the studies which is widely quoted looked at the accuracy of pharmacy technicians checking unit dose cassettes using a quality control system at three Minnesota hospitals. Like many of the other studies reviewed, this study was a pilot project. Technicians were given specific training and were aware that they were participating in a demonstration project, therefore their performance may not accurately reflect all pharmacy technicians' performances. Technicians were corrected when they made a mistake, and audits and retraining sessions were performed for technicians who dropped below a minimum level of accuracy. If these measures were not included in the study, the percent accuracy of technicians checking technicians would probably be lower. Also, it is uncertain whether these strict procedures would be followed at a typical hospital pharmacy. The study concluded that specially selected and trained pharmacy technicians could perform unit dose cassette checking with an accuracy of at least 99.8%. Although the number of errors reported was quite small, the type and severity of errors was not reported.

Several other studies have tried to compare the accuracy of pharmacy technicians to pharmacists when checking unit dose cassettes. Although these studies showed no significant difference in accuracy, they are plagued by the same internal and external validity concerns addressed previously. In the study by S. H. Spooner and P.K. Emerson, different study protocols were used when measuring the accuracy of pharmacists versus technicians. Still, investigators concluded that there was no difference in the accuracy rate between pharmacists and technicians when checking unit dose cassettes.

Overall, the number of studies concerning pharmacy technicians is limited. Caution should be used if one is making decisions about the future of pharmacy technicians based on these studies because most do not represent the typical pharmacy or typical pharmacy personnel.

Advocates for the increasing the use of unlicensed technicians contend that it is necessary in a managed care environment, promotes efficiency, and allows the pharmacist time to counsel patients and perform other tasks requiring professional judgment. Critics contend that it results in an increased probability of error and potential for harm to the public. The California Guild for Professional Pharmacists recently completed a study of pharmacies, technicians and error rates, which they say supports the contention that technicians are making more and more errors. Their study showed that 65% of staff pharmacists in chain drugstores believe the rate of errors had increased; 59% said using technicians increases the number of errors.

According the U. S. Pharmacopeia, a nonprofit group that sets standards for drugs products and gathers data on medication errors, mistakes or pharmacy errors in retail pharmacies are difficult to quantify. Reporting of such mistakes is voluntary and therefore incomplete.

In a study conducted by Elizabeth L. Allan, PhD, Kenneth N. Barker, PhD, Michael J. Malloy, PharmD, and William M. Heller, PhD and published by American Pharmacy in December of 1995, a disguised-patient technique was used with the objective of describing the nature and frequency of dispensing errors and the quality of patient medication counseling in 100 randomly selected community pharmacies. The analysis detected 24 dispensing errors

in 100 prescription orders, of which 4 were clinically significant. The results suggested that problems with the quality of counseling and dispensing accuracy "require immediate attention". Errors were considered clinically significant if they increased the risk of a detrimental effect on the patient's quality of life, such as a serious adverse drug reaction or worsening of the signs or symptoms of the treated disease. The number of significant errors would have increased if the omission of auxiliary labels and additional counseling were considered.

Authors concluded that "on the basis of the high dispensing error rate measured in this study, the need exists for further study and implementation of error prevention techniques to protect the safety of the public". Possible reasons for prescription error that warrants further study include noise levels, frequency of interruptions, staffing levels and low lighting levels. One aspect of the dispensing process that the study did not address was the involvement of technicians in the 24% error rate that was reported. No study has conclusively shown the involvement of technicians in the rate of prescription errors, but this study did reveal a much higher rate overall than had previously been reported.

The Institute for Safe Medication Practices (ISMP) is a non-profit organization which works with practitioners, health-care institutions, professional organizations and the pharmaceutical industry to provide education about drug errors. It is the role of the ISMP to provide the medical community with information about medication error prevention methods. The ISMP has composed a comprehensive handout outlining possible problems and solutions to medication errors.

Recommendations Of ISMP To Decrease Medication Errors:

- The work of pharmacy technicians must be checked by pharmacists and in critical procedures the work of pharmacists must be checked by a second pharmacist.
- Computer profiling and screening of drug orders to minimize duplication, drug interactions, and drug allergies.
- Proper employee selection, indoctrination and work assignments.
- Adequate number of personnel with proper supervision.
- Reduce interruptions.
- Educate patients so that they can serve as the final check.
- The process of pharmacists counseling patients on their medication provides for another opportunity to discover and correct pharmacy dispensing errors.

The above recommendations may be useful when considering the scope of technician duties and responsibilities when safety issues are important. Although there are multiple reports of

medication errors that result from pharmacy mistakes, it is difficult to determine how many, if any, are the direct result of pharmacy technician errors. This uncertainty results from current law which requires that all work by pharmacy technicians to be checked by a registered pharmacist. Hence the question arises, if a technician fills a prescription incorrectly and the pharmacist does not catch the mistake, is the technician or the pharmacist at fault? Currently, most would argue the pharmacist is responsible. Therefore, with current laws in place, it is difficult to determine how many errors result from pharmacy technicians.

Review of States' Laws and Regulations on Pharmacy Technicians

States' laws and regulations regarding pharmacy technicians vary greatly with respect to which tasks technicians are allowed to perform. Some states, including Virginia, do not explicitly define in law what a pharmacy technician can do. Virginia laws and regulations list what duties **only** a pharmacist can perform. (See Virginia Regulations 18 VAC 110-20-280 and 18 VAC 110-20-430 and § 54.1-3319 of the Code of Virginia.) It is assumed that a pharmacy technician can perform any duty, **which is not listed,** as long as they are under the direct supervision of a licensed pharmacist. In other states' regulations, however, a definition of pharmacy technicians, a list of what tasks they may perform (scope of practice) as well as a list of prohibited duties may be found.

At least twenty-three states regulate pharmacy technicians in some way. (See Appendix III) Sixteen states register or issue a permit to technicians; two certify, and five require licensure. The majority of states which regulate technicians require some form of registration where pharmacy technicians must meet standard prerequisites to employment and must file an application with the Board. A list of pharmacy technicians names is kept by the Board of Pharmacy, and most Boards require that they be notified if a pharmacy technician is suspected of diverting or abusing drugs. If proven guilty, a technician may have his registration revoked and may no longer be allowed to work in a pharmacy.

Those states that require certification recognize two tiers of pharmacy technicians. Technicians who complete a training program and pass an exam given by the Board or pass the National Voluntary Pharmacy Technician Certification exam may become certified by the Board and may be allowed to perform additional duties (i.e. compounding, checking behind another pharmacy technician). Pharmacy technicians who are not certified may still be required to be registered with the Board to work in a pharmacy, but their duties may be more limited. Some states only require prerequisites to employment (e.g., minimum age, high school diploma, never been convicted of felony or misdemeanor).

Currently, Virginia does not require pharmacy technicians to complete a mandatory training program. Most pharmacy technicians in Virginia are trained on-the-job. However, twenty-five states and Puerto Rico require pharmacy technicians to have some form of training. Other states are currently in the process of requiring some form of pharmacy technician training. Most states that require technician training do not have one particular training program that the technicians must complete. Instead, they require that the pharmacist-in-

charge submit a training procedure manual for Board approval. Within a certain time frame, technicians must complete this training, and the pharmacist-in-charge must maintain records indicating that all technicians employed have completed the course work. Some states require that pharmacy technicians pass an exam at the end of their training period.

Louisiana is typical of a state which has recently adopted and implemented requirements for technicians. Beginning in 1998, pharmacy technicians must be certified by the state by completing a Board-approved didactic program, work a minimum of 200 hours as pharmacy support staff, and pass the technician examination with a minimum score of 75. Texas has passed a law requiring all technicians to be certified by the Pharmacy Technician Certification Board by the year 2001.

Public comment on the resolution.

In requesting this study, Senate Joint Resolution 61referred to the public misperceptions and potential risk for harm. Therefore, the Board attempted to solicit a range of comment on the issues addressed in the resolution. A **Public Hearing** was conducted on May 28, 1998 at which four persons presented comments on behalf of organization they represent, summarized as follows:

Virginia Society of Health System Pharmacists " promotes the idea of registration for pharmacy technicians." Key limitation on use of technicians is direct supervision. VSHP would like to expand the role of technicians to duties could be performed partially independently. "The only way to gain the ability to work semi-independently is to recognize the technician in the regulations via registration."

"One common standardized mechanism for assessing the knowledge base is the national technician certification board, which we feel is the minimum requirement for registry. In addition, each facility would have to train their technicians... We feel that (registration) would be a budget neutral activity with the increased costs needed offset by the registration fees."

Kaiser Permanente has a pharmacy technician training and development program, which consists of a 15-week, full-time 40 hour-a-week program with rotations in ambulatory and hospital settings. All of those who have gone through the program have passed the national technician training test put on by ASHP (examination by the PTCB). We do support the proposal to have a certified training program for technicians and support the idea that technicians should be regulated by the Board of Pharmacy.

Virginia Association of Chain Drug Stores opposes any regulation of pharmacy technicians and commented as follows:

"*VACDS believes that regulation of pharmacy technicians is unnecessary for at least the following reasons: (1) the current system adequately safeguards the public; (2) regulation is unnecessary in light of voluntary measures currently in place in the pharmacy industry; (3)*

the cost of unnecessarily regulating pharmacy technicians will ultimately be borne by the public; (4) pharmacy technicians act at all times under the direct supervision of a licensed pharmacist who remains ultimately responsible for the actions of that pharmacy technician; and (5) the status quo represents the least restrictive method in which to protect the public safety.

VACDS believes that the current system represents the most cost-effective way to ensure safe and effective delivery of pharmacy services and that there is no reason to change that system at this time. The Virginia Board of Health Professions concluded in a comprehensive study less than two years ago that pharmacy technicians should not be regulated. Nothing has changed since the October 1996 release of the Virginia Board of Health study to warrant a different conclusion."

Pharmacy Technician Certification Board has certified 33,103 technicians since 1995 through a national certification examination that tests a core of knowledge from various types of pharmacy settings. Technicians still need on-the-job training for a specific facility or system. PTCB believes there are approximately 150,000 technicians in the United States. All states are currently looking at the role of technicians because of the changes occurring in the practice of pharmacy. Even the pharmacy technician who is certified still works under the license of the pharmacist and in accordance with the pharmacy practice act. The ASHP and the APHA oppose rules on ratios.

There have been no studies done on whether certification reduces the number of errors, but many major employees are supporting the certification process. Several of the major chain drug stores pay for their employees to prepare for and take the certification exam (Cost for exam is $105) PTCB does not accredit educational programs; it is instituting a re-certification process for 20 hours every two years.

In response to the request for **written comment,** the following was received:

Virginia Pharmacists Association supports the voluntary national certification of pharmacy technicians by PTCB and believes that "certification could lead to pharmacy technicians having more uniform and extensive education in order to perform work that comprises an expending set of tasks and responsibilities."

President of Epic Pharmacies wrote "I can't think of any task that should be performed by a "pharmacy technician" outside of the direct supervision of a pharmacist." Competency is best achieved learning on the job with close supervision by the pharmacist. He opposes certification and registration programs which would do little to take away the legal liability placed on pharmacists by our pharmacy malpractice insurers.

Director of Pharmacy Services at Maryview Medical Center reports that technicians have become more and more crucial in the operation of the pharmacy department. Technicians are trained on the job; the average time for a technician to become proficient is one year. Maryview reimburses the technician for the cost of the PTCB exam and some funding for

continuing education. The registry of pharmacy technicians would provide a means of control over technicians and the ability to establish standards for practice.

American Society of Health-System Pharmacists supports the registration of pharmacy technicians and voluntary certification for pharmacy technicians. ASHP opposes state licensure because the Board should hold pharmacists accountable for the quality of pharmacy care.

Virginia Association of Chain Drug Stores responded to questions posed during the Public Hearing. All members of VACDS have training programs for pharmacy technicians; however, each chain has developed a program specific to its stores. In response to a questions about information quantifying the increase in costs in the delivery of pharmacy services due to the regulation of pharmacy technicians, the attorney for VACDS responded: " To my knowledge, no study has been undertaken attempting to quantify this increase in cost. However, the Virginia Board of Health Professions, at the direction of the General Assembly, has recognized that regulation invariable adds a layer of cost and, as a result, it is the policy of the Commonwealth to adopt the least restrictive level of regulation necessary to protect the public."

In addition, the Board has solicited participation from a variety of other groups and organizations. Persons who provided information on the utilization, training, and competency of pharmacy technicians included:

Janet G. Hart, R.Ph., Manager of Government Affairs, Rite Aid Corporation
Rodney L. Stiltner, PharmD., Pharmacy Supervisor, Medical College of Virginia Hospitals
Melissa M. Murer, R.Ph., Executive Director, Pharmacy Technician Certification Board

Board of Pharmacy Task Force on Pharmacy Workload

In 1996, the Board received information from a number of sources that pharmacy workloads and workplace conditions were hindering the ability of pharmacists to provide safe and effective pharmacy services to consumers. Because of this information and a growing concern over the apparent increase in the number of prescription errors, the Board appointed a Task Force to engage in a study to try to determine causes for the concerns and to find ways to improve pharmacists' ability to practice safely. Approximately 50 persons spoke at hearings held in Richmond, Tidewater, Northern Virginia and Roanoke. After the conclusion of the hearings, the Task Force recommended that the Board attempt to alleviate the problems by education rather than regulation and that the report be distributed to all pharmacy owners and to pharmacy schools in Virginia for information purposes, with a request that owners look at their dispensing procedures and find ways to improve the working conditions processes to reduce the possibility for error.

Though not specifically directed to the utilization of pharmacy technicians and their possible involvement in the increase in prescription errors, there were an unusually large number of

written comments from the pharmacists across Virginia with a number of references relevant to technicians. While the Pharmacy Survey conducted for the purpose of this study was directed to the pharmacist-in-charge, comments for the Workload Study came from the pharmacists who are actually supervising technicians or the technicians who are employed to assist the pharmacist.

Some of those comments are excerpted to offer a picture of the concerns and frustrations related to the use of pharmacy technicians and are provided as follows:

"I strongly believe that technicians need to be properly trained and certified by the Board of Pharmacy or similar... A dividing line is needed to let only qualified workers tech for the pharmacist. My employer has never offered training classes for its technicians nor any classes for those employees who want to become technicians. The technician has important duties alleviating problems so that the pharmacist can assess everything more clearly. Less problems-less mistakes. Workers with no experience as technicians are supposed to be trained while working in the pharmacy. I do not think this is a good and safe situation. Since most pharmacies are working with limited time and manpower to teach, how are these employees supposed to work up to par? The result is a substandard performance."

"Payroll percentage for support personnel such as pharmacy techs and cashiers have declined and continue to do so... while prescription volumes have increased... No wonder dispensing errors are on the rise."

"The bottom line for the increase in dispensing errors is increased workload and lack of support personnel... Employers should be required by law to have 1 pharmacy technician working the entire shift per pharmacist. This technician should only be involved in filling prescriptions, not ringing the cash register."

