LIFE INSURANCE AND THE LABORATORY

Introduction

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This special issue of the Journal of Insurance Medicine addresses an interesting set of considerations relative to laboratory applications and multi-phasic screening. A combination of circumstances has brought us to the point where a careful scrutiny of diagnostic and laboratory data available to medical underwriters is clearly called for. Learning “more than we need to know” in clinical medicine and in insurance medicine requires a special set of skills to properly react and to integrate detailed multi-system data into rational decision-making. To the pursuit of these considerations our editor has thoughtfully planned this symposium and the various contributors have mustered their unique insights and experience.

Multi-phasic screening as a laboratory and clinical tool has appeared in the past two or three decades as an outgrowth of technological advances facilitating automation, routinization and mechanical/paramedical substitution for individual physician attention (or augmentation thereof). In the clinic, interactive programs permit computer terminals to perform evaluations of medical history and to produce printouts of risk patterns and diagnostic possibilities. A myriad variety of fiber-optic, ultrasound, computer-assisted and automated “user friendly” diagnostic devices facilitate the generation of volumes of data only dreamed about a few decades ago, and often with only minimal involvement of a “hands on” physician. Early enthusiasm for the multi-phasic clinical examination was materially abetted by the studies of Dr. Morris F. Collen et al, and was widely heralded as a wave of the future in long-term individual health care.

About that time, for reasons of convenience, cost and some entrepreneurial enthusiasm, the paramedical examination began to burgeon as a tool in medical selection. Solid-state, portable electrocardiographic instrumentation and blood chemistry screening panels were natural supplements to the more limited examinations. Automated laboratory processes for hematologic and chemical analyses through sequential multiple analysis (SMA) permitted assessment of 6, 12, 20 and more indices from a single, small blood sample quickly, accurately and at remarkably low cost. In recent years many companies have materially increased the number of blood chemistry screening tests performed by requiring blood tests for HIV antibody (or T-cell ratio) at relatively moderate levels of insurance risk and by doing a chemistry panel upon each specimen submitted. And, of course, attending physicians’ statements include increasing volumes of data generated in the automated clinical environment.

When laboratory studies consisted of a few specific procedures individually performed to confirm a clinical diagnosis, it was not so important to maintain an awareness of the definition of a “normal” value in a biological system, nor to consider the extent of standard deviations from the mean and to evaluate the degree of their overlap between diseased and healthy populations. One seldom heard discussions of relative sensitivity or specificity of measured deviations from the norm in relation to presence of disease. The predictive value of a positive (or negative) test was a rather ethereal element of the trade of the academician, and not the clinician or insurance medicine specialist.

Obtaining volumes of information about clients imposes obligations upon the requesting party. Consent for the invasive phlebotomy must be obtained, and that consent must be sufficiently detailed so that the client actually has some understanding of the procedures proposed. When the data is scientific in nature it is difficult to be certain that the non-scientist has a grasp on the significance of what is being done. If the factors to be tested are associated with behaviors which are sometimes viewed pejoratively in society, then informed consent is particularly important and confidentiality issues become critical. And what should we do with the results? Most of us have a mechanism in place to respond to the rare result which seems to be an unsuspected adverse finding of ominous significance. A negative underwriting action should not be the only outcome of detecting an ominous shadow on a chest X-ray, or of the presence of a dramatic elevation of the blood glucose or the serum creatinine. For the protection of the unsuspecting examinee, somebody’s got to be told.

Clear-cut questions of consent, confidentiality and disclosure are handled with considerable care and sensitivity in our industry, thanks in some part to the contribution of the Medical Directors. But are there unsatisfied obligations? Now that it is accepted that the relationship between serum lipid levels and the risk of coronary artery disease is continuous and graded, should we notify our examinees if they fall into the upper quartile of risk? Or maybe the upper 10%? Or is there no obligation beyond an underwriting action? Having initiated the generation of a battery of data which may have personal prognostic implications unknown to our applicants, what ethical questions may our “file it and forget it” procedures raise?

The future of diagnostic technologies offers intriguing possibilities overshadowing even the current complexities. Defining various genetic markers and unraveling the phenotypic coding of disease-related gene loci, with the possibilities for genetic engineering and recombinant DNA applications for diagnostic and therapeutic tools, raise a whole new field of technological considerations which will
influence insurance medicine and its applications to selection processes, prognostic exercises and assessment of health care delivery systems and procedures. Exciting, challenging days lie ahead, just around the corner, and with them will come even tougher philosophical and ethical questions.

Today, when the very next case I pick up might contain a gamut of data for which chance alone may statistically dictate the occurrence of one or more "abnormal" variable(s), then I'd better maintain a healthy awareness that disease and probability of disability or death do not relate directly to very many of the data we now often see. What is the practical significance of a deviation of the blood calcium level (which I didn't really want to know anyhow) in a seemingly healthy applicant for insurance? What do I do with an isolated elevation of an enzyme level? With what combination of other risk factors can I accept an elevated cholesterol/HDL ratio? How high can I let it go and still ignore it? When do I order it repeated (and risk losing the case to competition due to the inconvenience and delay)? These are practical, everyday questions we face in increasing numbers. I do not propose to provide any answers, and the contents of this issue will not provide simple formulae to solve each situation. But this unique review will give the readers another chance to enhance knowledge and to examine the elements essential to improving the quality of decision in each individual case. The contributing authors write from a wealth of practical experience and a keen awareness of the kinds of questions for which we seek enlightenment. These articles will serve as an authoritative reference source for some time and will stimulate reassessment of specific underwriting requirements and actions by the attentive reader.

References


