SECTION I
Overview of Pharmaceutical Medicine
CHAPTER 1
The Practice and Practitioners of Pharmaceutical Medicine

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Pharmaceutical medicine is unquestionably a young specialty, formalized within the past forty years or so, and its diversity is probably greater than most medical specialties. It is also a specialty that is frequently misunderstood by those outside it.

The diversity of pharmaceutical medicine

Elements of what we regard today as pharmaceutical medicine have resided in the specialties of general and/or internal medicine for a long time. Some of these may be found in the chapters that follow, but obvious examples include Lind’s clinical trial (see the index) and Withering’s bit of pharmacognosy when he identified Digitalis purpurea as a treatment for what was then called dropsy. Moreover, every prescription written is a clinical trial of some sort, where \( n = 1 \), because human beings are anisogentic.

Pharmaceutical medicine is also a discipline that overlaps with many others: Techniques shared with the fields of epidemiology and public health are obvious. Moreover, like orthopedics or dental surgery, there are borrowings from as far afield as the discipline of engineering (e.g., adaptive clinical trials designs, and some aspects of pharmaceutics). Ever since the need to demonstrate efficacy, tolerability, and purity in drug products (and their equivalents in diagnostics and devices), pharmaceutical medicine has been evidence-based. It is interesting that only lately have the more venerable medical specialties adopted an interest in evidence-based approaches to clinical practice, slowly catching up with pharmaceutical physicians!

The diversity of the practitioners

It is therefore unsurprising that the diverse discipline of pharmaceutical medicine is populated by people with varied educational backgrounds. There can be no doubt that clinical experience is always a good prelude to a career in pharmaceutical medicine. But this experience can be found among dental surgeons, medical practitioners, nurses, pharmacists, physical therapists, psychologists, and many other members of the allied health professions; satisfying careers in pharmaceutical medicine, and international distinction, are available to people with all these sorts of early training. For those with a lifelong thirst to learn on a cross-disciplinary basis, it is this breadth of intellectual interaction that forms one of the greatest attractors to the specialty.

As a generalization, one difference between pharmaceutical medicine and other medical specialties is the sizes of the teams that one works within. General practitioners, for example, probably work with six (or so) other types of professional (perhaps nurses, health visitors, administrators, their hospital colleagues, social workers, and, doubtless from time to time, the judiciary).
Radiologists might add radiographers and physicists to this list and delete health visitors and social workers. But in comparison, the following list of nouns comprises pharmaceutical medicine, all of which have their own specialists (in no particular order): ethics, chemistry, pharmacology, computational modeling, pharmaceutics, project planning, toxicology, regulatory affairs, logistics, quality control engineering, biostatistics, pharmacogenomics, clinical trials, politics, economics, public relations, teaching, pharmacovigilance, marketing, finance, pharmacokinetics, technical writing, data automation, actuarial analysis, pharmacoconomics, information science, publishing, public health, international aid and development, intellectual property, and other forms of law; and this is not an exhaustive list. Conversance, if not advanced capability, with these specialists should be an early goal of any career in pharmaceutical medicine.

Surely, there is no other industry where as many diverse professionals all have the sick patient as their ultimate concern?

Problem-solving in the pharmaceutical enterprise is often by teamwork. For physicians and pharmacists, the greatest difference between this specialty and all others is the value placed on their versatility and adaptability. Moreover, these specialists must learn that in pharmaceutical medicine they are unlikely to be as dominant in decision-making as in ordinary clinical practice. Knowing when to lead, when to follow, and when to get out of the way, rather than presuming a leadership role in all situations, will always be valued.

**Organizations and educational systems**

There is no need to embark on international disputes about who got where first. For more than thirty years, most countries in the developed world have had one or more national societies or academies devoted to the specialty of pharmaceutical medicine. All hold education and training as central to their mission, whereas some societies engage in the regulatory or political debates over particular issues.

In the European Economic Area (the European Union plus Iceland, Norway, and Lichtenstein) together with Switzerland, pharmaceutical medicine is becoming recognized as a specialty deserving of its own program of specialist training with accredited certification, through a Certificate of Completion of Training (CCT) or equivalent. To date, the United Kingdom, Ireland, Belgium and Switzerland are European countries that have formally recognized the specialty of pharmaceutical medicine.

These higher qualifications are attained after obtaining a more general knowledge base for the specialty. The latter has been examined by the Royal Colleges of Physicians (RCP) in the United Kingdom for more than thirty years and its Diploma in Pharmaceutical Medicine (DipPharmMedRCP) qualifies the holder as a Member of the Faculty of Pharmaceutical Medicine (MFPM) within those colleges. The Belgian Academy of Pharmaceutical Medicine and the Basel, Switzerland-based European Centre for Pharmaceutical Medicine (ECPM) with three associated Universities (EUCOR) have diplomas that are recognized reciprocally with the DipPharmMedRCP. Mexico has also recognized the specialty of pharmaceutical medicine. Progress towards an analogous goal (“Board certification”) is being made in North America. The international compatibility and recognition of these qualifications would seem essential in a world where drug development is being increasingly globalized, drug regulation has become increasingly harmonized, and many employment opportunities are in companies that are now international conglomerates.

This is not to say, however, that qualifications in pharmaceutical medicine are uniquely enabling to the practitioner. All of the long list of sub-specializations mentioned above have their own diplomas and degrees. Human resources departments have to be well-informed about the diversity of formal recognitions held by the many specialists who can contribute to the work of the industry and its regulators.

Finally, in pursuit of evidence for all the optimism above, it should be noted that in the year
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2000, in the (then) American Academy of Pharmaceutical Physicians (AAPP), more than 90% of members indicated satisfaction with their choice of specialty. This was unlike the results of similar surveys conducted within other medical subspecialties. What is now the Academy of Pharmaceutical Physicians and Investigators (APPI), and the Association of Clinical Research Professionals (ACRP) thrive, and have transatlantic activities.

Further reading

Useful websites include: www.fpm.org.uk and www.acrpn.org (both accessed April 20, 2010).