"Technicians receive the prescriptions, type the label for them, and fill them...We have technicians dispensing prescriptions, we have no pharmacists available to dispense. Any suggestion or comments that could improve this situation will be greatly appreciated."

"I work as a pharmacy technician...We seldom have additional cashier help, so it is up to us to wait on customers, ring the register, take new prescriptions from customers, as well as answer the constantly ringing phone! It is an impossible situation...Our only full-time technician quit three weeks ago...our store manager pulled a cashier who was on light-duty assignment and placed her in the pharmacy during the day."

"Retailers in an attempt to turn a profit have cutback on pharmaceutical technician assistance. This has caused an influx of untrained personnel in the pharmacy leading to potentially hazardous situations for patients and pharmacists."

"The increasing responsibilities of a pharmacist has not yet been accompanied with a decrease in any of the routine task. Just as physicians have assistants to help them, well trained pharmacy technicians shall be used..."

"Finally, I agree that we must rely on our technicians more to aid us in processing prescriptions, so that we are available to counsel our patients. Unfortunately in the retail pharmacy, technicians are often low paid, untrained clerks sent back to the pharmacy to help out. They are not able to adequately process prescriptions and I an uncomfortable having them do so. Some sort of mandatory technician program or training needs to be implemented. There is no doubt the technician is our best asset and needs to be trained and treated as such."

"One of our original technicians, and the only one who has taken and passed the National Technician exam last year, was involuntarily transferred from the pharmacy and offered such impossible alternate employment in the store...that she had to quit. She was replaced with a revolving-door of part-time, lower-paid, employees, with no knowledge of or no particular aptitude for the pharmacy department, resulting in numerous patients receiving someone else's prescriptions (s)."

Pharmacists should be given a choice of a pool of qualified employees who should pass some standardized test for technicians."

"I would like to comment on the workload/workplace practicing conditions and how they hinder the a Pharmacists' ability to provide safe and accurate pharmacy services to our customers..."Understaffing and inadequate support personnel have been imposed upon us by management in an effort to reduce costs and improve company profits."

"My suggestions for improving the conditions I work in and maintain public safety are to pass legislation requiring that a technician be on duty whenever a pharmacist is on duty and to allow the pharmacist to monitor two technicians at a time."

"In my community practice lack of adequate staffing is the primary hindrance to providing safe and effective delivery of pharmacy services to consumers."

"My company believes that you can train a technician in 30 days and they know it all. Anyone who is a pharmacist and is in the business knows that it takes years to train and one gets much better with time."

" To conquer the constantly reined phone, allow the pharmacy/pharmacist to designate an "authorized agent," similar to a doctor's office, to free the pharmacist from constant interruptions. This may be a "certified" or "trained" technicians who is able to receive telephoned prescriptions, transfer prescriptions between stores, or help with other tasks that could easily be trained to a "qualified" technician. We also feel that one pharmacist can easily manage more than one technician, the current legal "tech. to R.Ph." ratio."

"We have lost control of our profession. Pharmacists cannot provide quality care in such a hectic environment. Pharmacists no longer fill prescriptions. We must rely on technicians to do the work because the Pharmacist only has time to quickly check behind them.

I do not think the answer is to increase the number of technicians although it would be helpful to require Pharmacy technicians to be licensed."

"Where there once were two pharmacists working side by side, there are now a pharmacist and a technician. I have witnessed numerous errors caused by inadequate checking of mistakes made by technical personnel."

"To that end, I offer four areas of major concern in the hospital milieu. 1) the use of automated drug dispensing machines ...stocked and maintained by technicians...a cornucopia of drugs awaits any undisciplined person; 2) un-monitored technician order entry...technician entered orders would be "live" and able to be charted by nursing; 3) un-monitored technician-run satellites.. .here we have our most egregious example of technicians assuming the role of the pharmacist; 4) quality assurance...it has become a relic of another time whose death was caused by the bottom line..."

Mandating more technician presence for pharmacist is essential. However, techs must be certified lest R.Ph. will be distracted by trying to watch them & chains will put more low pay clerks with the R.Ph. ... they compensate by expecting non-trained floor personnel (or store assistant managers) to jump in and help...that is counterproductive as the pharmacist must watch & check & worry."

For each dispensing error that comes to the attention of the Board of Pharmacy, there are probably thousands that do not... In most cases, the primary problem is a result of inadequate staffing."

"In my opinion practically all of the problems relating to the delivery of quality pharmacy services to the public can be linked to the lack of technical support in the pharmacy, whether that support be a trained pharmacy technician, a simple cashier or proper computer support."

"I believe through proper training and uniform certification, the technician could fill the gap between the aged dispensing pharmacist and the newly emerging pharmacist that provides a bridge for the gap between physician and patient."

"Require a pharmacy tech or pharmacy assistant to help with ordering, filing, maintaining required documentation, putting the order away, dusting, tidying, etc."

"Yes, our workload is not safe, our workplace is not conducive to a peaceful environment, and the demand required of our time, eyes and ears is stretched beyond any safeguards. Technicians need to be trained and registered and limits placed on prescription production without adequate support personnel."

A pharmacist at a Virginia hospital reported that "pharmacy technician has her own keys, and opens pharmacy each morning, & fills pre-op orders and orders which the floors could

not get during the evening hours...pharmacy technician may have been there for 1/2 to 11/2 hours by themselves. If a narcotic is needed before pharmacist arrives, director has left a narcotic key, so they can get whatever they need before we get there...Rx orders from the yellow Doctor's orders are entered by technicians, and we seldom ever see the actual Drs. orders...the pharmacist has no idea if what he is filling is actually what the doctor ordered, we more or less have to depend on the med nurse to be accurate in transcribing...before we fill it (or tech!)

The Brewer machines are filled by the pharmacy techs... We are suppose to supervise the filling of machines to make sure correct drug is in the correct bin, etc. and we are suppose to sign the "filling Brewer machine" log each time to "say that" it was filled correctly. I no longer sign it, since I do not personally see what is going in the machines... The log book may be signed for every day the machines are filled, but I assure you that, not once has a pharmacist been with the tech when the machines are filled.

The pharmacist does NOT directly supervise the IV team which mixes heparin drips, antibiotics, etc....WE NEVER PERSONALLY SUPERVISE THE MIXING, READ THE IV ORDERS,ETC., but we are asked to sign the IV profiles off, so it looks like a pharmacist has seen and approved the IV orders."

Examination of the occupation of pharmacy technician in light of the Criteria in Determining the Need for Regulation of any Health Care Occupation or Profession.

In response to § 54.1-2409.2 of the 1996 Acts of the Assembly, the Board of Health Professions was required to study and report on the appropriate criteria to be used in determining the need for regulation of any health care occupation or profession. The study included a thorough review and analysis of professional literature, site visits to integrated health care delivery systems, testimony from national experts in health professional regulation, and broad participation by consumers, insurers, and other professional organizations and individuals.

In the report made to the 1998 General Assembly (House Document #8), the Board concluded that the criteria established in 1983 and expanded in 1992 remain applicable and appropriate. Therefore, this study conducted by the Board of Pharmacy has examined the need to regulate pharmacy technicians according to the criteria reaffirmed in 1997. The criteria and comment as to their applicability are as follows:

Criterion 1: Risk for harm to the consumer.

> *The unregulated practice of the health occupation will harm or endanger the public health, safety or welfare. The harm is recognizable and not remote or dependent on tenuous argument. The harm results from (1) practices inherent in the occupation, (2)*

characteristics of the clients served, (3) the setting or supervisory arrangements for the delivery of the health services, or (4) from any combination of these factors.

If current Virginia pharmacy laws and regulations are strictly followed, the risk of harm to the consumer if pharmacy technicians are not regulated is minimal. Current law and regulations requires that all work performed by a pharmacy technician be checked and verified by a registered pharmacist. Hence, the risk of harm to the consumer resulting directly from a pharmacy technician is small. The problem arises, however, when the pharmacist is unable to adequately supervise pharmacy technicians. This failure to adequately supervise may be due to time constraints imposed by federal OBRA'90 requirements or state law requirements (i.e., prospective DUR, patient profiling and counseling), demands by upper management to increase sales without adequately increasing pharmacy personnel, or low compensation by third party payers or other financial issues where pharmacists cannot afford to hire additional pharmacists to meet increasing demands. Changes within the pharmacy profession itself may also encourage pharmacists to assume more clinical responsibilities. These added responsibilities may cause a pharmacist to spend time on other activities rather than on the close supervision of the technician.

Several other potential situations regarding pharmacy technicians may pose a risk of harm to the consumer. Currently, there is no way to track pharmacy technicians as they change jobs. A pharmacy technician may continue to work in the pharmacy field even if they have diverted or abused drugs, have been convicted of a felony or have willfully acted negligent while working in a pharmacy in the past. The risk of harm to the public results when a pharmacist is unaware of past or current problems. Although the law requires that a pharmacy technician must be directly supervised by a pharmacist, many times the pharmacist does not actually watch the technician perform the task. Therefore, a mistake may be made by the pharmacy technician and, if the mistake is not reported to the pharmacist, the pharmacist may not know about the error. The risk of harm to the consumer in these potential situations is very real.

Criterion 2: Specialized skills and training.

The practice of the health occupation requires specialized education and training, and the public needs to have benefit by assurance of initial and continuing occupational competence.

While there is specialized education and training needed to perform the tasks of a pharmacy technician, there is currently no training mandated for technicians in Virginia. Most pharmacy technicians receive their training on-the-job. The type of specialized skills a technician possesses depends on the practice setting, their job function and their employer's needs. In some pharmacies in Virginia, technicians may only be allowed to remove drug from shelves, count out the appropriate number of tablets, type labels and perform clerical duties involving inventory and third party payers. Whereas in other pharmacies around the state, pharmacy technicians under supervision may be allowed to enter prescriptions into the computer, enter information into the patient file, reconstitute oral liquids, compound

medications for dispensing, do pharmacy calculations, prepare IV and parenteral nutrition solutions as well as chemotherapy, and work in a controlled substance vault.

Technicians should have a working knowledge of pharmacy laws, how to read prescriptions and enter information into the computer, how to label prescriptions with appropriate auxiliary labels, how to compound preparations, how to prepare intravenous solutions using aseptic technique and what precautions to exercise when handling medications (e.g., chemotherapy). Most of the above skills are hospital oriented and taught on-the-job, but even community technicians must know about pharmacy law, how to read prescriptions and how to compound. Also, with the increase the home health companies, many must also learn the skill of aseptic technique.

Criterion 3: Autonomous practice.

> *The functions and responsibilities of the practitioner require independent judgment and the members of the occupational group practice autonomously.*

The independent judgment required for a technician depends on the practice setting and what tasks technicians are allowed by their employers to perform. If only counting tablets, placing into the appropriate container and labeling the container, which is then checked by the pharmacist, not much independent judgment is involved. However, when doing calculations and compounding or selecting the drug for filling the prescription, however, there is a higher degree of judgment and accuracy required. While pharmacists are supposed to be supervising a technician and checking all of their work, there are many times when the pharmacist is not constantly watching the pharmacy technician perform the task. The pharmacist depends on the technician to be honest and responsible and must trust the technician to let them know if they made a mistake.

According to Virginia law, the pharmacist must directly supervise all unlicensed personnel, must initial and verify all work a technician performs and assumes all responsibility for the final product, therefore independent judgment of pharmacy technicians is minimal. All semi-judgmental tasks given to them must always be checked by the pharmacist by law. Hence, what autonomy technicians are given is minimized. Unless legislative or regulatory changes are made so technicians responsibilities are increased, independent judgment will continue to be minimal. Currently in Virginia, pharmacy technicians do not make choices regarding doses or product selection, they perform no patient counseling or advising, they do not make final checks before dispensing, and they are not allowed to accept call prescriptions or refill authorizations.

Criterion 4: Scope of practice.

> *The scope of practice is distinguishable from other licensed, certified and registered occupations, in spite of possible overlapping of professional duties, methods of examination, instrumentation or therapeutic modalities.*

The 1996 study of the need to regulate pharmacy technicians by the Board of Health Professions compared their practice to that of dental assistants who are not regulated by the Board of Dentistry. However, it might be more appropriate to compare the practice of pharmacy technicians to veterinary technicians, radiologic technologists-limited, or nursing assistants – all of whom are licensed or certified by boards within the Department of Health Professions. Comparisons with other regulated professions may not be informative for this study. Comparisons with the regulation of pharmacy technicians by other jurisdictions in the United States may provide more information about the current practice of technicians and the need to regulate. (See Appendix III)

The scope of practice of pharmacy technicians is distinguishable from that of pharmacists. Pharmacy technicians are not accountable for their mistakes, they are not allowed to practice pharmacy, and they cannot counsel patients or advise other health care professionals. Technicians are supposed to perform non-judgmental duties while being directly supervised by a registered pharmacist. While these duties are not currently listed in Virginia pharmacy regulations, a list of duties that only a pharmacist can perform is outlined.

Criterion 5: Economic impact.

> *The economic costs to the public of regulating the occupational group are justified. These costs result from restriction of the supply of practitioners, and the cost of operation of regulatory boards and agencies.*

The economic impact of regulating pharmacy technicians is difficult to predict. If they are allowed to assume greater responsibility because of education and certification, pharmacists may be able to spend more time on pharmaceutical care, which should improve patient outcomes and decrease overall health care costs. Amendments to current regulations regarding the pharmacist to technician ratio may also occur with increased technician responsibility. If the pharmacist to technician ratio is increased from 1:1 to 1:3 if all technicians in the pharmacy are certified by PTCB, as is proposed by the Board of Pharmacy, the cost of health care may be affected. Care must be exercised to ensure that technicians are supervised by a pharmacist at all times and cannot make decisions of independent judgment. Failure to do so could result in potential medication errors that would greatly outweigh any potential benefit of technician regulation.

Because the concept of pharmacy technician regulation is relatively new, the available economic data regarding their regulation is minimal. Limited information is available about the average pharmacy technician salaries in the United States, and even less information is available about salary differences between regulated and unregulated technicians. While the Virginia Association of Chain Drug Stores opposes regulation of technicians based in part on a contention that it would increase cost, their comments state that "no study has been undertaken attempting to quantify this increase in cost". Consequently, a cost-analysis can not be provided with any accuracy.

Criterion 6: Alternatives to regulation.

There are no alternatives to State regulation of the occupation which adequately protect the public. Inspections and injunctions, disclosure requirements, and the strengthening of consumer protection laws and regulations are examples of methods of addressing the risk for public harm that do not require regulation of the occupation or profession.

While pharmacists continue to assume responsibility for the actions and training of pharmacy technicians on an individual basis, changes in the pharmacy profession and in the delivery of health care may have increased the risk of harm to the consumer.

