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# Note

## The Desirability of State Licensing of Medical Technologists

*Physicians today are trained to place great reliance upon the results of laboratory tests performed by medical technologists. Although this reliance places a great responsibility on the profession of medical technology, the profession is presently regulated by a system of voluntary certification which has not afforded adequate protection to the public health. The author of this Note explores the desirability of state licensing of medical technologists. He proposes adoption of a licensing statute which would establish rigorous training requirements for medical technologists and create a separate classification of clinical laboratory personnel whose work is routine and subject to close supervision. He concludes that such a licensing statute would be practicable and would adequately protect the public by promoting a higher standard of performance in the profession of medical technology.*

### I. THE PROFESSION AND THE PROBLEM

A medical technologist is

a person who performs various laboratory tests and procedures on blood, blood serum, urine, sputum and other body contents or by-products, the results of which tests and procedures are used or interpreted by licensed physicians in making a diagnosis.<sup>1</sup>

The modern physician has neither the time nor the skill to perform all of these laboratory determinations which contribute to a diagnosis.<sup>2</sup> Thus, the medical technologist is a most important and necessary associate in modern medicine.

The development of the profession of medical technology is of comparatively recent origin. The first clinical laboratory in America was established in 1895.<sup>3</sup> In the early period of laboratory medicine, the pathologist performed his own laboratory tests. However, as the scope of laboratory medicine expanded and the pathologist became recognized as an important medical specialist, it became necessary

1. Hall, *Medicolegal Responsibility of the Medical Technologist*, 20 AMERICAN JOURNAL OF MEDICAL TECHNOLOGY 43 (1954).

2. Caughey, *Auxiliary Personnel in Medical Practice*, 48 AMERICAN JOURNAL OF PUBLIC HEALTH 1049 (Aug. 1958).

3. Alcuin, *Medical Technology*, 35 MINN. MEDICINE 331 (April 1952).

for him to train assistants to perform the simpler tests.<sup>4</sup> Thus the profession of medical technology was established about the time of World War I.<sup>5</sup> Today this young profession includes more than 50,000 active members.<sup>6</sup>

The responsibility of the medical technologist in modern medical practice is enormous. *Mississippi Baptist Hosp. v. Holmes*<sup>7</sup> provides a graphic illustration of this responsibility. There, defendant hospital was held liable for the death of a patient resulting from the negligence of a technologist. After correctly "typing" the blood of the patient, the technologist inadvertently mislabeled under the patient's name the blood type of another patient in the hospital. This wrong type of blood was given to the patient while she was undergoing surgery. As a result, the patient's blood became agglutinated, the kidneys became blocked, and the patient died.<sup>8</sup>

The modern physician is trained to place great reliance on the results of laboratory tests performed by medical technologists.<sup>9</sup> Upon the skill and integrity of the medical technologist often depends the prompt and proper treatment of a patient<sup>10</sup> or, as in the *Holmes* case, the preservation of a life. In fact, "an erroneous [laboratory] report is worse than none, since it gives the physician a false direction, which might have been avoided if he depended only on clinical judgment. . . ."<sup>11</sup> Thus, there is an extreme danger to the public health and welfare from unskilled and incompetent medical technologists.<sup>12</sup>

4. Hinman, *The Education and Recognition of Technical Groups Associated With Medicine*, 59 THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION 147, 148-49 (July 1959).

5. *Id.* at 149.

6. Nugent, *Medical Technology: Profession vs. Occupation*, 23 AMERICAN JOURNAL OF MEDICAL TECHNOLOGY 289 (1957).

7. 214 Miss. 906, 55 So. 2d 142 (1951).

8. The opinion describes the change in the patient's condition caused by the technologist's "inadvertency" in the following manner:

[T]he blood transfusion was started the next morning at approximately 8:00 o'clock while the patient was undergoing surgery, and was continued until she had been given about 700 c.c. of blood, labeled as "Group 2", when it was discovered that her hands had turned to a blue color around the fingernails and that her face disclosed a like discoloration, and both of which then turned to an ashen gray as her blood pressure dropped from 110 to 60, her pulse increased from 120 to 130 and on to 150, and finally her pulse soon became almost imperceptible . . . thereupon another transfusion was begun by the use of blood of her own type to counteract the very grave condition which her physician believed had been produced by the original transfusion, and she then revived to some extent but later the condition of the patient grew worse until she died at approximately 10:30 or 11:00 o'clock on the following morning. . . .

*Id.* at 919-20, 55 So. 2d at 146-47.

9. Caughey, *supra* note 2, at 1049; Shively, *The Significance and Evaluation of Laboratory Data in Clinical Medicine*, 47 INDIANA STATE MEDICAL ASSOCIATION JOURNAL 982 (1954).

10. Nugent, *supra* note 6, at 289.

11. Caughey, *supra* note 2, at 1049-50.

12. Schwitalla, *Duties and Privileges of Medical Technologists*, 37 HOSPITAL PROGRESS 51 (Feb. 1956).

There is persuasive evidence that much incompetent work is presently being performed in clinical laboratories and that this is due in large measure to poorly trained, inadequately supervised laboratory workers. This has been demonstrated through the use of surveys checking the accuracy of work done in clinical laboratories. Probably the best known of these surveys is the one conducted under the leadership of Doctors William P. Belk and F. William Sunderman in Pennsylvania in 1947.<sup>13</sup> Fifty-nine laboratories in Pennsylvania, New Jersey and Delaware agreed to perform some of the *more common* chemical measurements on solutions which had been carefully prepared for analysis. Doctors Belk and Sunderman described the results of the survey in the following manner:

The scatter of the measurements and the degree of unreliability is surprising. The accuracy of the measurements is below any reasonable standard. It will be noted that unsatisfactory results outnumbered the satisfactory and that no laboratory had a perfect score.<sup>14</sup>

This survey was followed up with a questionnaire to the clinical pathologists in Pennsylvania requesting their opinions of the causes of the inferior laboratory work indicated by the survey. In the opinion of the 106 pathologists replying to the questionnaire, the major factor contributing to the incompetent work performed in clinical laboratories was "poorly trained" technologists.<sup>15</sup>

A similar study was conducted in Connecticut in 1948.<sup>16</sup> The results of this survey were slightly better than the results of the Belk and Sunderman study but were nevertheless considered extremely unsatisfactory.<sup>17</sup> The chairman of the group conducting the survey asserted that inadequately trained and supervised technologists was one of the "more obvious major causes" contributing to the unsatisfactory results.<sup>18</sup>

While these surveys are now more than ten years old, there is nothing to indicate that the standards of performance by medical technologists have improved during this period; on the contrary, recent reports indicate that the general level of performance remains sub-

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13. Belk & Sunderman, *A Survey of the Accuracy of Chemical Analyses in Clinical Laboratories*, 17 *AMERICAN JOURNAL OF CLINICAL PATHOLOGY* 853 (1947).

14. *Id.* at 855-56.

15. *Id.* at 861.

16. Snaveley & Golden, *A Survey of the Accuracy of Certain Chemical Determinations*, 13 *CONNECTICUT STATE MEDICAL JOURNAL* 190 (1949).

17. The results obtained in this study indicate that the standards of clinical chemistry in the majority of the hospitals surveyed leaves much to be desired. This inadequacy is even more striking when it is noted that the survey included fairly large hospitals, most of which are directed by full time pathologists. One can only guess at the level of performance in most of the very small hospitals employing a part time director or in commercial laboratories with one or two unsupervised technicians.

*Id.* at 193.

