The Compendium of Hardknocks: A Window into the History of Family Medicine

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When I was a medical student, my closest friend showed me a spiral-bound handbook she had won in a raffle at a conference the year before. It was chock-full of clinical pearls yet small enough to fit into her white coat pocket. She explained that it was created by residents at the Lancaster General Hospital (LGH) Family Medicine program. We didn't know then that we would end up co-residents at that very program, or that the book in question, *The Compendium of Hardknocks*, would be a lodestar for us during busy clinic days and long overnight shifts.

The copy I have now, which was published this year (2024), is the 39th edition of the Compendium. It is 199 pages and covers common topics in family medicine, including pediatrics, obstetrics, cardiology, endocrinology, nephrology, infectious disease, among other things. According to Dr. Christine Stabler, a graduate and former (long-time) faculty member of the program, the Compendium was first published in 1982 or 1983, when she was a PGY-3. It was part of an orchestrated effort on her class's part to make call shifts safer for interns.

Prior to that year, interns did their overnight call shifts alone at the hospital, where there were no other seniors, and the only attendings in-house were the emergency room doctors. Dr. Stabler's class advocated for a senior to be present during call shifts; in addition, they created a brief resource with common admission orders, differentials for common complaints like chest pain, and guidelines for common floor calls, such as new-onset fever or intractable pain. This encouraged more uniformity of clinical approaches and also provided interns with a guide to consult on busy nights (Christine Stabler, MD, phone conversation, October 18, 2024).

The Peripheral Brain

Western medicine has a long history of handbooks and pocket guides—the "peripheral brains" that doctors toted around with them to provide references in the hospital or on home calls, when textbooks were not available.[1] These books were used as long ago as the early 1800s. One example is the book *The Physician's Vade-mecum* by the British physician Robert Hooper (*vademecum* being a Latin term to describe these kinds of pocket guides, translating to "go with me"). This was published in 1809 and was grouped into helpful categories like *Pyrexiae* (fevers), *Exanthemata* (rashes), *Spasmi* (spasms), along with diagnostic criteria and instructions for mixing medications for treatment.[2] While the descriptors and cures within may be puzzling to the modern reader—for example, knowing what we know now of diabetes, it is odd to think of it classified as a spasm—the overall layout is easy to follow and not so different from a modern *vademecum*.

The contemporary resources that clinicians are likely most familiar with are books like *Pocket Medicine*, the *Washington Manual*, the *Sanford Guide to Antimicrobial Therapy*, or the *Harriet Lane Handbook* for pediatrics, most of which were in use at the time of the initial creation of the Compendium (Susan Mellinger, MD, phone conversation, September 28, 2024). Another interesting addition to these mainstream publications was the phenomenon of personal peripheral brains—medical students and residents would make their own *vademecum* out of a notebook or small binder, which were sometimes provided to them by their institutions. These DIY pocket guides were created by a learner to cater to their own individual/institutional needs rather than the broad general overviews provided by the published pocket guides (Roberta Millard, MD, phone conversation, October 8, 2024).

The Compendium of Hardknocks is, then, by no means, a unique occurrence when taken in the context of the era in which it was created. It follows that during a time when UptoDate (1992) and PubMed (1996) did not exist and when the norm for on-the-fly references was small published handbooks or even personally curated notebooks, residents took it upon themselves to write another manual unique to their situation: a document whose audience fell somewhere between those of the published and the personal handbooks. The fact that the Compendium is resident-led is not even necessarily that distinctive—the *Washington Manual* and *Harriet Lane Handbook,* for example, are well-known for being resident-led publications. However, it does offer several insights that the other handbooks do not.

Firstly, as a publication made by and for residents at LGH, examination of Compendiums through time provides some understanding of what it has been like being an LGH resident over the years and how that has changed. Secondly, as a publication covering broad topics, it shows us how much medicine has changed, specifically in the fields of internal medicine, obstetrics, and pediatrics. Lastly, it serves as a document of the scope of family medicine training in the past thirty-nine years.