There are several alternatives to regulation which may include:

- A requirement for pharmacy technicians to be formally trained by a pharmacist, using a training program approved by the Board. The training may be completed either on-the-job or prior to employment to ensure that pharmacy technicians have the knowledge required to perform designated tasks in the pharmacy.

- A definition of pharmacy technicians in Virginia regulations/statutes according to pre-requisites for employment and the duties that technicians are allowed to perform. Further defining of pharmacy technicians may decrease the potential harm to the consumer by limiting their duties. If definitions are too narrow, however, they may hinder the pharmacists' ability to provide pharmaceutical care to his patients and fulfill OBRA'90 and state counseling requirements.

Criterion 7: Least restrictive regulation.

When it is determined that the State regulation of the occupation or profession is necessary, the least restrictive level of occupational regulation consistent with public protection will be recommended to the Governor, the General Assembly and the Director of the Department of Health Professions.

If the regulation of pharmacy technicians is necessary, the least restrictive level would be registration, which is favored in the "White Paper on Pharmacy Technicians", as endorsed by the American Pharmaceutical Association and the American Society of Health-System Pharmacists. Certification by the state would constitute title protection and would be confused with the private certification offered through examination by the PTCB. Licensure would imply a level of independent practice inappropriate for the technician, who should continue to work under supervision of the licensed pharmacist who remains accountable for the quality and safety of services provided.

Findings of the Board of Pharmacy:

- Information gained from the survey of pharmacies indicates that 90% employ fewer than 6 technicians with a mean number of 3.8 per pharmacy; the mean drops to 2.8 per pharmacy if only community/retail pharmacies are examined. Hospital pharmacies reported that 84% of their technicians had worked 3 years or longer; only 2% had worked less than one year. On the other hand, 15% of technicians in community pharmacies had worked less than one year, and 52% had worked 3 years or longer. Technicians in hospitals are more likely to work a full 40-hour week, while more of those in community/retail settings work less than 40 hours a week.

- Almost all pharmacies report that their technicians are trained on-the-job. In addition, approximately 25% report that there was formal in-house training and self-study coursework. Most had their competency checked by observation of the pharmacist; only 15% reported their technicians had national certification.

- In evaluating the risk of harm to the patient, any of the mistakes/errors - **if they were to go undetected** – could have catastrophic results for a patient. The risk of harm is recognizable and not based on tenuous arguments. What is debatable is the risk of an error going undetected by a professional pharmacist who has the responsibility for supervising the work of the technician. By regulation, that supervision is required to be direct and that drug is not supposed to be delivered to the patient without checking by the pharmacist. In practice, that may not always be the case, judging from letters the Board has received from pharmacists and technicians.

- Pharmacists estimated that the typical technician makes about 3 mistakes per week. The mean (or average) number is 6.5 mistakes/errors per week, meaning that a number of those surveyed reported relatively large numbers of mistakes/errors by their technicians. The number of mistakes/errors does not seem to be related to the type of training, but instead has more to do with the experience of the technician and to whether the technician works part-time or full-time.

- The mistakes that appeared on the survey as being made either often or occasionally included: wrong drug selected from stock (31.4%); wrong drug selected from computer (23.2%); wrong direction for use (22.2%); miscalculation of dose/quantity (16.2%). Persons who commented on the survey mentioned counting errors and incorrect information being given to a patient most frequently. While the press has reported egregious cases of prescription error, a scientific study on prescription error has not been conducted to indicate either the extent of the increase in errors or the involvement of technicians in those errors.

- All indicators reveal that the practice of pharmacy is evolving as a result of the changes in health care delivery systems, financial pressures of managed care, workload issues, legal requirements for drug reviews and counseling, the extension of pharmacy education from

five to six years with an emphasis on training the pharmacists to provide patient care in addition to dispensing prescriptions. It is logical to assume that the use of technology (robotics, automated dispensing machines, etc.) and technicians will become an increasingly important aspects of pharmacy practice.

- Loss and theft reports indicate a significant number of units of prescription drugs being diverted by employees of pharmacies. If a pharmacist is involved in that diversion, a disciplinary case is opened by this Department. If a technician is involved, there would be no report made and no disciplinary action taken. The technician may be able to be re-employed by another pharmacy unaware of a prior history of abuse or diversion.

- The issue of the public's lack of knowledge about who is filling their prescriptions and what is the training and experience of such persons was not specifically addressed by this study. Requests for public comment did not product comment from consumers, and the Board did not attempt to specifically survey consumers of pharmacy services.

- Based on the criteria established by the Board of Health Professions, the practice of pharmacy technicians does not warrant **licensure**. It is not an autonomous practice with highly specialized, formal education and training. Though the risk of harm to the consumer is significant, there are adequate safeguards currently in place to minimize that risk.

- Likewise, state certification of pharmacy technicians would provide title protection but would not provide any additional assurance of competency or safeguards from the risk of prescription error or drug diversion.

- Registration of technicians would provide a means of tracking technicians who have diverted or abused drugs and would offer the possibility of establishing minimal requirements for a technician to register.

Possible recommendations of the study distributed in an exposure draft to interested parties:

- Make no changes in law or regulation.

- Require that pharmacists, pharmacy interns, pharmacy technicians or technician-trainee be clearly identified as such to the public.

- Register persons as pharmacy technicians with an annual renewal. Technicians would be required to keep the Board informed about current name and address, and the name and address of the pharmacy in which they are employed.

- Prior to utilizing a technician, the pharmacy would have to obtain verification that a person is currently registered with the Board. Any pharmacy which allows the use of a non-registered person as a technician would be subject to disciplinary action for each offense.

- Written procedures describing the tasks to be performed by technicians and the methods of verification and supervision to be provided to be prepared by the pharmacist-in-charge and available for inspection.

- Prior to being registered by the Board, a technician would have to complete a board-approved training program, as verified and documented by the pharmacist-in-charge. Training programs could be outlined and approved by the Board in advance and would be reviewed periodically for evidence of continuing relevancy to practice.

- In lieu of Board approval of training, regulations could required training consisting of certain basic competencies and a specified number of hours of education and practice in a pharmacy.

- Technician trainees would be limited to the duties they could perform and the amount of time they could work prior to be registered.

- Mandate reporting requirements by the pharmacist-in-charge in cases of technician diversion or abuse of drugs as a part of a registration program.

In response to the exposure draft, the Virginia Pharmacists Association recommended: a) site specific training of pharmacy technicians; b) clear identification of pharmacists, pharmacy interns and technicians to the public; c) a method of tracking technician diversion or abuse of drugs via some form of reporting of these individuals as long as there is a mechanism to protect from liability the individual making the report; and d) support for the voluntary certification of technicians by the Pharmacy Technician Certification Board. The Virginia Society of Health-System Pharmacists supported registration of technicians by the Board, mandatory reporting of technician diversion or drug abuse, and a requirement for a board-approved training program. The Virginia Association of Chain Drug Stores did not support any form of regulation or requirement for training.

Final Recommendation of the Board of Pharmacy:

The Board recommends that no changes in law or regulation for the regulation of pharmacy technicians are necessary. It would consider a requirement that pharmacists, pharmacy interns, pharmacy technicians or technician-trainee be clearly identified as such to the public.

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SENATE JOINT RESOLUTION NO. 61

Requesting the Board of Pharmacy to examine the need to regulate pharmacy technicians.

Agreed to by the Senate, February 13, 1998
Agreed to by the House of Delegates, March 12, 1998

WHEREAS, the Board of Pharmacy, pursuant to Chapter 33 of Title 54.1 of the Code of Virginia, has the responsibility to license pharmacists, drug manufacturers, drug warehousers, some dispensing physicians, and all pharmacies in the Commonwealth; and

WHEREAS, pharmacists are an integral part of the doctor-patient relationship and instrumental in providing health care to Virginians; and

WHEREAS, changes in the provision of health care and the burgeoning number of drugs have placed greater burdens on the pharmacist to help guide the patient in his treatment; and

WHEREAS, new federal and state regulations require the pharmacist to provide more patient counseling to ensure compliance and guard against overprescribing, placing additional burdens on licensed pharmacists; and

WHEREAS, to deal with this issue, pharmacists are turning to the use of pharmacy technicians to ease the demands and provide more time for the pharmacists to deal with patients one-on-one; and

WHEREAS, these technicians, although not health professionals, perform important and responsible activities, such as counting pills and distributing the prepared prescriptions; and

WHEREAS, given the complexity of prescriptions and their lack of formal training, pharmacy technicians are placed in a situation where serious mistakes could occur; and

WHEREAS, the Board of Pharmacy currently has only the authority to generally regulate these technicians as ancillary personnel; and

WHEREAS, many citizens are unaware that untrained or only moderately trained personnel are handling their prescriptions; and

WHEREAS, although pharmacy technicians are helpful and do assist in preventing long waits for prescriptions, there are concerns about the lack of regulatory purview over the activities and training of these technicians; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Board of Pharmacy be requested to examine the need to regulate pharmacy technicians.

All agencies of the Commonwealth shall provide assistance to the Board of Pharmacy for this study, upon request.

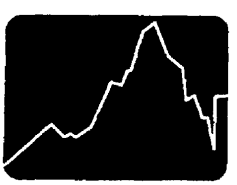
The Board of Pharmacy shall complete its work in time to submit its findings and recommendations to the Governor and the 1999 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Pharmacist Survey

Studying the Need to Regulate Pharmacy Technicians

Virginia Board of Pharmacy

Commonwealth of Virginia • August 1998



Department of Health Professions

Analysis and Findings

Introduction and Summary

Study Background and Authority

Senate Joint Resolution 61, patroned by Senator Yvonne Miller and passed by the 1998 Session of the General Assembly, requested the Virginia Board of Pharmacy to examine the need to regulate pharmacy technicians. The resolution refers to the integral role of the pharmacist in providing health care along with the additional responsibility to provide patient counseling on prescriptions. Demands on pharmacists' time are requiring them to employ persons who are not regulated health professionals to "perform important and responsible activities, such as counting pills and distributing the prepared prescriptions."

In the words of the resolution, "given the complexity of prescriptions and their lack of formal training, pharmacy technicians are placed in a situation where serious mistakes could occur." The resolution further expresses the concern that citizens are unaware that untrained or only moderately trained personnel are handling their prescriptions." To address the "concerns about the lack of regulatory purview over the activities and training of these technicians," the Board of Pharmacy was requested to conduct a study on the need to regulate pharmacy technicians and report its findings and recommendations to the Governor and members of the 1999 General Assembly.

The Board recognized a lack of information concerning the current number of pharmacy technicians, typical training practices, level of technician supervision provided by pharmacists, and typical mistake or error rates for filling prescriptions. To gather data relating to these and other relevant issues, the Board designed a survey and requested comment from all state pharmacies concerning their experience with pharmacy technicians. This document presents the results of that survey in a concise graphical format to help the Board of Pharmacy and other decisionmakers better determine if any policy changes are needed concerning the regulation and oversight of pharmacy technicians.

Survey Methods and Limits of the Data

The survey was mailed out by the Department of Health Professions (DHP) to all 1,590 licensed pharmacies on May 12, 1998. In an effort to get the most honest and accurate responses, the surveys were designed to be completely anonymous and contained no individual information such as the respondent's identity or pharmacy name or location. Surveys were addressed to the pharmacist-in-charge and were requested to be completed and returned by mail or fax by May 20, 1998. A follow-up letter reminding pharmacies to return the survey was sent ten days after the initial mailing (the reminder did produce a follow-up surge in returns).

A total of 882 surveys were returned for a response rate of 55.4%. The data were analyzed and presented by VisualResearch, a research and policy analysis firm independent of DHP and the Board of Pharmacy. The Board of Pharmacy and its staff determined the survey content and provided direction and interpretive comments during the analysis and report writing phases.

Pharmacist Attitudes vs. Actual Counts

This report includes survey analysis which describes the experiences and work of pharmacy technicians from the pharmacist's perspective - the individuals who supervise and work with the technician on a daily basis. In this context, the survey represents general pharmacist attitudes concerning the supervision, work, training, and error rates of pharmacy technicians. The survey is designed to capture information on the typical technician, not on each technician in a particular pharmacy. Questions are worded so that the respondent is asked to assess the average hours worked, number of mistakes, and level of supervision provided by pharmacists. In this sense, it is possible for a respondent to assess the average hours worked and typical number of mistakes while thinking about two different employees. For example, a respondent may indicate that the typical employee works 40 hours per week, and the typical number of mistakes per week is 30. Whereas the typical hours per week may be close to 40, the pharmacist may have (intentionally or unintentionally) recorded 30 mistakes per week for someone other than the typical 40 hour per week employee. Although inconsistent responses of this type may have occurred, it is not possible to determine how often or to what degree.

The actual number of mistakes, hours worked per week, training level of technician, etc. are not possible to capture through an anonymous survey of this type. Exact counts of mistakes and hours worked would have to be collected through an error and time field study, requiring the tallying and collection of data on a number of individual technicians in a variety of locations and environments. In this case, officials would have to collect field data that not only described the number of mistakes, but also critical information related to the technician or pharmacy (age, experience, training, geographical location, etc.), allowing for a more comprehensive explanation of the findings. A study of this magnitude and sensitivity would require significant staff time and resources, and a high (perhaps impractical) level of pharmacy commitment. The current survey is a compromise, capturing the pharmacist's experiences with technicians more generally, without incurring significant project costs or unduly burdening or intruding on the operation of any particular pharmacy.

Census vs. Sampling

The survey approach used in this study may be termed a census. In this study, a census allowed all potential pharmacies the opportunity to comment on their experiences with pharmacy technicians. It does not, however, allow the results to be generalized to all pharmacies. To be able to generalize survey results requires a study that employs some type of sampling methodology; taking part of a population to represent the whole population. Findings are then generalized to a larger group with some degree of confidence. The alternative to sampling is enumeration; counting the entire population (e.g., the U.S. census).

A problem with attempting to survey the entire population is that responses may be obtained from only part of the selected population, although the level of non-response is also a concern with sampling. If the lack of response is distributed randomly, than valid inferences about the population, whether by census or sample, can be drawn from the characteristics of the available data. The difficulty is that non-response is not always random; for example, persons who are single typically have three times the "not at home" rate in the U.S. Census surveys as do family members. This raises the possibility that "non-response bias" will contaminate the results of a survey.

Interaction between survey issues and non-response can be direct or indirect. With direct interaction, the very things to be measured affect whether people will respond to a survey. For example, those pharmacies who have technicians that have high error rates dispensing prescriptions may be less inclined to fill out a survey. There may also be indirect interaction, mediated by the demographic or psychological status of some respondent groups. For example, older pharmacists may be more inclined to complete the survey than younger pharmacists. In the case of the current survey, complete anonymity was used to help ensure non-response was, at a minimum, not heavily influenced by variations in technician error rates.