18. *Id.* at 193.

standard.<sup>19</sup> Thus, it is reasonable to conclude that some form of regulation of medical technologists is necessary which will prevent the incompetent work which is presently being performed in clinical laboratories and the dangerous consequences of that incompetency.

The purpose of this Note is to consider whether a licensing requirement for medical technologists would be a desirable form of regulation for the protection of the public. It is well established that a state, under its police power, has the right to regulate any business, occupation, trade or profession in order to protect the public health and welfare.<sup>20</sup> Therefore, clearly a state statute requiring medical technologists to be licensed on the basis of education and supervision satisfies constitutional requirements.<sup>21</sup> Thus, the question whether or not a licensing statute should be enacted is primarily a policy question which can be answered only after a comparison of the advantages and disadvantages of a licensing requirement.

## II. PRESENT REGULATION

Regulation of the young profession of medical technology has thus far been generally *voluntary*. In 1928 the American Society of Clinical Pathologists (hereinafter referred to as ASCP) established the national voluntary Registry of Medical Technologists.<sup>22</sup> The Registry (ASCP), which is presently composed of six pathologists representing the ASCP and three medical technologists representing the American Society of Medical Technologists, was established to "ensure competent, ethically-trained and ethically-minded personnel for medical technology and to safeguard that profession."<sup>23</sup> Operating purely on a voluntary basis, the Registry (ASCP) grants certification as a "M.T.

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19. See Adelson, *Legal Responsibilities of Medical Technologists*, 38 HOSPITAL PROGRESS 136 (Sept. 1957).

20. *Nebbia v. New York*, 291 U.S. 502, 537 (1934).

21. The power of a state to protect the public welfare authorizes it to exact a certain degree of skill and learning in professions and pursuits which concern the public health and welfare. *Graves v. Minnesota*, 272 U.S. 425, 427-28 (1926); *Dent v. West Virginia*, 129 U.S. 114, 122 (1889).

The general power of the state to exact proper skill and learning of those who follow pursuits involving the public health, safety and welfare, and to prescribe appropriate tests therefore, cannot at this day be questioned. It has been exercised from time immemorial, and has been sustained by repeated decisions of the courts.

*People v. Griswold*, 213 N.Y. 92, 96, 106 N.E. 929, 931 (1914).

A licensing statute must, in addition, satisfy certain due process requirements relating to provisions for a hearing, notice to interested parties, right to appeal the administrative findings, and other similar provisions. See 1 & 3 DAVIS, *ADMINISTRATIVE LAW TREATISE* §§ 7.01-20, 8.04-05, 20.01-21.10 (1958). This problem concerns licensing statutes in general, however, and as such is beyond the scope of this Note.

22. Robins, *The Medical Technologist and the Doctor*, 170 THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 626 (1959).

23. Alcuin, *supra* note 3, at 333.

(ASCP)" to any applicant who satisfies certain educational requirements and passes a nationally-conducted examination. The educational requirements at present are two years of college work following a prescribed curriculum emphasizing chemistry and biology, and twelve months training in a School of Medical Technology approved of by the Council on Medical Education and Hospitals of the American Medical Association.<sup>24</sup> On January 1, 1962, the educational requirements will be raised to three years of preparatory college and twelve months training in an "approved" School of Medical Technology.<sup>25</sup>

The Registry (ASCP) and the educational requirements it has established are endorsed by the American Medical Association, the American College of Surgeons, the American College of Physicians, the American Hospital Association and the Catholic Hospital Association.<sup>26</sup> Today there are more than 20,000 active medical technologists on the roster of the Registry (ASCP), but this figure represents less than one half of the presently employed medical technologists.<sup>27</sup>

Opposition to the Registry (ASCP) and its activities by some groups<sup>28</sup> has led to the establishment of a large rival organization. In 1940, a counterpart to the Registry (ASCP) appeared, known as the American Medical Technologists (hereinafter referred to as AMT).<sup>29</sup> Similarly operating on a voluntary basis, the AMT grants certification as a "M.T." to any applicant who satisfies its educational requirement and passes an examination.<sup>30</sup> The educational requirement is lower than that required by the Registry (ASCP), consisting of twelve months training in an "accredited" school—accreditation being by an organization affiliated with the AMT.<sup>31</sup> The AMT organization and certification program are not approved by the American Medical Association.<sup>32</sup>

In addition to the medical technologists on the rosters of the Registry (ASCP) and the AMT, there are a great number of medical technologists who are not registered at all. Most of these are graduates of the so-called "commercial" schools. These schools offer short

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24. Hinman, *supra* note 4, at 149.

25. *Ibid.*

26. Robins, *supra* note 22, at 626.

27. Nugent, *supra* note 6, at 289.

28. In 1935, representatives of the opposition groups said of the Registry (ASCP):

"The promised boycott in a few years of all technicians who fail to register in the Registry of Technicians and subscribe to its requirements in order to work in a hospital approved by the AMA is a threat. This is a minority move to coerce the technician and blind him so that he will not seek true standards."

Quoted by Alcuin, *supra* note 3, at 334.

29. *Id.*, at 334-35.

30. *Ibid.*

31. See BULLETIN OF THE COLLEGE OF MEDICAL TECHNOLOGY, MINNEAPOLIS, MINN. 8.

32. Alcuin, *supra* note 3, at 334-35.

courses in medical technology—normally lasting only nine months—and they are unapproved by the American Medical Association because of “the inadequate instruction given. . . .”<sup>33</sup>

Apparently the duplication of certifying organizations in the profession of medical technology has been a source of confusion for many hospitals and physicians.<sup>34</sup> As a result,

in many areas the registered [(ASCP)] technologist, with an investment in years of training and experience, is accorded no more respect or recompense than the casual laboratory worker.<sup>35</sup>

It is fair to conclude that hospitals and physicians generally have not made a sufficient differentiation in their hiring practices and salary levels between medical technologists registered (ASCP) and those not so registered to justify the added years of training the ASCP-registered technologist undergoes to satisfy the American Medical Association endorsed requirements.<sup>36</sup>

Furthermore, there is presently an *extreme* shortage of competent medical technologists.<sup>37</sup> Consequently, many hospitals and physicians who are aware of the different qualifications of ASCP-registered medical technologists and those not so registered, are compelled

33. Ikeda, *The Future of Medical Technology*, 12 AMERICAN JOURNAL OF MEDICAL TECHNOLOGY 146, 153 (1946).

34. Alcuin, *supra* note 3, at 334. Shively, *supra* note 9, at 983.

This confusion is not entirely unjustified. The following similarities exist between the two certifying organizations: the professional organization for medical technologists registered (ASCP) is known as the American Society of Medical Technologists (ASMT), while the professional organization for medical technologists registered (AMT) is known as the American College of Medical Technologists (ACMT). The Registry (ASCP) requires graduation from an *approved* school and grants certification as a “M.T. (ASCP),” while the AMT requires graduation from an *accredited* school and grants certification as a “M.T.” And finally, the official publication of the ASMT is *The American Journal of Medical Technology*, while the official publication of the ACMT is *Journal of American Medical Technologists*. Alcuin, *supra* note 3, at 335.

35. Nugent, *supra* note 6, at 291.

36. Whitney, *Current Status of the M.T. (ASCP) With Relationship to Wages and Hours, Unionization, Licensure and Professional Recognition*, 24 AMERICAN JOURNAL OF MEDICAL TECHNOLOGISTS 157, 157-58 (1958).

