Drivers of Clinical Practice in the ‘Omics’ Era

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Personalized Medicine vs Guideline-Based Medicine

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Two philosophical approaches to the implementation of optimal health care are emerging—the use of evidence-based guidelines and the application of personalized (or “precision”) medicine. Even though both approaches have important merits, they both also can present conflicting priorities that must be reconciled before they can be best leveraged.

Medical professionalism in the new millennium: a physicians’ charter

Physicians today are experiencing frustration as changes in the health-care delivery systems in virtually all industrialised countries threaten the very nature and values of medical professionalism. Meetings among the European Medical Associations, the American Board of Internal Medicine, and other organisations representing medical professionals internationally, have stressed the need to reaffirm the principles and values of medical professionalism. These principles are fundamental to maintaining patient care within a context of trust and professional values. A charter on medical professionalism to be read in this issue of Annals and in The Lancet, together with a joint statement, will be distributed. The aim is to have the charter read by everyone involved in health care around the world, including patients. On page 246 of this issue, two perspectives set the stage for the charter. How many physicians worldwide will read the charter? Does this document represent a new chapter in the history of medical professionalism, or is it only a temporary expression of values that will go unheeded? We hope that at least some readers will be prepared to understand the significance of this discussion and to engage in a dialogue about the charter.

*Medical Professionalism Project*

To our readers: I write briefly to introduce the Medical Professionalism Project and its principal product, the Charter on Medical Professionalism. The charter appears in print for the first time in this issue of Annals and simultaneously in The Lancet. I hope that we will look back upon its publication as a watershed event in medicine. Everyone who is involved with health care should read the charter and ponder its meaning.
The Charter: Three Core Principles

1. Primacy of patients’ welfare
2. Patient autonomy
3. Social justice
The Charter: Ten Commitments

1. Professional competence
2. Honesty with patients
3. Patient confidentiality
4. Maintaining appropriate relationships with patients
5. Managing conflicts of interest
The Charter: Ten Commitments

6. Improving quality of care
7. Improving access to care
8. A just distribution of finite resources
9. Scientific knowledge
10. Professional responsibilities
Competence & Knowledge

- Do we know, and agree, on what this technology tells us?
- Do we know, and agree, on how to use it?

- Single gene sequencing
- Whole genome sequencing
BRCA1 and BRCA2: Cancer Risk and Genetic Testing

ON THIS PAGE

- What are BRCA1 and BRCA2?
- How much does having a BRCA1 or BRCA2 gene mutation increase a woman’s risk of breast and ovarian cancer?
- What other cancers have been linked to mutations in BRCA1 and BRCA2?
- Are mutations in BRCA1 and BRCA2 more common in certain racial/ethnic populations than others?
- Are genetic tests available to detect BRCA1 and BRCA2 mutations?
- Who should consider genetic testing for BRCA1 and BRCA2 mutations?
Clinical Interpretation and Implications of Whole-Genome Sequencing

Frederick E. Dewey, MD; Megan E. Grove, MS; Cuiping Pan, PhD; Benjamin A. Goldstein, PhD; Jonathan A. Bernstein, MD, PhD; Hassan Chaib, PhD; Jason D. Merker, MD, PhD; Rachel L. Goldfeder, BS; Gregory M. Enns, MB, ChB; Sean P. David, MD, DPhil; Neda Pakdaman, MD; Kelly E. Ormond, MS; Colleen Caleshu, MS; Kerry Kingham, MS; Teri E. Klein, PhD; Michelle Whirl-Carrillo, PhD; Kenneth Sakamoto, MD; Matthew T. Wheeler, MD, PhD; Atul J. Butte, MD, PhD; James M. Ford, MD, PhD; Linda Boxer, MD; John P. A. Ioannidis, MD, PhD; Alan C. Yeung, MD; Russ B. Altman, MD, PhD; Themistocles L. Assimes, MD, PhD; Michael Snyder, PhD; Euan A. Ashley, MRCP, DPhil; Thomas Quertermous, MD

Figure 1. Determinants of Health and Their Contribution to Premature Death.
Adapted from McGinnis et al.¹⁰
Quality, Access and Cost

- How long does it take to get a test result?
- What are the out of pocket costs for the patient?
- Can I rely on the results?
Honesty & Confidentiality

- New information
- Do patients want to know?
Take Away Messages

- Most clinicians, especially young doctors, are conceptually ready to embrace genomic medicine
- There seems to be little consensus about its use
- Concerns about access to tests & turnaround time
- Challenged by how to interpret the information, and communicate it easily and simply to patients
- Worried about incidental findings