In addition, non-response was not attributed to pharmacy type (e.g., community/retail vs. hospital). This is evident when comparing licensed pharmacy types with respondent types. In 1996, there were 1,510 licensed pharmacies, of which 814 were chain, 398 independent, 298 were other. Combining the first two categories (814+398=1,212) reveals that 80.3% of licensed pharmacies were chain and independent pharmacies. This proportion equates very closely to the percentage of forms returned which represent the similar "community/retail" category (81%) on the survey. At the pharmacy type level, the survey results seems to be representative of all licensed pharmacies. The 882 surveys returned translate into an assessment of 3,122 pharmacy technicians (the sum of technicians under question #2, across 822 surveys that reported at least one technician).

Summary

The results of this study fairly represent the attitudes of 882 pharmacists concerning their experiences with 3,122 pharmacy technicians. By most standards, this is a sizable number of employees to evaluate in any of the various health professions. However, the previous discussion relating to attitudes vs. counts, census vs. sampling, and non-response bias leads to two important caveats concerning this study: 1) the results cannot necessarily be generalized to all pharmacies or pharmacy technicians, and, 2) the results represent pharmacist attitudes, not actual or individual level technician counts.

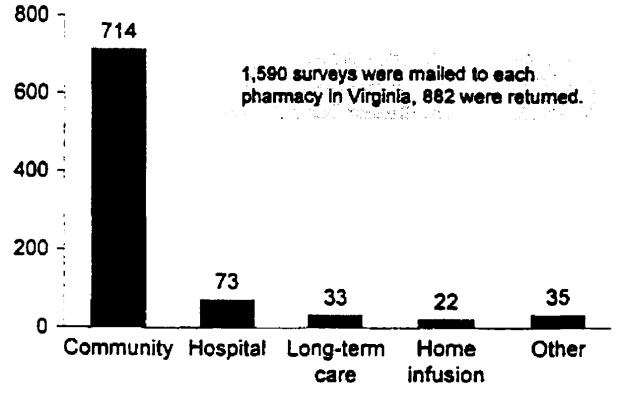
The information in this report provides a first look at the pharmacist's perception of their technicians. Many of the issues examined are complex and some may be considered sensitive in nature. The Board fully acknowledges and appreciates the time spent by pharmacists to answer the questions honestly and accurately. The results fill a gap in our knowledge concerning the role, function, and adequacy of pharmacy technicians, and the findings should be useful for informing policy discussions concerning technician regulation and oversight.

Some of the major survey findings include:

- Just over half (55%) of technicians are employed 3 or more years; the number jumps to 84% when just examining hospital pharmacies.
- The median number of pharmacy technicians is 2 per pharmacy (the average was 3.8, indicating some pharmacies have relatively large numbers of technicians).
- 56% of technicians work part-time (less than 40 hours per week); the number falls to 35% when just examining hospitals.
- Most technicians receive "on-the-job" training (97%), less than a third receive formal in-house training (29%) and less than a quarter (21%) are tested by pharmacies for minimal competency.
- For determining and maintaining minimal competency, home infusion and hospital pharmacies most often reported using methods such as competency checklists, testing, national certification, and refresher and self-study courses; community pharmacies were least likely to use these methods.
- The median (midpoint) number of technician mistakes/errors is 3 per week, with 70% of pharmacists reporting their technicians make between 0-5 mistakes per week.
- Of the pharmacies reporting, mistakes seem to vary somewhat according to duration of employment and hours worked per week, though mistake rates don't seem to be obviously related to type of training received.

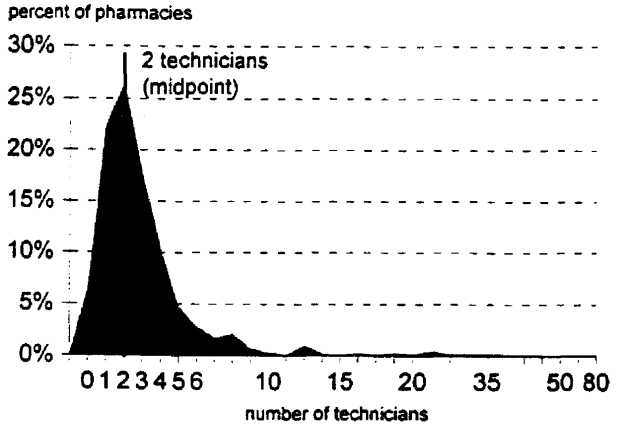
Respondent Profile and Number Pharmacy Technicians Employed

Number of Surveys Returned by Pharmacy Type



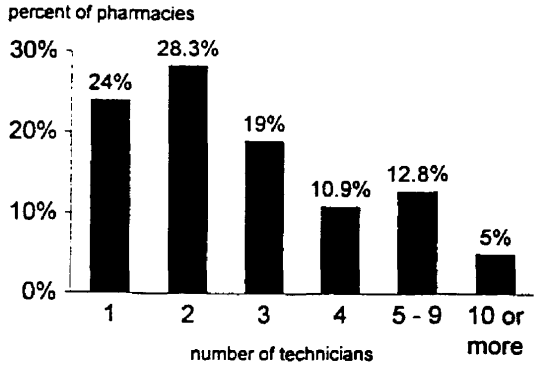
- 81% of surveys returned (714 of 882) were completed by pharmacists-in-charge who work for community pharmacies (retail, chain, or outpatient). This percentage closely matches the proportion of *licensed* community pharmacies.
- Examples of "Other" pharmacy types indicated include military clinics, nuclear pharmacies, HMO's, mail order, and government or community health centers.

Number of Technicians Employed in Pharmacies



- Of the 882 surveys returned, 60 (6.4%) reported having no pharmacy technicians.
- The great majority (90%) of pharmacies report having 6 or fewer technicians employed.
- Of the 3,122 pharmacy technicians assessed as part of the survey, 1,867 (60%) were employed in community pharmacies. The mean number of technicians drops from 3.8 to 2.8 if only examining community pharmacies.

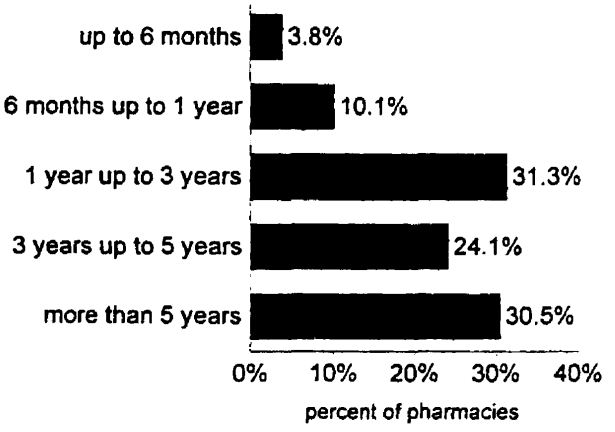
Examining only those pharmacies with at least one technician...



Note: The analysis that follows is based only on those surveys that reported having pharmacy technicians.

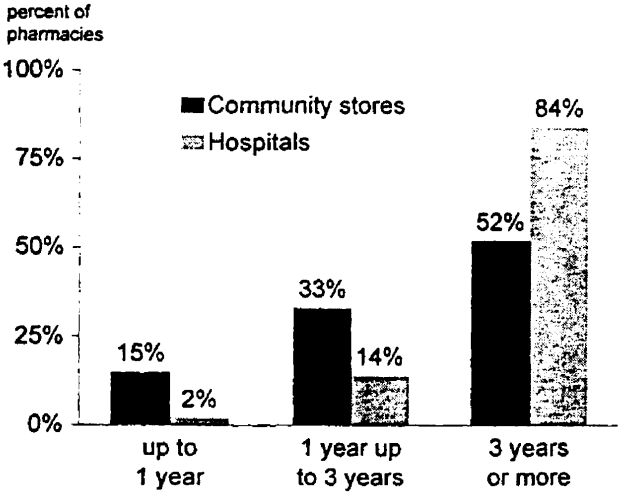
Duration of Employment

Average Duration of Employment for Pharmacy Technicians



- A little more than half (54.6%) of respondents indicated that technicians were employed an average of 3 years or more.
- Technicians that stay employed for the shortest periods of time are not typical - 13.9% of respondents indicate the average employee stays less than a year.

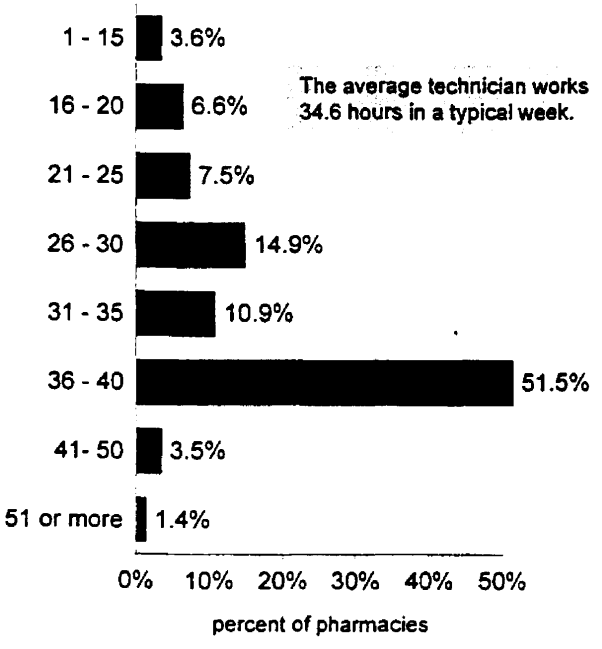
Average Duration of Employment for Technicians Comparing Community to Hospital Pharmacies



- When comparing the two most common pharmacy types, community and hospital, respondents indicated that hospitals retained technicians longer.
- Very few hospital pharmacies (2%) reported that the average technician stayed on the job less than 1 year. Conversely, hospital pharmacies reported the highest technician retention rates, with 84% reporting that technicians stay for three or more years as compared to 52% for community pharmacies.

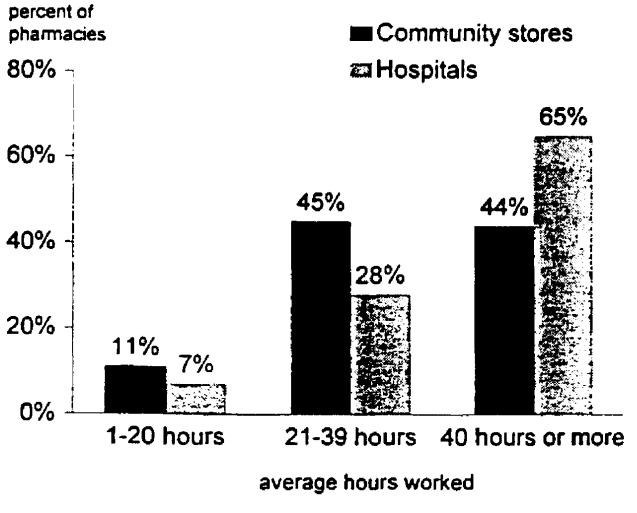
Average Hours Worked

Average Hours Worked by Pharmacy Technicians In a Week



- Roughly half (51%) of respondents indicated that the average technician worked *less than* 40 hours per week. However, the most frequently cited figure for average time worked was 40 hours.
- Very few respondents said that technicians in their pharmacy worked unusually long hours - with only 1.4% indicating the average technician worked 51 hours or more.

Average Hours Worked by Technicians in a Week Comparing Community to Hospital Pharmacies



- Pharmacy technicians are more likely to work full-time (40 hours or more per week) in hospital pharmacies (65%) as compared to community pharmacies (44%).
- Technicians who work the least amount of hours (1-20 hours per week) are most likely found in community pharmacies (11% of respondents as compared to 7% for hospitals).

Training and Minimal Competency

Pharmacy Technician Training Methods

Method reported	Percent of Pharmacies	Number of Pharmacies (out of 822)
On-the-job training	97.2%	799
Formal in-house training	28.6	235
Course work by self-study	24.1	198
Course work in an educ. institution	6.6	54
Training in the military/federal program	4.1	34

- Almost all pharmacies report "on-the-job" as a method for training technicians.
- About a quarter of the respondents report "formal in-house training" and roughly a quarter report "self-study course work" as training methods they use.

Determining Satisfactory Training and Minimal Competency

Method reported	Percent of Pharmacies	Number of Pharmacies (out of 822)
Observation by pharmacists	96.5%	793
Checklist of competencies	44.8	368
Testing by pharmacy	21.0	173
National certification	15.0	123
Other method	4.1	34

- Other than "observation by pharmacists", using a "checklist" for determining minimal competencies is the next most popular method for determining minimal competency (44.% of respondents).
- "Other" methods for determining minimal competency included observation by other technicians or nurses, periodic job evaluations, or in-house certification programs.

Maintaining Competency and Staying Up-to-date With Pharmacy Practice

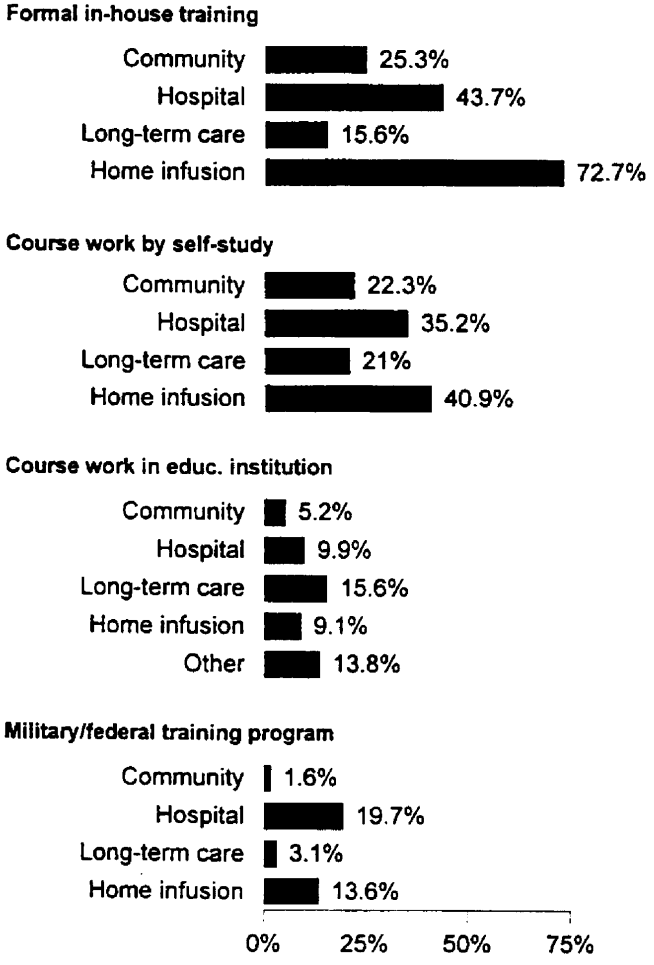
Method reported	Percent of Pharmacies	Number of Pharmacies (out of 822)
On-the-job training or re-training	94.5%	777
Self-study courses or manuals	21.2	174
Formal in-house refresher course	13.5	111
Continuing education in an institution	9.5	78
Other method	5.2	43

- Other than "on-the-job training or re-training, "using "self-study courses or manuals" was the most common method (21.2%) for maintaining minimal competency.
- "Other methods" reported for maintaining minimal competency included reading trade magazines, journals, manuals or other written materials, and attending programs or seminars.