Current employment practices in many clinical laboratories, making little or no distinction between registered [(ASCP)] and unregistered personnel, have affected medical technology most adversely and made recruitment especially difficult. These effects on the profession, of course, are in addition to serious effects on the quality of laboratory service available to the patient. Nugent, *Medical Technology in a Mid-Western State: Kansas, 1957-58*, 25 AMERICAN JOURNAL OF MEDICAL TECHNOLOGY 7 (1959).

In many cases . . . salary scales are illogical, with well trained, registered technologists doing the same work, for the same pay, as graduates of sub-standard schools and laboratory assistants with only on-the-job training. *Why Laboratory Standards Are Substandard*, 88 MODERN HOSPITAL 51 (Feb. 1957).

37. Montgomery, *Medical Technology and Its Relation to Physiology and Pathology*, 154 THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 39, 41 (1954); Russell & Larson, *Recruiting for Careers in Medical Technology*, 30 HOSPITALS 37 (Oct. 16, 1956).

to hire technologists with less training simply because there are no better qualified technologists available.<sup>38</sup> Thus,

it is possible for a high school graduate to attend a course of several months in a proprietary school for laboratory training and then secure employment as a medical technologist. These people usually have inadequate training and background for positions of responsibility and all too frequently do not grasp the significance of many important details in a clinical laboratory.<sup>39</sup>

Therefore, it is reasonable to conclude that regulation by voluntary certification has been unsuccessful.

Furthermore, despite optimistic statements by some authorities to the contrary,<sup>40</sup> it appears that the problem of substandard work by medical technologists will become more serious, rather than improve. Since the end of World War II and continuing to the present time, a technological revolution has been occurring in the clinical laboratory.<sup>41</sup> "Only a few years ago the procedures performed by laboratory workers in hospitals could be counted on the fingers. . . . Today hundreds of tests are performed routinely in pathology laboratories."<sup>42</sup> Not only has the mushrooming growth of medical technology created an unprecedented demand for additional medical technologists, but it has also made additional training necessary in order to adequately prepare the medical technologist to perform the "routine" procedures which have "increased in complexity with each new scientific advance. . . ." <sup>43</sup> Thus, the already alarming shortage of qualified medical technologists will undoubtedly become an even greater problem in the future.<sup>44</sup>

In addition, it seems obvious that

if, after some years of training in college and in an approved school, a technologist finds herself no better off than a colleague who has entered the field with no training, or at best a short stint in a commercial school . . . she is likely to feel that the investment in time, money and effort is unjustified.<sup>45</sup>

38. Many doctors search in vain for a registered technologist. [sic] and since the work must be done, make a reluctant compromise, and hire individuals with some knowledge of laboratory work to fill the jobs.

Nugent, *supra* note 6, at 291-92.

39. Shively, *supra* note 9, at 983.

40. See Hinman, *supra* note 4, at 149-50; Russell & Larson, *supra* note 37, at 38.

41. Nugent, *supra* note 36, at 7.

42. *Why Laboratory Standards Are Substandard*, 88 MODERN HOSPITAL 51 (Feb. 1957).

43. Nugent, *supra* note 36, at 7.

Clinical laboratory work is now beyond mere repetitive mechanical manipulations. Experience has shown that without education, consistent quality of work, let alone advancement in technical skill and knowledge, is impossible.

Hovde, *A Medical Technology Training Program Study*, 23 AMERICAN JOURNAL OF MEDICAL TECHNOLOGY 184, 187 (1957).

44. Russell & Larson, *supra* note 37, at 38.

45. *Why Hospital Standards Are Substandard*, 88 MODERN HOSPITAL 51, 53 (Feb. 1957).



Unless the high standards of training endorsed by the American Medical Association<sup>46</sup> are universally required for employment as a medical technologist, it is only natural that these standards will seldom be satisfied.<sup>47</sup> Some change in the present system of voluntary regulation is necessary.

### III. ARGUMENTS FOR A LICENSING REQUIREMENT FOR MEDICAL TECHNOLOGISTS

The arguments in favor of a licensing requirement for medical technologists can be classified under two general objectives: (1) protection of the public and (2) protection of the profession. Protection of the public is, most certainly, the primary purpose of a licensing requirement. In fact, the arguments in favor of licensure because it will protect the profession are also, incidentally, directed at protection of the public, since better working conditions will attract more competent persons into the profession which, in turn, will raise the standards of performance.

#### A. *Protection of the Public*

It has been demonstrated that much incompetent work is presently being performed in clinical laboratories by medical technologists,<sup>48</sup> and it is perfectly clear that incompetent work by medical technologists is a serious danger to the public health and welfare.<sup>49</sup> By requiring an adequate amount of training and supervision, a licensing requirement for medical technologists would protect the public health and welfare by improving the standard of laboratory work. Licensure is the only proposed method of raising the standard of performance in the profession of medical technology<sup>50</sup> which is compulsory—that is, which will ensure the satisfaction of necessary requirements by *all* medical technologists.<sup>51</sup>

46. See text accompanying note 26 *supra*.

47. Nugent, *supra* note 6, at 291.

48. See text accompanying note 13 *supra*.

49. See text accompanying note 12 *supra*.

50. Other methods which have been suggested for raising the standard of performance in clinical laboratories by medical technologists include providing more opportunities and facilities for training technologists, Nickerson, *Problems in the Maintenance of Adequate Laboratory Staffs*, 244 *THE NEW ENGLAND JOURNAL OF MEDICINE* 207, 209 (1951); and recruiting greater numbers of highly capable young people into the profession, Montgomery, *supra* note 37, at 42.

51. This fact has been admitted by persons opposed to licensing:

Frankly, I neither approve of nor advocate licensure of medical technologists by states as a means of solving the problem. In all honesty, however, no other advocated plan offers positive control over inadequately trained laboratory workers.

ASMT Memorandum from ASMT Legislation Committee Chairman, Rodger Hargraves, to Members, ASMT Legislation Committee, and Chairmen, All State Legislation Committees, March, 1959 [hereinafter cited as 1959 ASMT Memorandum].

In addition, a licensing requirement would provide much-needed control over Schools of Medical Technology.<sup>52</sup> Schools would be compelled to meet certain minimum requirements in order to receive an "approved" status from the state licensing board. By ensuring a satisfactory quality of training, licensure would further contribute to a rise in the standard of performance by medical technologists. Thus, by requiring schools of medical technology as well as medical technologists to satisfy certain minimum requirements, a satisfactory licensing statute would afford adequate protection for the public.

### *B. Protection of the Profession*

The present system of regulation has been very unsuccessful in providing desirable working conditions for medical technologists. Salary levels in medical technology are extremely low in comparison with those in other occupations and professions.<sup>53</sup> Clearly, a medical technologist does not receive adequate compensation for the training it is necessary for him to receive in order to satisfactorily perform his duties. In a recent survey of the opinions of medical technologists in Kansas regarding licensing, the following comment, which is typical of many of the replies, was received:

"In this area a reliable 16 year old can get 80¢ an hour for babysitting and housework. There is no incentive to spend 3 years' time and thousands of dollars training for a job that will pay only \$1.25 an hour."<sup>54</sup>

It is obvious that the salary standards of medical technologists do not attract a sufficient number of persons of the intellectual caliber demanded by current laboratory methods.<sup>55</sup>

Medical technologists are also frequently overworked.<sup>56</sup> Because many laboratories are understaffed,<sup>57</sup> the technologist often is required to work extremely long hours at an insufficient salary rate. "Laboratory personnel cannot apply highly technical skills required by modern laboratory science under such conditions."<sup>58</sup>

In addition, the profession of medical technology has generally not received the public recognition due to a profession of its importance.<sup>59</sup> Although the situation has improved in recent years, this lack of professional status has contributed enormously to the existing shortage of medical technologists.<sup>60</sup>

52. Whitney, *supra* note 36, at 161.

53. *Id.* at 157-58.

