

# Assessing the Practice of Laboratory Medicine

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The healthcare continuum has been depicted in a number of ways in an effort to understand and improve the efficiency and effectiveness of healthcare. Numerous continuum models have evolved over the years including the use of service levels: e.g., prevention, acute care, long-term care; academic levels, e.g., health science center, community hospital, clinic; and provider levels, e.g., physician, CLS, nursing, pharmacy, just to name a few. The provider model is of particular interest to those in the CLS profession. The primary manner in which this continuum is modeled is to organize providers by the focus of their work, e.g., macro, micro. Aday and colleagues have developed a research continuum model that is divided into five blocks.<sup>1</sup> These five blocks may be described as:

1. Basic disciplinary research that focuses on theory development;
2. Biomedical research that focuses on organisms;
3. Clinical research that focuses on patients;
4. Health services research that focuses on the system or institution; and
5. Public health research that focuses on the community, e.g., environment, population.

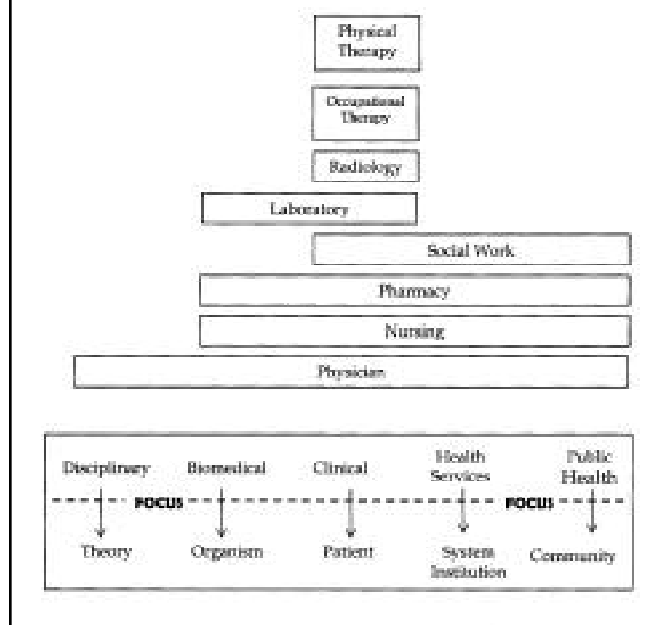
A modification of this continuum model helps us understand how and where along this continuum some of the major healthcare disciplines have focused. Figure 1 illustrates where eight of the major healthcare disciplines occupy the continuum of care. There are some exceptions; however, this model reflects the most common of practices seen today.

As expected, physicians work along all aspects of the continuum. For example, physicians are involved in developing theory about disease states and treatment models as well as human behavior theories in relation to health status. The biomedical, often referred to as basic science, component of the continuum finds physicians working with organisms in

research laboratories in an effort to develop new testing methods and drugs. Their involvement in the clinical component of the continuum is self-evident. Physicians have become increasingly active in the health services component of the continuum as they are in positions to evaluate equity, efficiency, and effectiveness of the healthcare system. And lastly they have been instrumental in the public health arena. Many physicians have lead public health efforts to prevent diseases and improve the environment.

Nursing has expanded its scope along the continuum in recent years. This expansion is credited with the growth of nursing and its impact on the healthcare system. Nurses have become increasingly involved at the biomedical level mostly in research activities such as clinical trials and in their work with pharmaceutical companies. As with physicians their work in the clinical part of the spectrum is evident and the place where nursing originated. In recent years nursing has become increasingly involved with healthcare systems including working as administrators of healthcare facilities. Nurses are extremely involved in evaluating all types of healthcare

**Figure 1.** Provider model of continuum of research and practice



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services and programs and have become adept in health services. Nursing has also been recognized as a cornerstone of public health and its effectiveness in preventing diseases.

Pharmacy has historically been vested in the biomedical and clinical components of the spectrum. With the introduction of the PharmD degree, pharmacy has expanded its place on the continuum to include health services and public health. In addition, their depth in the clinical arena has been greatly expanded. Individuals possessing the PharmD are considered practitioners who participate in grand rounds, prescribe medications in some states, and can bill for their services separately.

Social work is another discipline that has experienced tremendous growth over the past few years. This discipline has recognized patient need and opportunities and has expanded its place along the continuum to cover clinical, health services, and public health domains. Social workers can be seen working in clinical settings, with health systems, and in public health settings. They are well recognized and the demand for social workers continues to grow. Clinical social workers are considered practitioners and bill third parties for their services.

Radiology, occupational therapy, and physical therapy have limited their involvement along the continuum to the clinical aspects of healthcare, although there is a great deal of discussion going on as to what their future role should be and how they will develop their profession to fit into the healthcare delivery models of the future.

The laboratory has historically occupied the biomedical and clinical portions of the continuum. Some would argue that the bulk of the laboratory discipline is biomedical while others would argue that it is clinical. More than likely it is both in that there is a biomedical focus with a strong application to the clinical portion of the continuum. Another observation is that laboratory professionals have been silent partners in the public health arena. Public health laboratories have existed for many decades; however, laboratory personnel are rarely recognized as being instrumental in public health achievements despite their significance.

Advances in analytical laboratory testing coupled with the tremendous advances in technology have created a contemporary laboratory that may need to rethink the services it offers. Few would argue that the testing process itself has

been simplified by automation and the demands on the individual operating contemporary laboratory equipment have been relaxed. On the other hand, management of laboratory data, or the practice of laboratory medicine, has increased the demands on the laboratory, thus pushing for a practitioner of laboratory medicine. These demands are placing great stress on the laboratory profession to expand beyond its historical position on the continuum of care. What is not clear is the scope and depth of that expansion. Several questions beg to be answered. First is there a need for growth along the continuum? Second, is there an interest in laboratory personnel to expand beyond the current status and if so in which direction(s)? Third, if there is a need how should this expansion take place? Some argue that a curriculum must first be developed to train the laboratory medicine practitioner while others think that a model in a major setting must be developed experientially and then converted to a formal curriculum for others to adapt. There are also the issues of educating other healthcare professionals about this advancement and teaching them how to best utilize the laboratory medicine practitioner. And of course there is the issue of reimbursement and getting third parties to recognize the practitioner and reimbursing them for their services.

Since healthcare is not static but rather dynamic, change is more than likely to occur. The natural resistance people have to change complicates change. Recognizing the dynamics of healthcare, and our human resistance to change, a well-developed model is required to guide the profession through whatever growing pains it will experience.

The American society is again growing restless with the current healthcare system. Society's unrest and physicians' voices are two great forces that effect how healthcare is delivered. The sluggish economy of the past few years has highlighted how many people do not have access to healthcare. In response, physicians are now discussing the need for universal care. The laboratory has an opportunity to play as big or small a part in future healthcare delivery models as it chooses, however, it must be an informed decision based on rationale and justifiable data that can demonstrate improved outcomes. If left to chance the outcome may not be in the best interest of patients or the profession.

## REFERENCE

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