Note: Because survey respondents could list multiple methods for training or maintaining minimal competency, table percentages add to more than 100% under each heading above.

Initial Training by Pharmacy Type

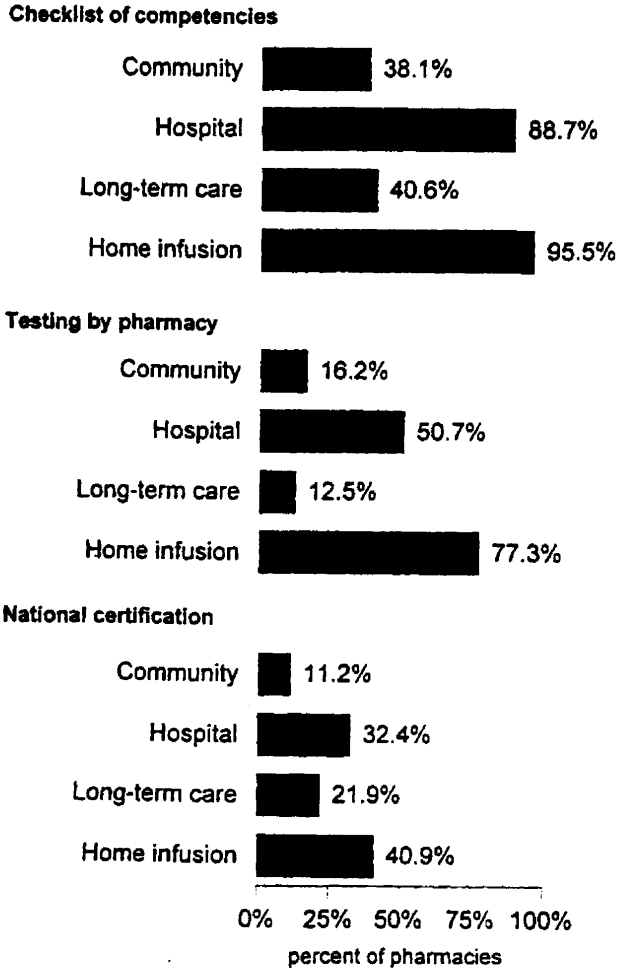
Type of Pharmacy Technician Training by Type of Pharmacy



- Regardless of pharmacy type, over 95% of respondents reported "on-the-job" as a method for training technicians. Training methods that are not practiced routinely and which vary by pharmacy type are shown to the left.
- "Formal in-house training" was most likely reported by home infusion pharmacies (72.7%) and hospitals (43.7%), and least likely reported by long term care (15.6%) and community pharmacies (25.3%).
- Course work by self-study was also most commonly cited by home infusion and hospital pharmacies.
- Regardless of pharmacy type, relatively few reported course work in an educational institution (ranging from 5.2% to 15.6%).

Determining Competency by Pharmacy Type

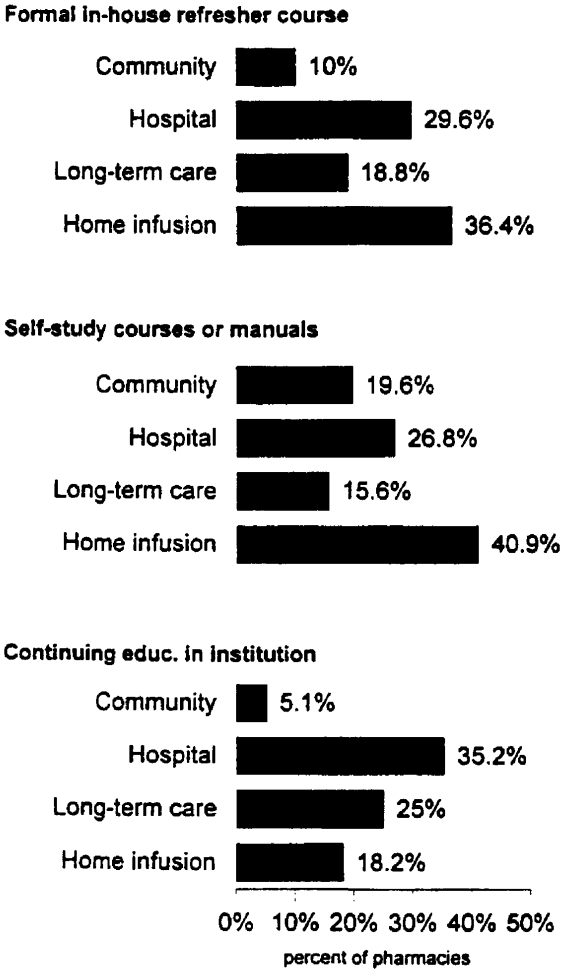
Method of Determining Satisfactory Training and/or Minimal Competency by Type of Pharmacy



- Regardless of pharmacy type, over 90% of all respondents reported "observation by pharmacists" as a method for determining initial competency. Other methods are shown to the left.
- Using a "checklist of competencies" was cited by most hospital (88.7%) and most home infusion pharmacies (95.5%). Roughly 4 out of 10 community and long-term care pharmacies also report using a checklist.
- "Testing by pharmacy" was also most likely cited by hospital (50.7%) and home infusion pharmacies (77.3%).
- "National certification" is least likely used as a method for determining initial competency, with just over 10% of community pharmacies reporting this method. As with other methods shown, home infusion pharmacies most often reported (40.9%) using national certification.

Maintaining Competency by Pharmacy Type

How Technicians Maintain Competency or Stay Up-To-Date With Pharmacy Practice



- Over 90% of respondents reported "on-the-job training or re-training" as a method for maintaining competency or staying up-to-date with pharmacy practice, and there was little variation by pharmacy type.
- No pharmacy type (as a group listed here) reported the frequent use of any other methods for maintaining competency or staying up-to-date with pharmacy practice.
- As compared to other pharmacy types, home infusion pharmacies more often reported using "formal in-house refresher courses" (36.4%) or "self-study courses or manuals" (40.9%) as methods for maintaining competency.
- Hospital pharmacies reported using "continuing education in an institution" for maintaining competency most often (35.2%), and community pharmacies reported this method least often (5%).

Pharmacist Supervision of Technicians

- Respondents were asked to rank the level of supervision they provide for the most typical pharmacy technician tasks. The figures below represent the percentage of pharmacists who report providing low to high levels of supervision for each task listed.
- Supervision was lowest (ranks 1 and 2) for tasks involving the use of automated counting/packaging devices, stocking pharmacy shelves, and sterilizing or cleaning IV or compounding equipment.
- Supervision was highest (ranks 4 and 5) for tasks involving the resolution of drug interaction alerts, preparing IV solutions, and labeling final prescriptions.
- Level of supervision was usually on the high side for most tasks, with 11 of 14 tasks having average ranks of 3.8 or higher.

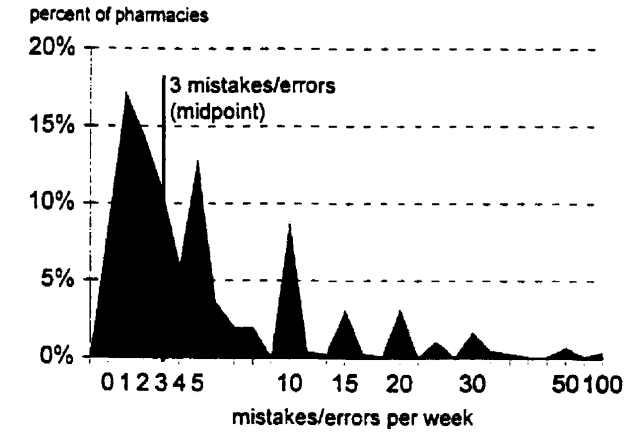
Type and Level of Pharmacy Technician Supervision Indicated by Pharmacists

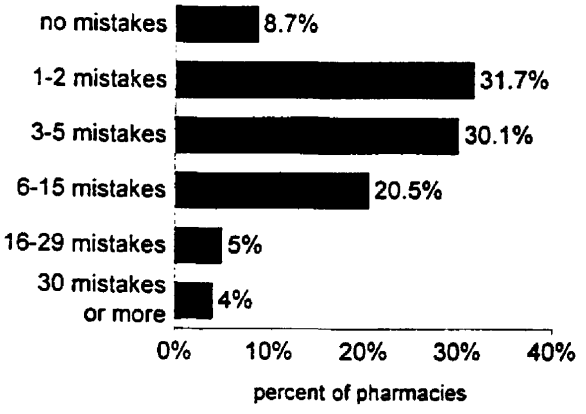
	% of pharmacists providing supervision					
	low → level of supervision → high					Average
Task	1	2	3	4	5	score
Inputting prescription information into computer	6.3%	6.7%	14.7%	16.1%	56.1%	4.1
Pulling medication for prescription preparation	10.3	8.4	12.9	12.4	56.0	3.9
Packing prescription product	8.4	7.8	16.2	17.2	50.4	3.9
Labeling final prescription product	6.3	5.6	8.1	11.9	68.1	4.3
Performing quality assurance checks on prescription product	3.8	6.6	16.6	16.9	56.0	4.1
Using automated counting/packaging device	32.1	15.6	22.0	11.9	18.3	2.7
Stocking pharmacy shelves/unit dose bins	30.2	22.4	27.5	9.7	10.2	2.5
Filling unit dose carts/cassettes	7.4	4.9	9.8	13.5	64.4	4.2
Preparing IV Solutions/compounding	5.1	2.3	4.6	10.9	77.1	4.5
Sterilize, clean or maintain equipment in IV preparation/compounding	18.9	16.8	22.7	18.4	23.2	3.1
Resolving drug interaction alerts	1.7	1.4	6.0	11.4	79.5	4.6
Ordering/receiving controlled substances	5.1	6.5	18.2	19.8	50.3	4.0
Performing inventory/audits/inspection of controlled substances	6.7	4.7	15.7	18.7	54.2	4.1
Bagging/packaging prescriptions for delivery to ultimate user	11.2	8.9	17.4	15.1	47.4	3.8

Note: Those respondents answering "N/A" for a specific task were not included in the counts for that task.

Technician Mistakes and Errors

Reported Number of Mistakes/Errors by Pharmacy Technicians (estimated for one technician in a typical week)





- The survey asked respondents to "*estimate* the number of mistakes/ errors made by a technician in a typical week." The survey was not designed to capture the *actual* number of mistakes or errors made by technician, nor was it designed to distinguish between those mistakes/errors that were either caught or not caught by a pharmacist. The question was worded to give only a general sense of the number of mistakes/errors made by technicians during the normal course of their work.

- Pharmacists estimate that the typical technician makes about 3 mistakes per week (median). The mean was 6.5 mistakes per week, meaning a number of those surveyed report relatively large numbers of mistakes.

- 8.7% of respondents say technicians make no mistakes in a typical week. About 70% of respondents reported between 0-5 mistakes per week for the average technician. 9% of respondents estimated technicians made 16+ mistakes per week.

- The table shows that if mistakes occur, the most common types include selecting the wrong drug from the stock or the computer, or giving the wrong directions for use.

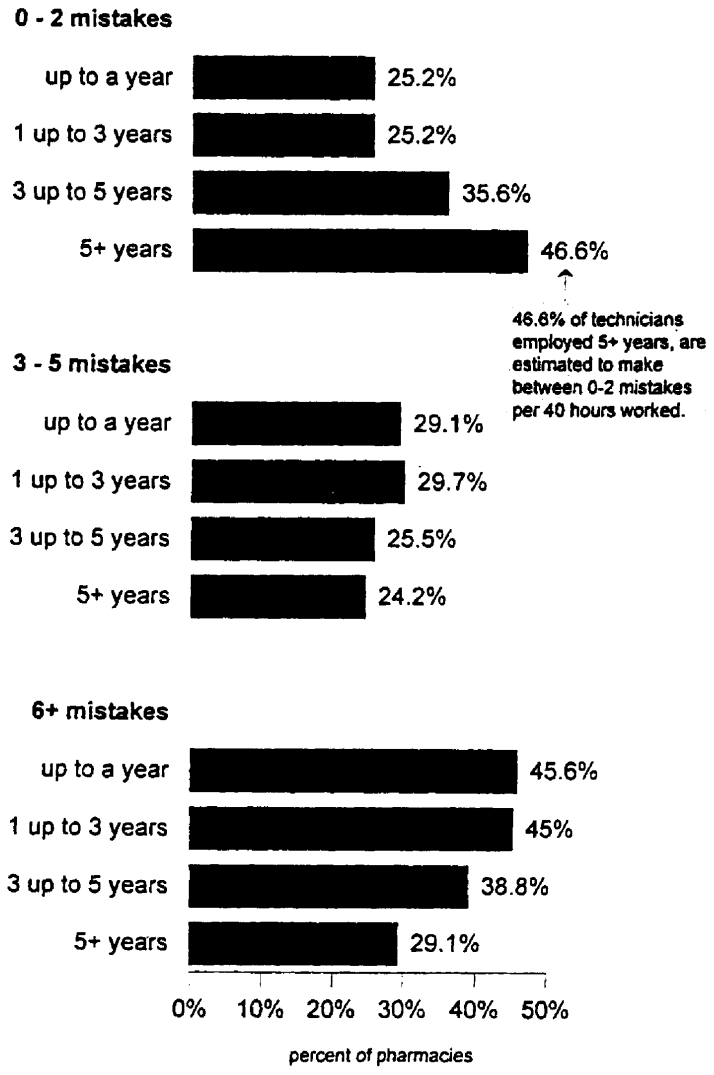
Type and Frequency of Mistakes/Errors by Technicians

	Rate of mistakes/errors			
Type of mistake/error	often	occasionally	seldom	rarely
Wrong drug selected from computer	1.5 %	21.7 %	20.5 %	56.3 %
Wrong drug selected from stock	2.3	29.1	23.0	45.6
Wrong label on package	.7	11.6	22.6	65.1
Wrong direction for use	3.0	19.2	24.5	53.3
Drug dispensed to wrong patient	1.0	8.0	16.1	74.9
Wrong additive into IV solution/compound	.9	6.1	8.7	84.3
Miscalculation of dose/quantity	2.1	14.1	20.1	63.7

Note: Surveys indicating that mistakes/errors never occurred were not included as part of the above analysis. Respondents also listed other types of mistakes not listed above; these are included at the end of the report.