54. Nugent, *supra* note 36, at 13.

55. Snavelly & Golden, *supra* note 16, at 193.

56. *Ibid.*

57. Belk & Sunderman, *supra* note 13, at 861.

58. Snavelly & Golden, *supra* note 16, at 193.

59. Whitney, *supra* note 36, at 157.

60. *Ibid.*

Also, medical technologists who voluntarily satisfy the minimum training requirements approved by the American Medical Association generally do not receive any more respect or compensation than technologists with less training.<sup>61</sup> This situation is obviously detrimental to the morale of well-trained medical technologists.<sup>62</sup>

These employment conditions, along with the technological revolution presently occurring in the clinical laboratory,<sup>63</sup> have been responsible for the existing extreme shortage of medical technologists.<sup>64</sup> This shortage has aggravated the problems of the profession of medical technology still further by making it possible for large numbers of incompetent and inadequately trained persons to secure employment in clinical laboratories.<sup>65</sup> This fact, in turn, has frustrated efforts to improve the working conditions of medical technologists.

The unsatisfactory employment conditions have influenced many well-trained medical technologists to favor a licensing requirement. A recent survey of the opinions of medical technologists in Kansas regarding licensing<sup>66</sup> revealed some surprising statistics. Of the 266 medical technologists expressing an opinion, 258 believed that some form of legal control over clinical laboratory personnel was desirable or necessary (with 149 checking "necessary"). Only eight of those responding were opposed to any change in the present system of voluntary regulation.<sup>67</sup> The respondents in favor of a licensing requirement indicated that they believed this would improve their professional standing and raise their salary levels.<sup>68</sup> The author of the report of this survey concluded,

The overwhelmingly favorable response to these questions regarding some form of legal control over clinical laboratory personnel would indicate that Kansas technologists are much more receptive to the idea of "licensure" than was generally realized.<sup>69</sup>

A licensing requirement would do much to improve the unsatisfactory working conditions in the profession of medical technology. By requiring *all* medical technologists to have an adequate amount of

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61. Nugent, *Medical Technology: Profession vs. Occupation*, 23 AMERICAN JOURNAL OF MEDICAL TECHNOLOGY 289, 291 (1957). See note 36 *supra*.

62. Nugent, *Medical Technology in a Mid-Western State: Kansas, 1957-58*, 25 AMERICAN JOURNAL OF MEDICAL TECHNOLOGY 7 (1959).

63. See text accompanying note 41 *supra*.

64. Montgomery, *supra* note 37, at 42; Whitney, *supra* note 36, at 157.

65. "Because of the shortage of trained medical technologists, many people are carrying out laboratory tests who have not received adequate training for their job." Shively, *The Significance and Evaluation of Laboratory Data in Clinical Medicine*, 47 INDIANA STATE MEDICAL ASSOCIATION JOURNAL 982, 982-83 (1954).

66. Nugent, *supra* note 62.

67. *Id.* at 12.

68. *Ibid.*

69. *Ibid.*

training, a licensing statute would greatly aid the technologists in their efforts to raise present salary levels. Furthermore, licensure would secure to medical technologists a more professional status and would encourage a unified organization—both of which would be instrumental in improving the present employment conditions.<sup>70</sup> With improved working conditions, medical technology would attract many more highly capable persons into the profession. This, in turn, would benefit the public by raising the standards of performance in clinical laboratories.

#### IV. ARGUMENTS AGAINST A LICENSING REQUIREMENT FOR MEDICAL TECHNOLOGISTS

In spite of the reasons in favor of licensure, only four states presently require medical technologists to be licensed.<sup>71</sup> In addition, the American Medical Association,<sup>72</sup> the American Society of Clinical Pathologists (ASCP),<sup>73</sup> and the American Society of Medical Technologists (ASMT)<sup>74</sup> have all gone on record as being opposed to licensure of medical technologists. The following arguments have been made by these groups against a licensing requirement.

Because of the existing shortage of medical technologists a realistic licensing statute would have to make some provision for licensing

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70. An alternative method of improving the working conditions in the profession of medical technology is unionization. In some areas in the eastern section of the United States, medical technologists have been organized by a large international industrial union. Interview with leaders of the American Society of Medical Technologists (ASMT) in Minnesota, in February, 1960. Such unionization of medical technologists has been considered extremely undesirable by leaders in the profession of medical technology. 1959 ASMT Memorandum. In a 1958 article, a well known medical technologist suggested that unionization is undesirable for the following reasons: (1) the principles and practices of a union are incompatible with the code of ethics of medical technologists; (2) the primary strength of a union is in the strike weapon which is unavailable to medical technologists; (3) a union is primarily interested in the welfare of the union rather than the welfare of the individual members, which means a high dues requirement; and (4) it is dangerous to the public health and welfare to place the profession of medical technology under an obligation to a sponsoring organization which has no understanding of the profession's responsibilities. Whitney, *supra* note 36, at 160. Therefore, an additional argument in favor of a licensing requirement for medical technologists, in the opinion of many persons, is that it will deter unionization.

71. ALA. CODE tit. 46, §§ 151-67 (1940); CAL. BUS. & PROF. CODE §§ 1200-1322; FLA. STAT. §§ 483.01-20 (1959); Hawaii Sess. Laws 1957, Act 316.

72. The House of Delegates of the American Medical Association adopted a resolution in December, 1958, encouraging the voluntary registration of paramedical personnel who assist physicians. At the same time it expressed opposition to the extension of governmental licensure and governmental registration. However, the House requested the committee on paramedical areas to expand its study to include this phase of the problem.

Robins, *The Medical Technologist and the Doctor*, 170 THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 626, 627 (1959).

73. Ikeda, *supra* note 33, at 153.

74. Interview With Leaders of the ASMT in Minnesota, in February, 1960.

technologists already employed at the time of passage of the statute, even though they all have not satisfied the educational requirements of the statute.<sup>75</sup> Such a provision is known as a "Grandfather Clause." An argument has been made that licensure should not be adopted, because the "Grandfather Clause" would give equal legal recognition to adequately and inadequately trained medical technologists alike.<sup>76</sup> This, it is argued, is a danger to the public health and welfare, in addition to being unfair to the technologists who have voluntarily satisfied the American Medical Association approved training requirements.<sup>77</sup>

The "Grandfather Clause" argument against a licensing requirement is not persuasive. Such a clause clearly would not *increase* the danger to the public from incompetent laboratory work existing prior to passage of the statute. At worst, it would merely preserve the status quo. Furthermore, a well-drafted "Grandfather Clause" would contain some limitation in the form of a termination date after which no previously employed medical technologist would be able to avail himself of the benefits of the clause by application for a license.<sup>78</sup> Finally, any undesirable consequences of a "Grandfather Clause" would be only temporary. As time passes, the inadequately trained technologists licensed by virtue of the clause would become increasingly more experienced and skilled, and, in any event, would eventually be eliminated through retirement. The advantages of a licensing requirement in protecting the public and protecting the profession would clearly outweigh any temporary disadvantages caused by the "Grandfather Clause."