THE LGH FAMILY MEDICINE RESIDENCY

The residency at LGH was founded in 1969, with its first class starting in 1970. From its inception, the model included outpatient and inpatient experience in downtown Lancaster, PA serving a largely urban underserved population, as well as a rural practice in Quarryville, PA (a town in southern Lancaster County).[3] By the time the Compendium was created, the program had become well-established within the hospital and the community.

Unfortunately, I was unable to find a copy of the first edition, but I did find a second edition. It is a slim booklet, no fancy cover or diagrams. Its length is only 17 pages (compared to

the 199 pages of the thirty-ninth edition). The topics were broad but encompass mostly bullet-point guidelines for a handful of emergent situations in adult medicine, obstetrics, and pediatrics.

As it is so short, the second edition of the Compendium provides only glimpses into residency in the 1980s. Most telling is probably the breadth of topics it covers in such a small space: cardiology (mostly acute coronary syndrome and congestive heart failure), pulmonology (COPD/asthma), labor & delivery, and pediatrics (including some neonatology basics). There are a few LGH-specific points mentioned, such as the protocol for admitting non-residency patients who presented to the labor & delivery unit and a reminder that the local cardiology group preferred to do their own aortic arch imaging studies to rule out aneurysm.[4] However, on the whole, the document reads as an abridged version of the more popular circulating handbooks, listing basic management guidelines for common conditions.

Later editions of the Compendium impart a little more information about the daily lives of residents. The ninth edition (1994), for example, provides an overview of call responsibilities for interns, with the shift going from 4:30 PM to 8 AM.[5] For context, our overnight call shifts now are significantly shorter, running from 5:30 PM to 7 AM. The ninth edition also has a breakdown of all of the services the interns were responsible for admitting for while on-call. While we currently admit patients to our Family Medicine Residency ("Ward") service, the Internal Medicine Teaching Service, and Pediatrics, interns in 1994 were also admitting patients to the ICU under the Critical Care service, to the floors under an additional internal medicine service, and even completed admissions for the surgery department![5]

The ninth Compendium also includes insights into how medicine functioned in the pre-digital era—for example, while all billing is done virtually by our attendings now, it appears that in 1994, residents had to fill out "yellow charge sheets" for billing purposes. There are mentions

of dictating notes scattered throughout the book, with one page dedicated to specific instructions for dictating a note appropriately.[5]

However, despite all of the differences, some things haven't changed—for example, there is a delivery summary template in the book to guide residents dictating their delivery documentation; this is almost identical to the Epic dot phrase that all LGH residents use for our modern documentation. The thirteenth edition (1998) has a page called "Quarryville Secrets" that explains how to remove a fish hook[6]—something that is still covered early in the second year didactics, as this is a procedure that we ought to be familiar with as we start practicing at the rural Quarryville clinic. Perhaps my favorite part of the Compendiums from the 1990s is the inclusion of numbers for local takeout/delivery restaurants, as residents back then didn't carry computers in their pockets the way we do. In fact, two of the Quarryville restaurants in the directory still exist (with the same phone numbers) 30 years later!

Changes in Medical Science

Taking a step outward from Lancaster, the Compendiums also track significant changes in medical management over the last four decades. For example, in the second edition, the order list for management of dyspnea includes an aminophylline drip—this recommendation does not leave the Compendium until the thirty-third edition (published in 2018). Methylxanthines (aminophylline and theophylline) are no longer used as standard pharmacotherapy of COPD in the US, even though they had previously been used for decades. The most recent GOLD guidelines mention methylxanthines only in passing[7], as studies in the 2000s and 2010s have shown that they have minimal benefit at best in COPD or asthma exacerbations.[8,9] The new Compendiums reflect this shift, instead recommending steroids, antibiotics, and bronchodilators.[10]