Mistakes and Errors by Duration of Employment

Rate of Mistakes/Errors Per 40 hours Worked by Duration of Employment

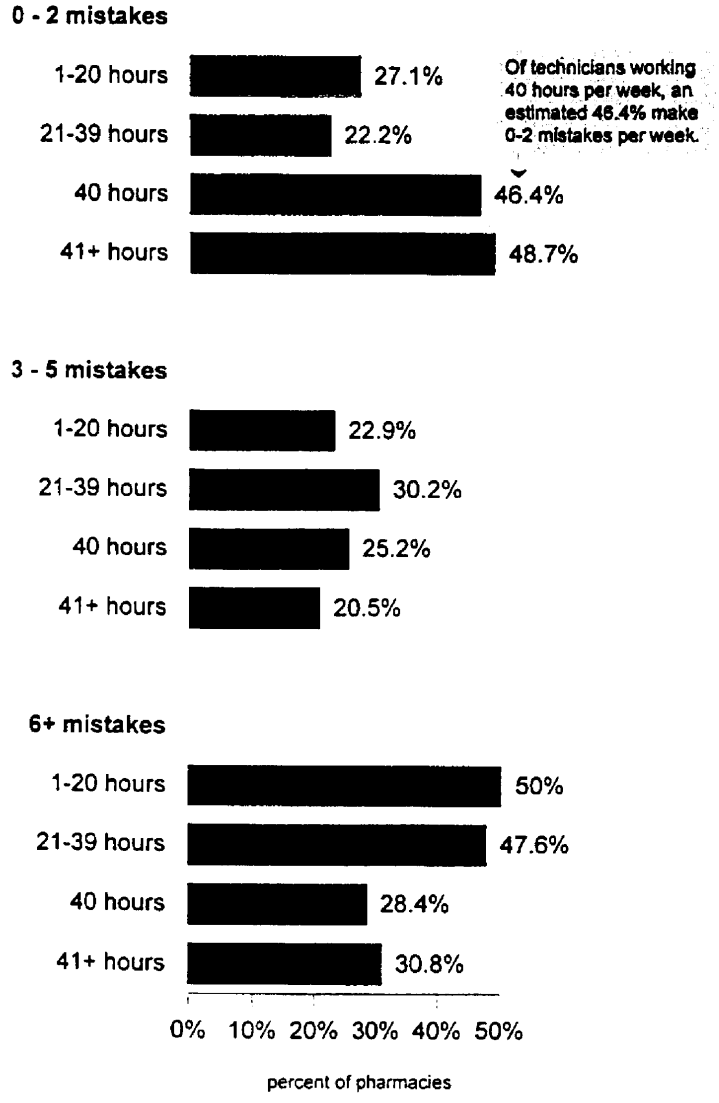


Technical note: The mistake/error headings 0-2, 3-5, 6+ were calculated by dividing the number of mistakes estimated in a typical week by the number of average hours worked per week and multiplying by 40. This standardizes the number of errors regardless of how many hours are worked in a given week.

- The figures at left show how average mistake and error rates vary by average duration of employment. Though a pattern emerges, the correlation between error rates and employment duration is not a strong one.
- The stair-stepped bars under the heading 0-2 mistakes and 6+ mistakes shows that technicians were reported to make fewer mistakes when employed for longer periods of time.
- In comparison, technicians employed for shorter periods of time had higher mistake rates. Of those employed up to a year, 45.6% made 6+ mistakes per week, the percentage drops to 29.1% for technicians employed 5+ years.

Mistakes and Errors by Hours Worked Per Week

Rate of Mistakes/Errors Per 40 hours Worked by Hours Worked Per Week



Technical note: The mistake/error headings 0-2, 3-5, 6+ were calculated by dividing the number of mistakes estimated in a typical week by the number of average hours worked per week and multiplying by 40. This standardizes the number of errors regardless of how many hours are worked in a given week.

- The figures at left show error rates by the average hours technicians work per week. As was seen with employment duration, the correlation between error rates and hours worked per week is not a strong one.
- A greater percentage of technicians who work part-time hours (1-39 hours) were reported to make 6+ mistakes as compared to 0-2 mistakes per week.
- In comparison, technicians employed full-time were reported to make fewer mistakes. Of those working 41+ hours, roughly half (48.7%) were reported to make 0-2 mistakes per week and about a third (30.8%) were reported to make 6 mistakes or more.

Training and Frequency of Mistakes/Errors

Percent of Survey Respondents Receiving Training by Rate of Mistakes/Errors Per Week and by Type of Training

Mistakes/errors per week estimated by respondent	Percent of respondents indicating type of training	Number indicating type of training (out of 737)
On-the-job training		
0 - 2 mistakes	97.6 %	248
3 - 5 mistakes	97.5	193
6 - 10 mistakes	96.5	138
11 or more mistakes	98.6	140
Formal in-house training		
0 - 2 mistakes	26.4 %	67
3 - 5 mistakes	31.3	62
6 - 10 mistakes	33.6	48
11 or more mistakes	20.4	29
Course work by self-study		
0 - 2 mistakes	23.2 %	59
3 - 5 mistakes	21.2	42
6 - 10 mistakes	25.9	37
11 or more mistakes	23.2	33
Course work in educ. institution		
0 - 2 mistakes	6.7 %	17
3 - 5 mistakes	6.1	12
6 - 10 mistakes	7.7	11
11 or more mistakes	4.9	7
Military/federal training program		
0 - 2 mistakes	3.5 %	9
3 - 5 mistakes	3.0	6
6 - 10 mistakes	4.9	7
11 or more mistakes	2.8	4

- The table shows that of those technicians who make 0-2 mistakes per week, 97.6% receive on the job training (first row of numbers) and 26.4% receive formal in-house training (fifth row of numbers).
- In general, the rate of mistakes and errors made by technicians does not vary significantly according to training types or level.
- The number of respondents indicating that technicians receive some type of training other than "on-the-job" training is relatively low. This makes it difficult to fully evaluate error rates by type and level of training received.

Respondent Comments on Survey Forms

Comments Concerning Additional or Other Error Types

Number of responses	Mistake/Error comment
18	Wrong quantity counted out
15	Wrong information/miscommunication to patient about prescription, OTC drugs, insurance, etc.
10	Wrong package/bag given or delivered to patient
10	Wrong prescriber
5	Miscalculation of days supply based on insurance
5	Wrong patient selected in computer
4	Wrong strength or dosage form given
4	Wrong information obtained from patient-address, allergies, other medical, etc.
4	3rd party billing errors
4	Inappropriate demeanor, dress, manner, unprofessional
4	Errors with brand vs. generic vs. Va. Vol. Formulary
3	Error in stocking/restocking shelf/bin-drug put in wrong place
3	Wrong dates
3	Wrong NDC
3	Documentation error or omission
3	Grammatical errors/spelling
2	Wrong strength selected/typed in computer
2	Wrong product delivered or delivered to wrong place
2	Expired product prepared for dispensing
2	Wrong price quoted
2	Number refills wrong or left off
2	Omission of or wrong auxiliary labels
2	Miscellaneous data entry errors, e.g. size of bottle
1	Incorrectly orders
1	Breach of confidentiality
1	Dispense without letting the pharmacist check
1	Failure to catch drug allergy
1	Incorrect information taken over phone e.g. refill info
1	Capsules vs. tablets
1	Missed deliveries due to delivery sheet errors
1	Omissions of drugs in carts
1	Overlooking orders
1	Fail to repackage for long term care
1	Poor sterile technique/misuse of compounding equip.
1	Medication put in wrong time slot in patient drawer

- In order to keep the survey relatively short and simple, the types of errors listed at the end of the survey were made very broad to encompass many types of situations. It was the Board's intention that the "wrong drug selected from computer" and "wrong drug selected from stock" would include any errors involving the wrong strength or dosage form. Similarly, the category "drug dispensed to wrong patient" was intended to include those errors where the wrong package or bag was given to a patient or if a unit dose was placed in an incorrect patient drawer or where a drug was delivered to the wrong location. If there was any error on a label, "wrong label on package" was intended to cover this.

- All additional comments concerning error types are listed to the left. Edits were made only to correct spelling, shorten wording, or to group similar comments - the substance or tone of comments has not been changed nor have any comments been omitted.

Respondent Comments on Survey Forms

Comments On Survey Concerning Explanations Or Reasons For Errors

Physician's handwriting poor to illegible
Lack of technician training
Workload too heavy with not enough trained technician help
Physician errors in prescribing
Lack of concentration on the part of the technician
Wrong information from patient causes errors
Technician is not as careful as should be with expectation that pharmacist will catch errors
Younger technicians are leery of learning and do not want responsibility

Comments On Survey Related To Why Errors Are Not Made, Reducing Or Catching Errors Or To The Value Of Technicians

All order entry into the computer is done by the pharmacist (cited 10 times)
Errors are caught before making it to the consumer/patient (cited 7 times)
The pharmacist does many of listed tasks (cited 5 times)
All work of the technician is checked by the pharmacist, the mistake/error is the checking pharmacist's.
Technicians only assist with refills, not new prescriptions
Technician only pulls drugs and counts
Technician always questions calculations before filling
Technician is closely supervised
Both pharmacists and technicians are human and make mistakes
Pharmacists make fewer mistakes with technician helping
Technicians sometimes catch pharmacist errors
Since "NDC implementation", errors greatly reduced to about 1 in 6 months
Technicians are very necessary for handling 3rd party claims
Mistakes are rare and usually clerical
Only certified technicians are allowed to enter prescription data in computer
Our technician is excellent/exceptional/the most competent employee hired, etc. (cited 3 times)
Steps in the process are closely watched, team effort for each

Comments On Training Of Technicians

Formal training or certification is needed-chains employ kids for low pay
New drug familiarity (lacking)
Even the best trained technician should be supervised
Training is difficult when operational-mistakes occur then
We are stuck with clerks-no training, we need certified technicians
No matter how many times they make mistakes, they repeat them
Not aware of therapeutic dose or high dose

General/Other Comments Provided

Good survey
Appears complete
Hard to exact on mistakes
Scope of Pharmacy Tech survey would be good resource
"Pharmacy tech" needs to be defined for survey to be valid
Excellent survey
It's too bad you can't decide what role you want pharmacists to play
Should allow licensed pharmacist to determine competency of techs-if not broken, don't fix it
Want techs to attend pharmacy school, diploma, license
Please require certification of techs
Technicians need certification. The pharmacist has to recheck everything.
Even the best technician should be supervised.
We are stuck with clerks with no training. We need certified technicians.

Survey Instrument

1. From the list below, please check the pharmacy type which best describes your pharmacy?
   1)___ Community (retail or outpatient)
   2)___ Hospital (inpatient)
   3)___ Long-term care
   4)___ Home infusion
   5)___ Other (specify)_____

2. How many pharmacy technicians are employed by your pharmacy (total # of all full-time, part-time and hourly technicians)?
   _____ (number of technicians)

3. What is the average number of hours worked by a technician in a typical week?
   _____ (average hours worked)

4. What is the duration of employment for your average pharmacy technician ? (*check only one*)
   1)___ 1 month up to 6 months
   2)___ 6 months up to 1 year
   3)___ 1 year up to 3 years
   4)___ 3 years to 5 years
   5)___ more than 5 years

5. How have your pharmacy technicians been trained? (*check all that apply*)
   1)___ on-the-job training
   2)___ formal in-house training program
   3)___ course work by self-study
   4)___ course work in an educational institution
   5)___ training in the military/federal program

6. How do you determine satisfactory training and minimal competency in your practice setting for technicians? (*check all that apply*)
   1)___ observation by pharmacists
   2)___ checklist of competencies
   3)___ testing by pharmacy
   4)___ national certification
   5)___ other (specify)_____

7. How do your pharmacy technicians maintain competency or stay up-to-date with pharmacy practice? (*check all that apply*)
   1)___ on-the-job training or re-training
   2)___ formal in-house refresher courses
   3)___ self-study courses or manuals
   4)___ continuing education course in an institution
   5)___ other (specify)_____

8. Please *estimate* the number of mistakes/errors made by a technician in a typical week in your pharmacy.
   _____ (*estimated* number of mistakes)

From the list below, circle the level of supervision for each task performed by a pharmacy technician at your pharmacy. On the scale of 1 to 5, 1 indicates the lowest level of supervision in which the task is rarely checked by a pharmacist for correctness; 5 indicates the highest level of supervision in which the task is completely checked by a pharmacist; 3 indicates a moderate level of supervision in which a task is occasionally or randomly checked. If a task is not performed by a technician at your pharmacy, circle N/A. **Please do not leave any task uncircled.**

Task	lowest level	level of supervision →			highest level	
Inputting prescription information into computer	1	2	3	4	5	N/A
Pulling medication for prescription preparation	1	2	3	4	5	N/A
Packaging prescription product	1	2	3	4	5	N/A
Labeling final prescription product	1	2	3	4	5	N/A
Performing quality assurance checks on prescription product	1	2	3	4	5	N/A
Using automated counting/packaging device	1	2	3	4	5	N/A
Stocking pharmacy shelves/unit dose bins/automated dispensing devices	1	2	3	4	5	N/A
Filling unit dose carts/cassettes	1	2	3	4	5	N/A
Preparing IV solutions/compounding	1	2	3	4	5	N/A
Sterilize, clean or maintain equipment in IV preparation/compounding	1	2	3	4	5	N/A
Resolving drug interaction alerts	1	2	3	4	5	N/A
Ordering/receiving controlled substances	1	2	3	4	5	N/A
Performing inventory/audits/inspection of controlled substances	1	2	3	4	5	N/A
Bagging/packaging prescriptions for delivery to ultimate user	1	2	3	4	5	N/A

From the list below, rate the frequency of mistakes/errors by technicians that occur in your pharmacy. (circle one number in each row)

Type of mistake/error	often	occasionally	seldom	rarely	never
Wrong drug selected from computer	1	2	3	4	5
Wrong drug selected from stock	1	2	3	4	5
Wrong label on package	1	2	3	4	5
Wrong direction for use	1	2	3	4	5
Drug dispensed to wrong patient	1	2	3	4	5
Wrong additive into IV solution/compound	1	2	3	4	5
Miscalculation of dose/quantity	1	2	3	4	5

Are there any other mistakes/errors by technicians that you have observed which are not included in the list above. If so, what are they?