Another argument which has been made against licensure is that it would greatly restrict the mobility of medical technologists.<sup>79</sup> At

75. See, e.g., FLA. STAT. § 483.13 (1) (1955):

Any person, who on May 16, 1949, is actively engaged in the practice of medical technology in the State of Florida, and who has been a resident of this state for six months immediately prior to making application, shall receive from the board a license as a medical technologist upon making an application under oath in proper form as prescribed by the board, and paying a fee of ten dollars; provided, however, that such application shall have been received by the board prior to January 1, 1950.

Such provisions generally provide, as does the Florida statute above, for a *limited* period during which the previously employed medical technologists may receive a license without satisfying the statutory requirements. Section 483.13 (1) of the Florida Statutes, quoted above, became ineffective on January 1, 1950, and was repealed by the 1957 legislature. Fla. Laws 1957, ch. 57-1, § 24, at 14.

76. [I]n one way these [licensing] acts *always* fail, and that is by the so-called "Grandfathers Clause" which in one way or another permits the recognition on an equivalent status of many workers who are obviously incompetent, and prior to the passage of the act have been unable to gain recognition. Address by Lall G. Montgomery, M.D., presented to the Joint Committee to Study Paramedical Areas in Relation to Medicine, April 5, 1959.

77. See text accompanying note 26 *supra*.

78. See note 75 *supra*.

79. "Licensure . . . would restrict the mobility of medical technologists and introduce difficulty in movement from state to state." Open letter by Mrs. Bernadine

present a technologist may move freely from state to state.<sup>80</sup> This movement would be much more difficult in the event several more states imposed licensing requirements for medical technologists.

The restriction of mobility argument against licensure is also not persuasive, since there probably is not much movement of technologists from state to state.<sup>81</sup> Even if there were, because of the acute shortage of qualified technologists, there would probably not be much difficulty in developing a program of reciprocity between states.<sup>82</sup> Thus, any disadvantage caused by a licensing requirement in restricting movement between states is not likely to be substantial. Furthermore, since the primary purpose of a licensing statute is to protect the public, any resulting restriction of mobility would seem to be a negligible consideration.

Licensure has also been opposed with the argument that because medical technologists work so closely with pathologists and other physicians it is necessary that their regulation be by the medical profession rather than by outsiders.<sup>83</sup> Regulation within the medical profession, it is contended, is essential to the development of sound educational requirements for an effective training program.<sup>84</sup> In addition, such internal regulation has the advantage of making the various branches of medicine aware of the peculiar problems faced by their associates.<sup>85</sup> A licensing requirement, on the other hand, "might well result in undesirably rigid controls exercised by people who are not well-informed on the principles involved."<sup>86</sup>

This argument against a licensing requirement for medical technologists is also subject to criticism since regulation through licensure need not be by "outsiders." A well-drafted licensing statute would provide for administration of the licensure program by persons acquainted with the needs and problems of the profession of medical

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Plebuch, President of the Association of Oregon Medical Technologists, urging defeat of a licensure bill before the Oregon legislature, March, 1959.

80. States which presently have a licensing requirement—Alabama, California, Florida and Hawaii—are exceptions.

81. This opinion was communicated to the author during an interview With Leaders of the ASMT in Minnesota, in February, 1960.

82. A.L.A. CODE tit. 46, § 160 (1940) has such a reciprocal provision:

Registered medical technicians from other states may be registered without examination upon making application therefore, and upon furnishing evidence satisfactory to the board that they possess the qualifications prescribed by this chapter, or the equivalent thereof, and upon payment of a registration fee of ten dollars.

83. Robins, *supra* note 72, at 627.

84. Hinman, *The Education and Recognition of Technical Groups Associated With Medicine*, 59 THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION 147, 151 (July 1959).

85. Robins, *supra* note 72, at 627.

86. Open letter by Mrs. Bernadine Plebuch, President of the Association of Oregon Medical Technologists, urging defeat of a licensure bill before the Oregon legislature, March, 1959.

technology.<sup>87</sup> Furthermore, regulation within the medical profession has not been successful in the past.<sup>88</sup> Concededly, this is due in large part to the *voluntary* character of the regulation. But, even if this regulation were compulsory, it is arguable that regulation by another medical group would not be adequate because, as one leading medical technologist acknowledged,

no organization which must have the welfare of its own members as its first duty can devote its time or resources solely to the problems of an ancillary group. . . . [C]an we expect these medical groups to take on our responsibilities as well as their own, when their own are increasingly pressing? I think not.<sup>89</sup>

Another argument which has been advanced against licensure is that it creates unnecessary expense and inconvenience for medical technologists.<sup>90</sup> There is a widely-shared opinion existing that stat-

87. The Alabama licensing statute is excellent in this regard:

The board of medical technicians examiners for the State of Alabama shall consist of five members who shall be appointed by the governor — three of whom shall be medical technicians of not less than five years' experience, one of whom shall be a physician, and one a physician-pathologist.

The Alabama association of medical technicians, through its executive committee, shall submit to the governor a list containing the names of two regular physicians who are properly qualified as to training, licensure and ethical standing, two physician-pathologists who are listed by the council on medical education and hospitals of the American medical association, and six medical technicians who, in addition to two years' college instruction, shall have completed a full internship in a school of training listed and approved by the council on medical education and hospitals of the American medical association, or approved by the Alabama state board of censors; or who prior to the time of appointment, had served on apprenticeship instruction of at least one year under a qualified physician-pathologist, and who shall have been engaged in medical technology for not less than five years after completion of training; and the governor shall appoint the members of the board from the names on said list.

ALA. CODE tit. 46, §§ 151-52 (1940). The Florida licensing program is administered by the board of examiners in the basic sciences, FLA. STAT. § 483.05 (1959); the Hawaii licensing program is administered by the board of health, Hawaii Sess. Laws 1957, Act 316; and the California licensing program is administered by the State Board of Public Health and the State Department of Public Health, CAL. BUS. & PROF. CODE § 1202. Apparently the fact that the group administering the licensure program in the latter three states does not include any medical technologists has not been considered objectionable by the technologists subject to their licensing requirements. The following statement has been made concerning the California statute:

The [California licensing] program as developed has been generally accepted by the medical profession of the state as a notable contribution to the improvement of medical service. It is enthusiastically sponsored by the laboratory technicians.

Merrill, *Eight Years' Experience in the Licensing of Clinical Laboratory Technicians*, 36 AMERICAN JOURNAL OF PUBLIC HEALTH 1135, 1142 (1946).

88. See section II *supra*.

89. 1959 ASMT Memorandum.

90. "The trouble and expense of licensure examinations and periodic registrations represent nuisances to which we should not be subjected." Open letter by Mrs. Bernadine Plebuch, President of the Association of Oregon Medical Technologists, urging defeat of a licensure bill before the Oregon legislature, March, 1959.

utes requiring the licensure of medical technologists are enacted primarily for the purpose of raising revenue rather than for the protection of the public health and welfare.<sup>91</sup>

This argument is clearly not persuasive. In view of the advantages of a licensing requirement in protecting the public interest, the expense and inconvenience which might be occasioned to medical technologists are negligible considerations.<sup>92</sup> Also the belief that the primary purpose of such a licensing statute is always production of revenue is refuted by provisions such as section 167 of the Alabama statute. After providing for the payment of salaries and expenses of administering the program out of the fees collected, the statute continues:

Any funds remaining on hand after the payment of costs and expenses as in this chapter provided, may be used by the board for the purpose of elevating the standards of schools of training for medical technicians, and of promoting the educational and professional standards of medical technicians and of medical technology in this state.<sup>93</sup>

But, even if the primary motive of a legislature in enacting a reasonable licensing statute were production of revenue, this would not be a sufficient reason to oppose the statute if it afforded adequate protection to the public health and welfare.