While the COPD recommendation changes reflect our modern evidence-based approach to medicine, other changes speak to new technologies/therapies and yet others amend practices that may have actually been causing harm. An example of the former includes the guidelines for using streptokinase for myocardial infarction management in the second edition of the Compendium. In the early 1980s, the medical field simply did not have the access to cardiac catheterization that we do now; the first balloon-mounted coronary artery stent was placed in 1986.[11] An example of management that may have caused harm is the recommendation for using estrogen in asymptomatic postmenopausal women for prevention of osteoporosis and cardiovascular events in the thirteenth edition.[6] In 1998, the medical field did not yet know that estrogen hormone replacement therapy in postmenopausal women could actually increase the risk of thromboembolic events, breast cancer, and gall bladder pathology. Some of these previous standards of care may seem shocking to a modern reader, but medicine is a rapidly changing field, and having a handbook that has been around long-term actually gives us a map of how things have changed.

One could argue that other more widely circulated handbooks can provide the same timeline of medical practice over the past few decades. However, the Compendium is unique in that it is made by and for family doctors and, as such, it is broader than other handbooks that can be found on the market. As far as I know, there is no one handbook out there that contains order sets for first trimester bleeding alongside an overview of guideline-directed medical therapy for heart failure with reduced ejection fraction. It is a reference that includes both inpatient *and* outpatient management. Therefore, it can provide a more comprehensive view of how medicine has changed over the past few decades as a whole rather than looking at just one specialty at a time.

The Scope of Family Medicine Training

As a Family Medicine specific pocket guide, the Compendium also provides a way to observe the scope of family medicine training and practice over the years. The brief second edition had internal medicine, obstetrics, and pediatrics (although keep in mind its initial purpose—an on-call resource for hospital nights). By 1998, the 90-page thirteenth edition of the Compendium included emergency medicine, internal medicine subtopics (cardiology, pulmonology, endocrinology, hematology, etc), orthopedics/sports medicine, as well as pediatrics, a very robust obstetrics section, and gynecology. The 2024 thirty-ninth edition includes the above sections as well as evidence-based medicine, geriatrics, palliative care, pain management, psychiatry, and addiction medicine.[10] We were particularly proud to have added a new section on osteopathic medicine in this most recent iteration.

Family Medicine has changed in many ways over the past four decades—some areas have shown significant growth while others have not. For example, the relatively recent addition of the addiction medicine section in the Compendium reflects the growing proportion of primary care providers who are prescribing buprenorphine, which grew from 12.9 people per 10,000 population to 27.4 between the years 2010 to 2018.[12] Addiction Medicine as a formal field is a relatively new specialty, officially recognized by the American Board of Medical Specialties in 2016 (although, admittedly, physicians had been providing patients with addiction care years prior to this). Older Compendiums had a toxicology section that concentrated mostly on alcohol use disorder in the inpatient setting. By the thirty-third edition (2018), the toxicology section also included some brief guidelines on buprenorphine induction.[13] It was the thirty-seventh edition (2022) that finally included a section titled Addiction Medicine with well fleshed out recommendations for managing buprenorphine in inpatient and outpatient settings[14]—just in time

for the federal waiver requirement to prescribe the medication to be removed, making it easier for primary care doctors to prescribe buprenorphine in their practices.[15]

However, while the number of family doctors practicing addiction care may be growing, scope is shrinking in other fields—namely, reproductive health and hospital medicine.[16] The reasons for this are unclear but may be due to recent graduates prioritizing work-life balance, being less likely to be self-employed, or receiving less support from employers for providing full spectrum practice.[16] Somewhat paradoxically, scope of *training* has been studied elsewhere and is shown to be growing, even as scope of post-residency *practice* dwindles.[17] The breadth of the Compendium reflects the increasing scope of family medicine residency curricula and reminds us that family doctors are very capable of providing a multitude of services to our patients. It is our challenge now to figure out how to do that in a sustainable fashion within the current American healthcare landscape.

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