

## Editorials

• Unidentified harms. Subsequent to recommendations, follow-up studies raise questions about adverse effects of medications, such as the potentially deleterious cardiovascular effects of calcium supplementation.<sup>15</sup> Studies can also raise questions about harms associated with technology (such as radiation exposure from computed tomography) and testing (such as the harms of interventions initiated based on prostate-specific antigen testing exceeding the benefits of this testing).<sup>16</sup>

• Economic factors. Economic conflicts of interest encourage harmful or unproven technologies and treatments (e.g., pharmaceutical companies that pressured physicians to expand use of erythropoietin)<sup>17</sup>; public pressure creates demand (e.g., increased prostate-specific antigen screening in response to widespread fear of prostate cancer) and high-profile media coverage of medical “breakthroughs” may be unwarranted or premature.

Where do these observations leave us? Fortunately, primary care physicians are well-adapted to medical uncertainty. To minimize the dizzying impact of changing recommendations, physicians should focus on patient-oriented evidence, and not be distracted by disease-oriented evidence.<sup>1</sup> Physicians should become familiar with the basic principles of good research, and avoid drawing premature conclusions from observational studies or studies with design flaws.<sup>18</sup> Physicians should also recognize the pharmaceutical industry’s influence on research studies and practice recommendations.<sup>19</sup>

Adherence to current standards of care and shared decision making should be coupled with a well-reasoned reticence in responding to new findings.<sup>18</sup> Clinical experience matters, and the insight a family physician acquires from knowing patients (and often, their families) is another invaluable tool. Treatments with a strong track record should be considered proportionately more trustworthy when a new study confirms that treatment’s benefit.<sup>10</sup> Educating our patients, applying evidence judiciously, and avoiding undue influences will help us avoid the pitfalls of the ever-changing practice of medicine.

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End of Part 1