The argument has been made that the Code of Ethics of Medical Technologists greatly exceeds any possible legislative action in controlling unsatisfactory work by medical technologists.<sup>94</sup> The preamble to the Code of Ethics of the Registry of Medical Technologists states:

"I am aware that since the physician relies upon my work in the diagnosis and treatment of disease, even a trivial error may affect seriously the health or even the life of a patient. Every procedure, therefore, must be carried out with thoughtfulness and accuracy. Knowing these things I recognize that my integrity and that of my profession must be pledged to the absolute reliability of my work."<sup>95</sup>

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91. This opinion is reinforced by the manner in which the 1957 Hawaiian legislature enacted a licensing requirement for medical technologists. Hawaii Sess. Laws 1957, Act 316. Apparently the legislature passed the statute solely as a revenue-raising measure during the closing minutes of the session, unaware that the issue was controversial. Letter From J. L. Tilden, M.D., to the College of American Pathologists, April 8, 1959, on file with the College of American Pathologists. In fact, the statute's licensing requirement also applied to tattoo artists. Hawaii Sess. Laws 1957, Act 316.

92. The provisions of the Florida statute are typical. The inconvenience involved is the necessity of passing an examination. FLA. STAT. § 483.09 (1959). The expense involved is a ten dollar application fee and an annual renewal fee of five dollars. FLA. STAT. §§ 483.08, .17 (1959).

93. ALA. CODE tit. 46, § 167 (1940).

94. Open letter by Mrs. Bernadine Plebuch, President of the Association of Oregon Medical Technologists, urging defeat of a licensure bill before the Oregon legislature, March, 1959.

95. Quoted in Levinson, *Medicolegal Problems of the Clinical Laboratory*, 97 ILLINOIS MEDICAL JOURNAL 76, 77 (1950).



Thus, it is argued, a licensing requirement should not be adopted because it would not be as effective as the present form of regulation through the Code of Ethics.

This argument, too, lacks merit because the fact is that much incompetent work is *presently* being performed in clinical laboratories by medical technologists, notwithstanding the Code of Ethics.<sup>96</sup> Also, it seems obvious that an unethical person will remain unethical, whether licensed or certified. Regulation by a Code of Ethics clearly has not been, and is not, sufficient to protect the public interest.

The primary reason for the wide-spread opposition to a licensing requirement for medical technologists is a very realistic one, stemming from the present acute shortage of medical technologists.<sup>97</sup> A licensing statute which would impose requirements satisfactory to the American Medical Association, the American Society of Clinical Pathologists and the American Society of Medical Technologists would eliminate a large number of the potential medical technologists at a time when an alarming shortage already exists, and at a time when a technological revolution in the clinical laboratory is creating an unprecedented demand for more technologists.<sup>98</sup> For this reason, these groups believe a legislature would be unwilling to enact a licensing statute imposing standards which, in their opinion, would adequately protect the public health and welfare.<sup>99</sup> A licensing statute imposing less than adequate educational requirements would destroy all of the efforts of these groups during the last thirty years to improve the standards of performance in the profession of medical technology.<sup>100</sup> However, an answer to this argument would be a licensing statute which divides clinical laboratory personnel into more than one classification.<sup>101</sup>

#### V. PRESENT STATUS OF LICENSURE OF MEDICAL TECHNOLOGISTS

A change in the present system of voluntary regulation of medical technologists appears to be necessary.<sup>102</sup> Although licensure apparently would provide a desirable form of regulation,<sup>103</sup> only four

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96. See text accompanying note 13 *supra*.

97. See text accompanying note 37 *supra*.

98. See text accompanying note 41 *supra*.

99. Address by Lall G. Montgomery, M.D., presented to the Joint Committee to Study Paramedical Areas in Relation to Medicine, April 5, 1959.

100. [A]ll of the efforts in the past years to maintain a high level of medical education, with particular efforts to the training of medical technologists, would be lost by virtue of state licensing. . . .

Levinson, *supra* note 95, at 79.

101. See section VI *infra*.

102. See section II *supra*.

103. See section III *supra*.

states presently have a licensing requirement for medical technologists.<sup>104</sup> What is the explanation for this absence of licensure?

First, influential medical groups<sup>105</sup> have opposed licensing with various arguments which have been previously evaluated.<sup>106</sup> Second, medical technology is still a young profession.<sup>107</sup> Probably an insufficient amount of time has passed for the public to become concerned about the competence of medical technologists and aware of the dangers of incompetence.<sup>108</sup> Third, a great amount of distrust and jealousy has existed between the rival certifying organizations—the Registry (ASCP) and the Registry (AMT).<sup>109</sup> Each organization seems to believe that licensure will benefit its rival more than itself, and, as a result, neither group appears to have given serious, impartial consideration to the merits of licensure.<sup>110</sup> And fourth, it is reasonable to conclude that the pathologists have been motivated, to some extent, by selfish reasons in opposing licensure. Under the present system of regulation the American Society of Clinical Pathologists has a very great amount of control over the large profession of medical technology.<sup>111</sup> For financial and other personal reasons, it is obvious that the pathologists do not want to relinquish this control through licensure.<sup>112</sup>

104. ALA. CODE tit. 46, §§ 151–67 (1940); CAL. BUS. & PROF. CODE §§ 1200–1322; FLA. STAT. §§ 483.01–20 (1959); Hawaii Sess. Laws 1957, Act 316.

105. See text accompanying notes 72–74 *supra*.

106. See section IV *supra*.

107. See text accompanying note 5 *supra*.

108. The profession of medical technology exploded to its present size and complexity only during the last fifteen years. See section I *supra*. Thus, the problem of danger to the public health and welfare from incompetent medical technologists is a relatively recent one.

109. This fact becomes apparent upon a reading of any article comparing the two organizations written by a member of one of them. See, e.g., Alcuin, *Medical Technology*, 35 MINN. MEDICINE 331 (April 1952). This fact was readily confirmed, Interview With Leaders of the ASMT in Minnesota, in Minneapolis, February 1960.

110. See, e.g., the following statement by a medical technologist registered (ASCP): "Therefore, the American Medical Technologists always exert pressure for a state licensure, since they lack recognition by the American Medical Association." Judd, *Training of the Medical Technologist*, 244 THE NEW ENGLAND JOURNAL OF MEDICINE 206, 206–07 (1951).

111. See text accompanying notes 22–27 *supra*.

112. See, e.g., the following statement by the Executive Secretary of the Oregon State Medical Society:

One great concern which the Society has had regarding the legal recognition of paramedical groups, is that once such a group is licensed it eventually begins to request a broadening of the scope of its activities and eventually might actually be licensed to practice in a certain limited field of medicine. This has been true even though the group originally seeking legal recognition has expressed all good intentions of keeping the scope of its activities within the limits currently effective at the time of the legislation enactment.

Letter From Roscoe E. Miller, Executive Secretary of the Oregon State Medical Society, to the College of American Pathologists, April 1959, on file with the College of American Pathologists.

### *Existing Statutes*

Notwithstanding the opposition to licensure, four states have enacted a licensing requirement for medical technologists. The first licensing statute was enacted in California in 1935.<sup>113</sup> This law codified and made generally applicable a system of examination and certification which had already been in operation in California on a voluntary basis for fifteen years.<sup>114</sup> The California licensing statute is apparently enthusiastically supported by the medical profession in California,<sup>115</sup> and has been successful in improving the standard of performance by medical technologists.<sup>116</sup> The requirements for licensure are somewhat higher than those endorsed by the American Medical Association for certification.<sup>117</sup> According to a report pub-

113. Cal. Stats. 1935, ch. 638, at 1782; currently CAL. BUS. & PROF. CODE §§ 1200-1322.

114. Merrill & Chapman, *The Clinical Laboratory Law and Its Meaning to Private Physicians*, 82 CALIFORNIA MEDICINE 309 (1955).