Appendix III

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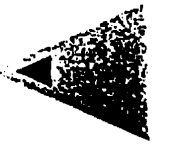
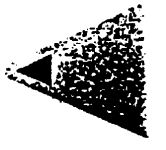
1997-1998

National Association
of Boards of Pharmacy

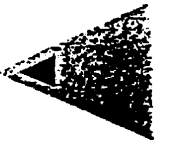
Survey *of* Pharmacy Law



Organizational*law*



Licensing*law*



Drug*law*

Census*data*

Including all 50 states, D.C., Guam, and Puerto Rico

XIII. Status of Pharmacy Technicians

State	Designation	Does State: License Technicians?	Register Technicians?	Certify Technicians?
Alabama	Pharmacy Technician	No	Yes	No
Alaska	Pharmacy Technician J	Pending J	No J	No J
Arizona	Pharmacy Technician	No	Yes	No
Arkansas	Pharmacy Technician	No	Yes	No
California	Pharmacy Technician	No	Yes	No
Colorado	Unlicensed Personnel	No	No	No
Connecticut	Pharmacy Technician	No	No	No
Delaware	Supportive Personnel	No	No	No
District of Columbia	Ancillary Personnel	No	No	No
Florida	Pharmacy Technician	No	No	No
Georgia	Ancillary Personnel	No	No	No
Guam	Pharmacy Technician	No	No	No
Hawaii	Pharmacy Technician	No	No	No
Idaho	Supportive Personnel	No	No	No
Illinois	Pharmacy Technician	No	Yes	No
Indiana	Unlicensed Person, Technician	No	No	No
Iowa	Pharmacy Technician	No	Yes Q	No
Kansas	Pharmacy Technician	No	No	No
Kentucky	Pharmacy Technician	No J	No J	No J
Louisiana	Pharmacy Technician	No	No	Yes J
Maine	Supportive Personnel	No	No*	No
Maryland	Unlicensed Person	No	No	No
Massachusetts	Pharmacy Technician L	No	No	No
Michigan	Pharmacy Personnel	No	No	No
Minnesota	Pharmacy Technician	Yes	No	No
Mississippi	Pharmacy Technician L	No	No	No
Missouri	Pharmacy Technician	No	Yes	No
Montana	Pharmacy Technician	No	No	No
Nebraska	Supportive Personnel	No	No	No
Nevada	Pharmaceutical Technician L	No	Yes	No
New Hampshire	Supportive Personnel	No	No	No
New Jersey	Supportive Personnel	No	No	No
New Mexico	Pharmacy Technician N	No	Yes	No
New York	Unlicensed Person	No	No	No
North Carolina	Ancillary Personnel	No	Yes	No
North Dakota	Registered Pharmacy Technician	No	Yes	No
Ohio	F	No	No	No
Oklahoma	Pharmacy Technician	No	Yes O	No
Oregon	Pharmacy Technician	No	No	No
Pennsylvania	Authorized Personnel	No	No	No
Puerto Rico	Pharmacy Technician	No	No	Yes
Rhode Island	Pharmacy Technician	No	Yes	No
South Carolina	Unlicensed Personnel	No	No	No
South Dakota	Supportive Personnel	No	No	No
Tennessee G	Technician	No	No	No
Texas	Supportive Personnel	No	No	No
Utah	Pharmacy Technician	Yes	No	No
Vermont	Support Personnel	No	No	No
Virginia	Nonpharmacist Personnel	No	No	No
Washington	Pharmacy Technician	Yes	No	No
West Virginia	Pharmacy Technician	No	Yes	No
Wisconsin	Supportive Personnel	No	No	No
Wyoming	Certified Pharmacy Technician K	Yes*	Yes*	Yes*

* See "Footnotes (*)" on page 34.

XIII. Status of Pharmacy Technicians *(cont.)*

State	Technician Training Requirements	Settings Where Technicians May Assist Practice	Required Ratio of Pharmacist to Technician(s) in an: Ambulatory Care Setting	Institutional Care Setting
Alabama	No	D	1:2	1:2
Alaska	No J	Not specified J	None J	None J
Arizona	Yes**	D	1:2*	None
Arkansas	No	D	1:2*	1:2
California	Yes	A, B, C, E, H	1:1/1:2*	1:2
Colorado	No	A, B, C	1:2	1:2
Connecticut	Yes**	A, B, C, E	1:2*	1:3*
Delaware	Yes	A, B, C, E	None	None
District of Columbia	No	Not specified J	—	—
Florida	No	D	1:3	1:3
Georgia	No	—	—	—
Guam	No	D	None	None
Hawaii	No	D	None	None
Idaho	Yes	D	1:1*	1:2
Illinois	No	A, B, C, E	None	None
Indiana	Yes	D	1:2	1:2
Iowa	Yes*	D	None	None
Kansas	Yes J	A, B, C	1:2	1:2
Kentucky	No	D	None	None
Louisiana	Yes P	D	1:1	1:1
Maine	No	A, B, C	1:3	1:3
Maryland	No	D	—	—
Massachusetts	No	A, B, C, E	1:2*	1:2*
Michigan	No	Not specified	None	None
Minnesota	No	A, B, C, E	1:2*	1:2*
Mississippi	No I	D	1:2	None
Missouri	No	D	None	None
Montana	Yes**	A, B, C	1:1	1:1*
Nebraska	Yes** I	A, C	1:1	1:2
Nevada	Yes	D	1:1	1:2
New Hampshire	No	A, B, C	None	None
New Jersey	No	D	1:2	1:2
New Mexico	Yes**	D	1:2	1:2
New York	No	D	1:1	1:1
North Carolina	No	A, B	None	None
North Dakota	Yes*	D	1:2	1:2
Ohio	No	D	None	None
Oklahoma	Yes	A, C	1:1	1:2
Oregon	Yes	D	1:1*	1:1*
Pennsylvania	No	N/A	—	—
Puerto Rico	Yes**	A, B, C	1:2	1:2
Rhode Island	Yes	D	None	None
South Carolina	No	D	1:1	Varies*
South Dakota	No	A, B, C	1:2	1:2
Tennessee	No	A, B	1:2	1:2
Texas	Yes**	D	1:2*	None
Utah	Yes	D	1:2	1:2
Vermont	No	A, B	None	None
Virginia	No	D	1:1	1:1
Washington	Yes	D	1:1 M	1:3 M
West Virginia	Yes I	D	1:4	1:4
Wisconsin	No	D	1:1	1:1
Wyoming	Yes I	A, B, C	1:1	1:2

* See "Footnotes (*)" on page 34.

** Contact the state board of pharmacy office to obtain requirements.

XIII. Status of Pharmacy Technicians *(cont.)*

LEGEND

A — Community Pharmacy.
B — Institutional Pharmacy.
C — Hospital Pharmacy.
D — Community Pharmacy; Institutional Pharmacy; Hospital Pharmacy; Nuclear Pharmacy; and Other, Limited Service.
E — Nuclear Pharmacy.
F — The use of pharmacy technicians is not addressed in state statutes or regulations.
G — New technician rules pending as of May 1997. Contact Board office.
H — In addition to a pharmacy technician, a non-licensed person may type a prescription label, enter data into a computer record system, and obtain a prescription refill authorization.
I — Training requirements developed by training pharmacies and approved by the Board.
J — The Board is developing regulations.
K — Designated as a "technician-in-training" prior to passing certifying examination.
L — The term "Supportive Personnel" is also used.
M — Board may adopt rules to modify ratio.
N — A "Pharmacy Technician" is a subset of "Supportive Personnel."
O — Technicians are not considered "registered" but are issued a "permit."
P — The Board is writing rules to define technicians and specify levels of education and training.
Q — As of January 1, 1998.

Footnotes (*)

AZ — June 12, 1997, Board declared a one-year waiver of the 1:2 ratio in community pharmacies. Can use 1:3 ratio for one year pending review and third technician must be PTCB certified.
AR — In an ambulatory setting, there is a limit of four technicians allowed at any given time.
CA — 1:2 if pharmacy services patients of skilled nursing facilities or hospices.
CT — In a "licensed pharmacy," the ratio is 1:2 except for those preparing IV admixtures and other sterile products, unit-dose and unit of use dispensing, and bulk compounding for which the ratio is 1:3. In an institutional outpatient pharmacy, the ratio is 1:2; inpatient 1:3 generally, but pharmacy can petition for ratio of up to 1:5; satellite pharmacy 1:3, but can petition for up to 1:5.
ID — Ratio is 1:2 if servicing a nursing home.
IA — Registration of pharmacy technicians will be required as of January 1, 1998. Pharmacists will be required to train pharmacy technicians to competently handle assigned duties.
ME — Legislation passed, becomes effective on September 19, 1997.
MA — Ratio is 1:3 if the pharmacist is a preceptor (he may supervise one student and two technicians).
MN — Specific functions are exempted from the 1:2 ratio as follows: for intravenous admixture preparation, unit-dose dispensing, prepackaging, and bulk compounding, the ratio is 1:3.
MT — Ratio is 1:2 if both are performing the following procedures: 1) IV admixture or sterile product preparation, 2) filling of unit-dose cassettes, 3) prepackaging, or 4) bulk compounding.
ND — Technicians must complete a Board-approved academic program or on-the-job training program.
OR — Ratio is 1:1 with exceptions.
SC — Ratio to be determined by pharmacist-in-charge and hospital administrator.
TX — Only one of the two technicians may be involved in the compounding of sterile pharmaceuticals.
WY — "Technicians-in-training" are "registered" until "certified" by exam, at which point they are "licensed."

NABPLAW® Search Terms *(type as indicated below)*

Status of Pharmacy Technicians

▲ technician & requirements
▲ support & personnel & requirements
▲ technician & training
▲ technician & registration

Note: "ancillary personnel"; "support personnel"; and "non-licensed personnel" can be substituted for "technician."

XIV. Pharmacy Technicians in Hospital/Institutional Setting

State	May Pharmacy Technicians in the Hospital/Institutional Setting:					
	Accept Called-In Rx from Physician's Office?	Prepare Prescription Label?	Enter Prescription into Pharmacy Computer?	Enter Information into Patient's File?	Retrieve Medication from Stock?	Place Medication into Prescription Container?
Alabama	No	Yes	Yes	Yes	Yes	Yes
Alaska A	—	—	—	—	—	—
Arizona	No	Yes	Yes B	Yes B	Yes B	Yes B
Arkansas	No	Yes	Yes	Yes	Yes	Yes
California	No	Yes	Yes	Yes	Yes	Yes
Colorado	No	Yes	Yes	Yes	Yes	Yes
Connecticut	No	Yes	Yes	Yes	Yes	Yes
Delaware	No	Yes	Yes E	Yes E	Yes E	Yes E
District of Columbia	Yes V	Yes	Yes V	Yes V	Yes V	Yes V
Florida	No	Yes	Yes	Yes	Yes	Yes
Georgia	No	—	Yes	No	No	Yes
Guam	No	Yes E, G	Yes E, G	Yes E, G	Yes E, G	Yes E, G
Hawaii	No	Yes	Yes G	Yes G	Yes G	Yes G
Idaho	No	Yes	Yes	Yes	Yes	Yes
Illinois	I	Yes E	Yes E	Yes E	Yes E	Yes E
Indiana	No J	Yes	Yes	Yes	Yes	Yes
Iowa G	Yes	Yes	Yes	Yes	Yes	Yes
Kansas	No	Yes	Yes G	Yes G	Yes	Yes
Kentucky	Yes E, K	Yes E	Yes E	Yes E	Yes E	Yes E
Louisiana	No	Yes	Yes	Yes	Yes	Yes
Maine	No	Yes	Yes	Yes	Yes	Yes
Maryland	No	Yes G	Yes G	Yes G	Yes G	Yes G
Massachusetts	No	Yes	Yes G	Yes	Yes	Yes G
ichigan	No	No	No	No	Yes	Yes
innesota	No	Yes	Yes	Yes	Yes	Yes
Mississippi E, G	No	Yes	Yes	Yes	Yes	Yes
Missouri	Yes E	Yes E	Yes E	Yes E	Yes E	Yes E
Montana	No	Yes	Yes E	Yes E	Yes	Yes
Nebraska	No	Yes	Yes M	Yes M	Yes M	Yes M
Nevada	No	Yes	Yes	Yes	Yes	Yes
New Hampshire N						
New Jersey	No	Yes E, G	Yes E, G	Yes E, G	Yes E, G	Yes E, G
New Mexico	No	Yes	Yes	Yes	Yes	Yes
New York	No	Yes	No O	Yes	Yes P	Yes
North Carolina	Yes	Yes	Yes	Yes	Yes	Yes
North Dakota	No	Yes	Yes	Yes	Yes P	Yes
Ohio	No	Yes	Yes	Yes	Yes	Yes
Oklahoma	No	Yes	Yes	Yes	Yes	Yes
Oregon	No	Yes	Yes	Yes	Yes	Yes
Pennsylvania	No	Yes	Yes G	Yes	Yes	Yes
Puerto Rico	No	—	Yes	N/A	Yes	Yes
Rhode Island	No K	Yes	Yes	Yes	Yes	Yes
South Carolina	Yes E	Yes E	Yes E	Yes E	Yes E	Yes E
South Dakota	No	Yes	No O	Yes	Yes	Yes
Tennessee U	No	Yes G	Yes G	Yes G	Yes	Yes
Texas	No	Yes	Yes	Yes	Yes	Yes
Utah	No	Yes	Yes E	Yes E	Yes E	Yes E
Vermont	No	Yes E	Yes E	Yes E	Yes E	Yes E
Virginia	No	Yes G	Yes G	Yes G	Yes G	Yes G
Washington	No	Yes	Yes	Yes	Yes S	Yes
Vest Virginia	No	Yes B	Yes G	Yes G	Yes G	Yes G
isconsin	No	Yes	Yes	Yes	Yes	Yes
Wyoming E, G	No	Yes	Yes	Yes	Yes	Yes

