Continuity and Darwinism—Natural Selection, Extinction, or Adaptation

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A paper by Francis and colleagues[1] in this issue of the *Journal*, as well as other recent articles evaluating the effects of various models of "continuity clinics" on patient and resident satisfaction, remind me of Darwin's descriptions of the natural selection and extinction or adaptation of species. The authors of these studies grapple with permutations of curricula to achieve more "continuity," but toward what outcome is not always clear. I am reminded that successful training models follow the premise "Make training like practice" as much as possible, rather than "Make practice like training." I submit that "practice" today has changed significantly. The "continuity" we trained for in the past may be no longer apropos, nor even desirable.

In the 1960s and 1970s we taught that maximizing the 1:1 physician-patient encounters at all times and in all settings provided optimal continuity. I have defined continuity, in this context, as having all critically important information for the care and caring of the patient in a long-term, professional relationship between physician and patient. This continuity occurred in most practices, particularly for primary care physicians. It ensured consistent information transfer as the patient was treated in different settings by the same physician. It was comforting to the patient and rewarding for the clinician. With radical changes in practice patterns in the 1980s, which accelerated in the new millennium, continuity has declined significantly—almost disappearing (extinction?). Yet educators are still trying to recapture the essence of that continuity, with varying degrees of success, and to the consternation of the population (physicians or patients) who receive questionable value from such attempts. Findings from the study by Francis and colleagues[1] suggest that there is disagreement between what patients believe is good continuity and what students or residents value.

In 1970, when we created a new family practice residency at Sparrow Hospital/Michigan State University Medical School in Lansing, our number one goal was to "make training like practice." We implemented a nonrotational residency that, though quite successful at the time, has since been extensively modified to fit practice changes and Residency Review Committee requirements. Residents were placed into small teams (2 second-year, 2 third-year, and 2 incoming first-year residents) who cared for the same patient population throughout their training in almost all settings. Most of the residents' clinical training was derived from caring for this large patient population. Each resident had short, regularly occurring times for training in other specialty interests to fill individualized learning needs. Continuity in this setting with the identified resident physician was very high (85%), and with the physician team even higher. Continuity as defined then was optimized.

During the 1980s, practices changed with the arrival of health maintenance organizations (HMOs) that hired young primary care physicians to their largely ambulatory settings, simultaneously diverting them from hospital care. We witnessed a decrease in total continuity as physicians assumed fewer, but regular, working hours and spent less time on call. After-hours care occurred in urgent care centers and emergency rooms, while inpatient care migrated to the new specialists, "hospitalists." Continuity suffered another hit as medical records were no longer immediately available to the treating physicians. Current electronic health record systems still have challenges in compatibility and availability—a notable exception is the Veterans Administration VistA system, a nationwide success story of integrated electronic health records.

Today, we have an essentially new primary care practice paradigm. The old 1:1 physician-patient, 24/7 × 365-day relationship rarely exists now outside of some rural settings and concierge practices. The dinosaur general practitioner of yore has almost become extinct. In the study by Francis and colleagues,[1] different models of continuity clinic structure resulted in different continuity metrics, as measured from the patient point of view versus the resident point of view. In today's medical practices, perhaps only a tightly knit team, rather than a single primary clinician, can commit to an adequate level of continuity as measured from the patient's viewpoint.

With team continuity, we may be able to achieve critical components of the old continuity as well as greater patient satisfaction. Continuity might be further enhanced as our ability to capture, store, collate, integrate, and share critical medical information increases. Just using an electronic health record will not achieve that end. Rather we require a "virtual continuity" that facilitates access to critical patient information across all practice settings. Virtual continuity necessitates 3 components:

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1. *A repository of critical patient information and primary care management is maintained.* In this aspect of the medical home, a patient population clearly identifies with, and maintains, a long-term relationship with a group practice that manages the population's medical care.
2. *Critical patient information is accessible 24/7 by the patient and the practice, and shared as needed with other clinicians who become involved in the patient's care.* There must be more involvement in sharing information than simply passing along medical records. On-call providers from the system need to be available to work with other providers to interpret the nuances of the medical record and advocate for the patient's values.
3. *The virtual practice needs to include continual and participatory monitoring of care*. The patient cannot be transferred to others and forgotten. The practice must provide ongoing monitoring, via appropriate-level staff, for all treatments given outside of the practice. This monitoring may be 1 of the most effective and efficient assurances of appropriate care possible. There are too many examples of critical patient information dropped, ignored, or misunderstood, leading to preventable adverse outcomes. Technological initiatives with telemedicine make this ongoing monitoring feasible. Improved reimbursement systems and savvy business managers may make it cost effective.

Such a proposed Darwinian adaptation of continuity can move us into the more complex, virtual continuity of today. Whether continuity is measured from the patient or resident point of view, training for actual practice requires that new continuity structures be taught during residency, particularly primary care residencies. Next research steps should measure quality of care given to populations of patients, in these virtual continuity models, both by physicians in training and after graduation from residency. This also should include the provision of high-value care necessary to reduce health disparities and promote cost effectiveness.

References

1 Francis MD, Wieland ML, Drake S, Gwisdalla KL, Julian KA, Nabors C, et al. Clinic design and continuity in internal medicine resident clinics: findings of the Educational Innovations Project Ambulatory Collaborative. *J Grad Med Educ.* 2015;7(1):36–41.