115. Merrill, *supra* note 87, at 1142.

116.

The application of the clinical laboratory law provides physicians a reasonable assurance that competence and reliability will prevail in clinical laboratory operation.

Merrill & Chapman, *supra* note 114, at 309.

117. See Letter From E. F. Ducey, M.D., to the Editor of the BULLETIN OF THE COLLEGE OF AMERICAN PATHOLOGISTS, Aug., 1958 [hereinafter cited as Letter From E. F. Ducey, M.D.].

The California licensing statute defines three classifications of clinical laboratory personnel: a clinical laboratory bioanalyst, a clinical laboratory technologist, and a clinical laboratory technologist trainee. CAL. BUS. & PROF. CODE §§ 1203-05. The requirements for a clinical laboratory technologist's license are the passage of an examination and one of the following:

(a) Completion of a regular four-year college or university curriculum in medical or clinical laboratory technic with a degree of bachelor of arts or bachelor of science in a college or university approved by the department, the last year of which course shall have been primarily clinical laboratory procedure; provided, however, that if the curriculum did not include practical clinical laboratory work, six months as a clinical laboratory technologist trainee or the equivalent as determined by the department in a clinical laboratory approved by the department shall be required; or

(b) Graduation from a college or university maintaining standards equivalent, as determined by the department, to those institutions accredited by the Western College Association, Northwest Association of Secondary and Higher Schools or an essentially equivalent accrediting agency, as determined by the department, with a degree of bachelor of arts or bachelor of science and a major in bacteriology, biochemistry, or essentially equivalent subject or subjects as may be determined by the department plus one year as a clinical laboratory technologist trainee or the equivalent as determined by the department in a clinical laboratory approved by the department. One year of practical experience in a public health laboratory may be accepted if such experience or if university or college courses included practical work in clinical biochemistry and hematology;

(c) A minimum of three years of experience as a clinical laboratory technologist trainee or the equivalent as determined by the department doing clinical laboratory work embracing the various fields of clinical laboratory activity in a clinical laboratory approved by the department and 60 semester hours of equivalent quarter hours of university or college work in which are included the following courses, or essential equivalent as may be determined by the department: general

lished in 1955, sixty-seven per cent of all licensed technicians in California were college graduates, and eighty-nine per cent had had at least some college education.<sup>118</sup> Consequently,

all of the second-class schools in this State have closed since passage of the present Act, because they could not meet the standards set up by the California State Licensing Board, and the inadequately educated or trained technicians are not even eligible for admission to the (compulsory) examination and, hence, are unable to get a license.<sup>119</sup>

Alabama also adopted a licensing requirement for medical technologists in 1937.<sup>120</sup> This statute similarly imposes rigorous training requirements as a prerequisite for licensure.<sup>121</sup> One authority has commented,

the Alabama Act for medical technologists comes as close to the ideals set forth by the Council on Medical Education and Hospitals of the American Medical Association, and the American Society of Clinical Pathologists and the Registry of this Society, as any of the proposed statutory legislation that I have had the opportunity to review. There is in this Act not only the purpose of developing medical technologists of a very high standard, registered by the State of Alabama, but a provision in the Act which calls for the training schools to meet the requirements of the aforementioned medical organizations.<sup>122</sup>

Florida enacted a statute requiring the licensing of medical technologists in 1949.<sup>123</sup> The educational requirements of the Florida law also appear to afford satisfactory protection to the public health and welfare.<sup>124</sup>

inorganic chemistry—8; quantitative analysis—3; basic biological science—8; bacteriology—4. Additional college or university work which includes courses in the fundamental sciences may be substituted for two of the three years of experience in the ratio of 30 semester hours or equivalent quarter hours for each year of experience. Time spent in a school approved by the department . . . shall count as acceptable experience on a month for month basis.

CAL. BUS. & PROF. CODE § 1261 (Supp. 1959).

118. Merrill & Chapman, *supra* note 114, at 311.

119. Letter From E. F. Ducey, M.D.

120. Ala. Laws 1936-37 Extra Session, at 172; currently ALA. CODE tit. 46, §§ 151-67 (1940).

121. The prerequisites for licensure as a "medical technician" in Alabama are passage of an examination and satisfaction of the minimum educational requirements.

The minimum educational prerequisites shall be high school graduation or its equivalent and one year of college scholastic and laboratory work with credits in chemistry, bacteriology and biology . . . also . . . a full twelve months instruction in an approved training school for medical technicians. . . .

ALA. CODE tit. 46, § 159 (1940). An "approved" school is one approved by either the Council on Medical Education and Hospitals of the American Medical Association or the Board of Censors of the Medical Association of the State of Alabama. ALA. CODE tit. 46, § 166 (1940).

122. Levinson, *supra* note 95, at 80.

123. Fla. Laws 1949, ch. 25069, at 142; currently FLA. STAT. §§ 483.01-.20 (1959).

124. To receive a license as a medical technologist in Florida, an applicant must be twenty-one years of age; pass an examination; and, in addition:

Each such applicant must have completed at least two years of residence college

The most recent state to enact a licensing requirement for medical technologists is Hawaii in 1957.<sup>125</sup> Although, as noted previously, the Hawaiian statute apparently was adopted principally for the production of revenue rather than for the protection of the public,<sup>126</sup> in the statute the Hawaiian legislature did delegate to the Board of Health the power to

prescribe such rules or regulations as it deems necessary for the public health or safety respecting . . . the health, education, training, experience, habits, qualifications or character of persons to whom [licenses to practice medical technology may be issued]. . . .<sup>127</sup>

After several public hearings, the Board of Health adopted a set of governing rules and regulations early in 1959. According to one close observer, the rules which were adopted maintained the high educational standards approved by the American Medical Association.<sup>128</sup>

#### VI. A PROPOSAL

More efficient regulation of the profession of medical technology seems a necessity, and licensure appears to be the most effective method available. However, the American Medical Association, the American Society of Clinical Pathologists and the American Society of Medical Technologists are clearly correct in their opinions that the only satisfactory licensing statute is one which *adequately* protects the public health and welfare.<sup>129</sup> Any statute which prescribes less than adequate training requirements harms rather than helps the public interest, because it gives legal sanction to unsatisfactory performance in clinical laboratories. The problem thus is one of drafting a licensing statute which provides satisfactory protection to the public health and welfare and still is practicable in view of the existing shortage of competent medical technologists.

A reasonable solution to this problem would be a licensing statute which divides clinical laboratory personnel into two or more categories. To be classified as a "medical technologist" one would be required to satisfy rigorous educational requirements comparable to

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work, consisting of a minimum of one-half the work acceptable for a bachelor's degree granted on the basis of a four year period of study, in a recognized college or university approved by the board; and in addition each applicant must be a graduate of an approved [by the board of examiners in the basic sciences] school for training medical technologists or must have received equivalent training during a continuous period of not less than two years in an established medical or clinical laboratory approved by the board.

FLA. STAT. § 483.08 (1959).

125. HAWAII SESS. LAWS 1957, Act 316.

126. See note 91 *supra*.

127. HAWAII REV. LAWS § 46-15 (1955); HAWAII SESS. LAWS 1957, Act 316.

128. Letter From J. L. Tilden, M.D., to the College of American Pathologists, April 8, 1959, on file with the College of American Pathologists.