XIV. Pharmacy Technicians in Hospital/Institutional Setting *(cont.)*

State	May Pharmacy Technicians in the Hospital/Institutional Setting: Place Prescription Label on Container?	Prepare Medications in Cards for Nursing Homes?	Blister-Pack Medications for Future Use?	Reconstitute Oral Liquids?	Call Physician for Refill Authorization?	Compound Medications for Dispensing?
Alabama	Yes	Yes	Yes	Yes	Yes D	No
Alaska A	—	—	—	—	—	—
Arizona	Yes B	Yes B	Yes B	Yes B	Yes B	No C
Arkansas	Yes	Yes	Yes	Yes	Yes D	Yes C
California	Yes	Yes	Yes	Yes	Yes	Yes
Colorado	Yes	Yes	Yes	Yes	Yes D	Yes
Connecticut	Yes	Yes	Yes	Yes	Yes	Yes
Delaware	Yes E	Yes E	Yes E	Yes	No	Yes F
District of Columbia	Yes V	Yes V	Yes V	Yes V	Yes V	Yes V
Florida	Yes	Yes	Yes	Yes	Yes	Yes
Georgia	No	No	No	No	No	No
Guam	Yes E, G	Yes E, G	Yes E, G	Yes E, G	No	Yes E, G
Hawaii	Yes G	Yes G	Yes G	Yes G	No	Yes G
Idaho	No H	Yes	Yes	Yes	Yes	Yes
Illinois	Yes E	Yes E	Yes E	Yes E	Yes E	Yes E
Indiana	Yes	Yes	Yes	Yes	Yes	Yes
Iowa G	Yes	Yes	Yes	Yes	Yes	Yes
Kansas	No	Yes	Yes	Yes	Yes	Yes G
Kentucky	Yes E	Yes E	Yes E	Yes E	No E, K	Yes E
Louisiana	Yes	Yes	Yes	Yes A	Yes	Yes A
Maine	Yes	Yes	Yes	Yes	Yes	Yes
Maryland	Yes G	Yes G	Yes G	Yes G	No	No
Massachusetts	Yes	Yes G	Yes G	Yes G	No	Yes B, G
Michigan	Yes	Yes	Yes	Yes	No	No
Minnesota	Yes	Yes	Yes	Yes	Yes	No
Mississippi E, G	Yes	Yes	Yes	Yes	Yes	Yes
Missouri	Yes E	Yes E	Yes E	Yes E	Yes E	Yes E
Montana	Yes G	Yes E	Yes E	Yes E	No	No L
Nebraska	Yes M	Yes M	Yes M	Yes M	Yes M	Yes M
Nevada	Yes	Yes	Yes	Yes	Yes	Yes
New Hampshire N						
New Jersey	Yes E, G	Yes E, G	Yes E, G	Yes E, G	No	Yes E, G
New Mexico	Yes	Yes	Yes	Yes	Yes G	No
New York	Yes	Yes	Yes	No	No	No
North Carolina	Yes	Yes	Yes	Yes	Yes	Yes
North Dakota	Yes	Yes	Yes	Yes	No	Yes G
Ohio	Yes	Yes	Yes	Yes E	No	Yes E
Oklahoma	Yes	Yes	Yes	Yes	Yes D	Yes L
Oregon	Yes	Yes	Yes	Yes	Yes D	Yes
Pennsylvania	Yes	Yes	Yes	No	No	No
Puerto Rico	Yes	N/A	N/A	—	No	Yes E
Rhode Island	Yes	Yes	Yes	Yes E, G	Yes	Yes E, G
South Carolina	Yes E	Yes E	Yes E	Yes E	Yes E	Yes E
South Dakota	Not addressed	Yes	Yes	Not addressed	No	Not addressed
Tennessee U	Yes	Yes	Yes	Yes G	Yes G	Yes G
Texas	Yes E, G	Yes Q	Yes	Yes	Yes D	Yes E, R
Utah	Yes G	A	Yes G	Yes G	Yes D	Yes G
Vermont	Yes E	Yes E	Yes E	Yes E	No	No
Virginia	Yes G	Yes G	Yes G	Yes E, G	No	Yes E, G
Washington	Yes	Yes	Yes	Yes	Yes D	Yes T
West Virginia	Yes G	Yes G	Yes G	Yes G	Yes D	Yes T
Wisconsin	Yes	Yes	Yes	No	No	No
Wyoming E, G	Yes	Yes	Yes	Yes	No	No

XIV. Pharmacy Technicians in Hospital/Institutional Setting *(cont.)*

LEGEND

A — Activities not addressed in statutes or regulations.
B — Subject to approved policy and procedure manuals, supportive personnel training, and pharmacist final verification and initialing.
C — Except multiple-additive IV solutions.
D — If there are any changes to the prescription and/or if professional consultation is involved, the pharmacist must handle the call.
E — Allowed activity must be under the **direct** supervision of a licensed pharmacist.
F — Compounding is the responsibility of the pharmacist or pharmacy intern under the direct supervision of the pharmacist. The pharmacist may utilize the assistance of supportive personnel under certain conditions. Contact Board for requirements.
G — Pharmacist must verify, check, and/or is responsible for allowed activities.
H — Excluding parenteral products for institutions and home care providers.
I — Not prohibited. Law and regulations are silent on this issue; however, the practice is discouraged. Pharmacists should exercise professional judgment.
J — Unless it is regarding a refill.
K — Allowed activity limited to pharmacist interns.
L — Bulk compounding allowed.
M — As the activity applies to hospital pharmacy practice.
N — Technicians are not recognized by state laws or rules. Pharmacist-in-charge is ultimately responsible for all functions that he or she may allow a technician to perform.
O — May key-in but not enter.
P — May not select pharmaceutical to be dispensed; however, may take stock bottle of pharmaceutical from shelf per pharmacist's instructions.
Q — May not label.
R — Supportive personnel who compound sterile pharmaceuticals must have special training. Contact the Board for training requirements.
S — Pharmacist must select if more than one generic is available.
T — Bulk compounding and IV preparation are allowed, but "extemporaneous" compounding is not allowed.
U — New technician rules pending as of May 1997. Contact Board office.
V — Pharmacist must verify, check, and/or is responsible for allowed activities; except in the case of Schedule II controlled substances, only a pharmacist may receive an oral prescription.

NABPLAW® Search Terms *(type as indicated below)*

Pharmacy Technicians in Hospital/Institutional Setting

▲ technician & requirements & hospital
▲ support & personnel & requirements & hospital
▲ technician & training & hospital
▲ technician & registration & hospital

Note: "ancillary personnel"; "support personnel"; and "non-licensed personnel" can be substituted for "technician." "institutional" can be substituted for "hospital."

XV. Pharmacy Technicians in Community Setting

State	May Pharmacy Technicians in the Community Setting: Accept Called-In Rx from Physician's Office?	Prepare Prescription Label?	Enter Prescription into Pharmacy Computer?	Enter Information into Patient's File?	Retrieve Medication from Stock?	Place Medication into Prescription Container?
Alabama	No	Yes	Yes	Yes	Yes	Yes
Alaska A	—	—	—	—	—	—
Arizona	No	Yes	Yes B	Yes B	Yes B	Yes B
Arkansas	No	Yes	Yes	Yes	Yes	Yes
California	No	Yes D	Yes D	Yes D	Yes D	Yes D, E
Colorado	No	Yes	Yes	Yes	Yes	Yes
Connecticut	No	Yes	Yes	Yes	Yes	Yes
Delaware	No	Yes	Yes D	Yes D	Yes D	Yes D
District of Columbia	Yes S	—	Yes S	Yes S	Yes S	Yes S
Florida	No	Yes	Yes	Yes	Yes	Yes
Georgia	No	—	Yes	No	No	Yes
Guam	No	Yes E, G	Yes E, G	Yes E, G	Yes E, G	Yes E, G
Hawaii	No	Yes	Yes E	Yes E	Yes E	Yes E
Idaho	No	Yes	Yes	Yes	Yes	Yes
Illinois	Q	Yes D	Yes D	Yes D	Yes D	Yes D
Indiana	No G	Yes	Yes	Yes	Yes	Yes
Iowa E	Yes	Yes	Yes	Yes	Yes	Yes
Kansas	No	Yes	Yes E	Yes E	Yes	Yes
Kentucky	No D, H	Yes D	Yes D	Yes D	Yes D	Yes D
Louisiana	No	Yes	Yes	Yes	Yes	Yes
Maine	No	Yes	Yes	Yes	Yes	Yes
Maryland	No	Yes E	Yes E	Yes E	Yes E	Yes E
Massachusetts	No	Yes	Yes E	Yes	Yes	Yes E
Michigan	No	Yes	Yes	Yes	Yes	Yes
Minnesota	No	Yes	Yes	Yes	Yes	Yes
Mississippi D, E	No	Yes	Yes	Yes	Yes	Yes
Missouri	Yes D	Yes D	Yes D	Yes D	Yes D	Yes D
Montana	No	Yes	Yes D	Yes D	Yes D	Yes D
Nebraska	No	Yes	Yes	Yes	Yes	Yes
Nevada	No	Yes	Yes	Yes	Yes	Yes
New Hampshire I						
New Jersey	No	Yes D, E	No	Yes D, E	Yes D, E	Yes D, E
New Mexico	No	Yes	Yes	Yes	Yes	Yes
New York	No	Yes	No J	Yes	Yes K	Yes
North Carolina	Yes	Yes	Yes	Yes	Yes	Yes
North Dakota	No	Yes	Yes	Yes	Yes K	Yes
Ohio	No	Yes	Yes	Yes	Yes	Yes
Oklahoma	No H	Yes	Yes	Yes	Yes	Yes D, E
Oregon	No	Yes	Yes	Yes	Yes	Yes
Pennsylvania	No	Yes	Yes E	Yes	Yes	Yes
Puerto Rico	No	Yes	N/A	Yes	Yes	—
Rhode Island	No H	Yes	Yes	Yes	Yes	Yes
South Carolina	Yes D	Yes D	Yes D	Yes D	Yes D	Yes D
South Dakota	No	Yes	No J	Yes	Yes	Yes
Tennessee R	No	Yes E	Yes E	Yes E	Yes	Yes
Texas	No	Yes	Yes	Yes	Yes	Yes
Utah	No	Yes	Yes E	Yes E	Yes E	Yes E
Vermont	No	Yes D	Yes	Yes	Yes	Yes
Virginia	No	Yes E	Yes E	Yes E	Yes E	Yes E
Washington	No	Yes	Yes	Yes	Yes O	Yes
West Virginia	No	Yes B	Yes G	Yes G	Yes G	Yes G
Wisconsin	No	Yes	Yes	Yes	Yes	Yes
Wyoming D, E	No	Yes	Yes	Yes	Yes	Yes

XV. Pharmacy Technicians in Community Setting *(cont.)*

State	May Pharmacy Technicians in the Community Setting: Place Prescription Label on Container?	Prepare Medications in Cards for Nursing Homes?	Blister-Pack Medications for Future Use?	Reconstitute Oral Liquids?	Call Physician for Refill Authorization?	Compound Medications for Dispensing?
Alabama	Yes	Yes	Yes	Yes	Yes M	No
Alaska A	—	—	—	—	—	—
Arizona	Yes B	Yes B	Yes B	Yes B	Yes B	Yes C
Arkansas	Yes	Yes	Yes	Yes C	Yes M	No
California	Yes D, E	Yes D, E	Yes D, E	Yes D, E	Yes D	Yes D, E
Colorado	Yes	Yes	Yes	Yes	Yes	Yes E
Connecticut	Yes	Yes	Yes	Yes	Yes	Yes
Delaware	Yes D	Yes D	Yes D	Yes F	No	Yes F
District of Columbia	Yes S	Yes S	Yes S	Yes S	Yes S	Yes S
Florida	Yes	Yes	Yes	Yes	Yes	Yes
Georgia	No	No	No	No	No	No
Guam	Yes E, G	Yes E, G	Yes E, G	Yes E, G	No	Yes E, G
Hawaii	Yes E	Yes E	Yes E	Yes E	No	Yes E
Idaho	No	Yes	Yes	Yes	Yes	Yes
Illinois	Yes D	Yes D	Yes D	Yes D	Yes D	Yes D
Indiana	Yes	Yes	Yes	Yes	Yes	Yes
Iowa E	Yes	Yes	Yes	Yes	Yes	Yes
Kansas	No	Yes E	Yes	Yes	Yes	No
Kentucky	Yes D	Yes D	Yes D	Yes D	No H	Yes D
Louisiana	Yes	Yes	Yes	Yes A	Yes	No
Maine	Yes	Yes	Yes	Yes	Yes	Yes
Maryland	Yes E	Yes E	Yes E	Yes E	No	No
Massachusetts	Yes E	Yes E	Yes E	Yes E	No	Yes E
·higan	Yes	Yes	Yes	Yes	No	No
ınesota	Yes	Yes	Yes	Yes	Yes	No
Mississippi D, E	Yes	Yes	Yes	Yes	Yes	Yes
Missouri	Yes D	Yes D	Yes D	Yes D	Yes D	Yes D
Montana	Yes D	Yes D	Yes D	Yes D	No	Yes L
Nebraska	Yes	Yes	Yes	Yes	No	Yes
Nevada	Yes	Yes	Yes	Yes	Yes	Yes
New Hampshire I						
New Jersey	Yes D, E	Yes D, E	Yes D, E	Yes D, E	No	Yes D, E
New Mexico	Yes	Yes	Yes	Yes	Yes E	No
New York	Yes	Yes	Yes	No	No	No
North Carolina	Yes	Yes	Yes	Yes	Yes	Yes
North Dakota	Yes	Yes	Yes	Yes	No	Yes E
Ohio	Yes	Yes	Yes	Yes D	No	Yes D
Oklahoma	Yes	Yes	Yes	Yes	Yes	Yes L
Oregon	Yes	Yes	Yes	Yes	Yes M	Yes
Pennsylvania	Yes	Yes	Yes	No	No	No
Puerto Rico	Yes	N/A	—	—	No	Yes D
Rhode Island	Yes	Yes	Yes	Yes D, E	Yes	Yes D, E
South Carolina	Yes D	Yes D	Yes D	Yes D	Yes D	Yes D
South Dakota	Not addressed	Yes	Yes	Not addressed	No	Not addressed
Tennessee R	Yes	Yes	Yes	Yes E	Yes	Yes E
Texas	Yes	Yes	Yes	Yes	Yes M	Yes D, N
Utah	Yes D	A	Yes D	Yes D	Yes M	Yes
Vermont	Yes	Yes	Yes	Yes	No	No
Virginia	Yes E	Yes E	Yes D, E	Yes D, E	No	Yes D, E
Washington	Yes	Yes	Yes	Yes	Yes M	Yes P
·st Virginia	Yes G	Yes G	Yes G	Yes G	Yes D	No
sconsin	Yes	Yes	Yes	No	No	No
Wyoming	Yes	Yes	Yes	No	Yes M	No

XV. Pharmacy Technicians in Community Setting *(cont.)*

LEGEND

A — Activities are not addressed in laws or statutes.

B — Subject to approved policy and procedure manuals, supportive personnel training, and pharmacist final verification and initialing.

C — May reconstitute oral antibiotics only.

D — Allowed activity must be under the **direct** supervision of a licensed pharmacist.

E — Pharmacist must verify, check, and/or is responsible for allowed activities.

F — Compounding is the responsibility of the pharmacist or pharmacy intern under the direct supervision of the pharmacist. The pharmacist may utilize the assistance of supportive personnel under certain conditions. Contact Board for requirements.

G — Unless it is regarding a refill.

H — Allowed activity limited to pharmacists and interns.

I — Technicians are not recognized by state laws or rules. Pharmacist-in-charge is ultimately responsible for all functions that he or she may allow a technician to perform.

J — May key-in but not enter.

K — May not select pharmaceutical to be dispensed; however, may take stock bottle of pharmaceutical from shelf per pharmacist's instructions.

L — Bulk compounding allowed.

M — If there are any changes to the prescription and/or if professional consultation is involved, the pharmacist must handle the call.

N — Supportive personnel who compound sterile pharmaceuticals must have special training. Contact the Board for training requirements.

O — Pharmacist must select if more than one generic is available.

P — Bulk compounding and IV preparation are allowed, but "extemporaneous" compounding is not allowed.

Q — Not prohibited. Law and regulations are silent on this issue; however, the practice is discouraged. Pharmacists should exercise professional judgment.

R — New technician rules pending as of May 1997. Contact Board office.

S — Pharmacist must verify, check, and/or is responsible for allowed activities; except in the case of Schedule II controlled substances, only a pharmacist may receive an oral prescription.

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- ▲ technician & requirements
- ▲ support & personnel & requirements
- ▲ technician & training
- ▲ technician & registration

Note: "ancillary personnel"; "support personnel"; and "non-licensed personnel" can be substituted for "technician."