129. See text accompanying note 100 *supra*.

those presently considered necessary by the medical profession.<sup>130</sup> In addition, such a statute would establish a class of "laboratory technicians" for which less training and more laboratory supervision would be required. These workers with less training would perform certain clinical laboratory procedures which could be classified as *simple* or *routine*—those which require only knowledge of the mechanics of the procedure rather than an understanding of its scientific basis. In performing these routine procedures the laboratory technicians would be closely supervised by technologists with more training and experience. Thus, such a statute would provide adequate protection for the public and yet be practicable under present circumstances.<sup>131</sup>

At least one writer has criticized such a system of classifying technologists, arguing that *no* laboratory procedures should be considered simple or routine.<sup>132</sup> "There is too much involved," it is argued, "to allow performance of these tests to deteriorate to the mere pouring together of specimens and reagents and empirically noting results."<sup>133</sup> Nevertheless, there is reliable authority for the proposition that certain procedures are sufficiently simple and routine to be performed, under close supervision, by laboratory technicians with less training than that required for medical technologists.<sup>134</sup>

In apparent recognition of the desirability of classification of clinical laboratory personnel, the General Extension Division of the University of Minnesota, in cooperation with the College of Medical Science, inaugurated in 1951 a course of study for medical laboratory assistants.<sup>135</sup> This twelve-month course, which includes six months

130. See text accompanying note 26 *supra*.

131. For an interesting and informative discussion of classification of clinical laboratory workers, see Claussen, *Some Ideas on Possibilities for Future Classification, Training and Standards of Medical Technologists*, 22 *AMERICAN JOURNAL OF CLINICAL PATHOLOGY* 918 (1952).

132. Merrill & Chapman, *supra* note 114, at 313.

133. *Ibid.*

134.

Studies have shown repeatedly that a considerable portion of the (Medical Technologist's) time is used for (simple routine laboratory procedures) which might be relegated to (Laboratory Aides).

Claussen, *supra* note 131, at 919. See Memorandum Regarding Licensure of Clinical Laboratory Workers, Particularly of Clinical Chemists, Prepared by Harry P. Smith, M.D., Professor of Pathology, Columbia University, March 1, 1958, on file with the College of American Pathologists.

Such a system of regulation would not, however, be without difficulties.

The greatest problem . . . in establishing classifications, would be the control of limitations of work within the classified groups, and the establishment of a salary system commensurate with the educational background and duties performed within the limits of the class or group.

Claussen, *supra* note 131, at 919.

135. Hovde, *A Medical Technology Training Program Study*, 23 *AMERICAN JOURNAL OF MEDICAL TECHNOLOGY* 184, 190 (1957).

training on campus and six months experience in a clinical laboratory,<sup>136</sup> "represents an attempt to provide satisfactory training for laboratory workers at a sub-professional level. . . ." <sup>137</sup> The requirements for admission to the course are graduation from high school with college aptitude ratings of fifty or higher and completion of a high school chemistry course.<sup>138</sup> After six years experience with the course, the following evaluation was made:

With careful selection of students, it is possible in 12 months to teach a few basic laboratory techniques, limited in scope, in such a way that the students can learn these procedures well and can do these tests competently. The laboratory aides are employed in situations where they are able to make a real contribution to laboratory service by doing time-consuming "routine" tests, thereby allowing time for the medical technologist to perform more exacting and demanding procedures.<sup>139</sup>

Therefore, through the establishment of a special class of laboratory technicians, similar to the graduates of the Minnesota course for medical laboratory assistants, a licensing statute would be practicable and still adequately protect the public by insuring that clinical laboratory tests are performed by persons with adequate training and supervision.

A difficult question which must be decided in drafting a desirable licensing statute is whether any medical technologists should be excluded from coverage by the statute. In order to provide the most satisfactory protection for the public health and welfare, it would seem that *all* medical technologists should be required to satisfy the requirements for licensure. However, at least three of the four states which presently have a licensing requirement exclude from coverage technologists employed by a physician to perform laboratory tests for his own patients.<sup>140</sup> Although initially such an exclusion appears to be undesirable because of possible danger to the public, it may be justified by the circumstances surrounding the profession of medical technology. The existing shortage of competent medical technologists<sup>141</sup> probably necessitates this exclusion in order to make the licensing statute practicable. For example, a doctor prac-

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136. BULLETIN OF THE UNIVERSITY OF MINNESOTA, *Course in Medical Technology*, 1959-61.

137. Hovde, *supra* note 135, at 191.

138. BULLETIN OF THE UNIVERSITY OF MINNESOTA, *Course in Medical Technology*, 1959-61. "College aptitude rating" is the average of the high school percentile rank and the college aptitude percentile rank.

139. Hovde, *supra* note 135, at 191.

140. ALA. CODE tit. 46, § 158 (1940); CAL. BUS. & PROF. CODE § 1241; FLA. STAT. § 483.03 (1959). The Hawaiian licensing statute delegated to the Board of Health the power to prescribe regulations governing the licensing of medical technologists. HAWAII REV. LAWS § 46-15 (1955); Hawaii Sess. Laws 1957, Act 316. These regulations by the Hawaiian Board of Health could exclude from the licensure requirement technologists employed by a physician to perform laboratory tests for his own patients.

141. See text accompanying note 37 *supra*.

ting in a small rural community should not be denied the opportunity of having modern laboratory tests performed for his patients simply because he is unable to persuade a licensed medical technologist to come to work for him. Furthermore, there is not as much danger to the public in the situation where a technologist is employed by a physician to perform laboratory tests for his own patients as there is in the usual situation where many medical technologists are employed in a clinical laboratory to perform tests for several physicians. In the former case, the physician is better able to judge the competence of the medical technologist performing the laboratory test; and, in fulfilling his moral as well as legal obligation to his patients, he will not rely on the results of the test in making his diagnosis unless he is satisfied that his technologist is competent. Therefore, it is reasonable to conclude that the exclusion from coverage by the statute of technologists employed by a physician to perform laboratory tests for his own patients may be a necessary concession, as is the establishment of a special class of laboratory technicians, to make the licensing statute practicable, but a concession which does not substantially endanger the public health and welfare.<sup>142</sup>

#### VII. CONCLUSION

"[S]uccess in medical practice demands that clinical laboratory work be done by well qualified technicians."<sup>143</sup> Regulation of the profession of medical technology through licensure would greatly improve the standard of performance by medical technologists. Because of the existing shortage of competent medical technologists, however, a practicable licensing statute would probably have to establish more than one classification of clinical laboratory personnel. Such a multi-classification statute would be feasible and would afford adequate protection to the public health and welfare by requiring a high degree of training for medical technologists and close supervision over the prescribed activities of those laboratory technicians with a lesser amount of training.

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142. Though not required to do so by statute, most physicians would certainly endeavor to employ *licensed* technologists, if possible, as a matter of practice. In California, where the licensing statute exempts technologists performing tests for an individual physician's patients only, it was recently observed:

In spite of this exemption, there is an increasing use by private physicians of licensed technicians. As more such technicians become available, this practice will no doubt become more general. Unless a physician has the time to perform his own laboratory tests, good practice dictates that he have a licensed technician for this work.

Merrill & Chapman, *supra* note 114, at 313.

It should be noted that this exclusion need not be permanent. Should the present shortage of qualified medical technologists cease to exist, as a result of a desirable licensing statute, it would be possible to remove the exclusion and require all medical technologists to be licensed.

143. *Id.* at 313.



