Face-to-Face Relationships Still Matter in a Digital Age: A Call for a 5th C in the Core Tenets of Primary Care

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ABSTRACT

We primary care clinicians, scholars, and leaders ascribe value to Barbara Starfield's core tenets of primary care—the 4 Cs: first contact, comprehensiveness, coordination, and continuity. In today's era of rapid technological advancements and dwindling resources, what are the implications for face-to-face interactions of patient-clinician relationships? We propose adding a 5th C: "Contiguity." Contiguity—or physical proximity and presence—is a key dimension that not only enables the necessary technical aspects of a physical exam but also authenticates the most human aspects of a relationship and occurs specifically when we are physically vulnerable and responsible for the other before us. This, in turn, may best enable us to bridge difference and nurture trust with our patients. We measure what we value and, thus, naming Contiguity as a core tenet assures that we will not lose sight of this keystone in a patient's relationship with their personal physician.

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In 1992, Barbara Starfield described the core tenets of primary care, often referred to as the 4Cs[1]:

- (First) Contact: Primary care should serve as the access point to the health care system.
- Comprehensiveness: Primary care should address all health-related needs in the population except those too uncommon for a primary care clinician to maintain competence.
- Coordination: Primary care should integrate services across the health care system.
- Continuity: Primary care should be person centered rather than disease focused and should extend over time, leading to the establishment of strong mutual trust.[2]

These principles today undergird and frame ongoing research, innovations, and policies that advance primary care. But three decades later, the world has been transformed by the digital age, a global pandemic, and an era of systemic despair. Today we confront extreme economic disparities; shrinking resources; our failing planetary health; a proliferation of substance use disorders; rapid dissemination of misinformation; and a legacy of racialized social injustices that are further compounded by the aforementioned challenges.

Medical professionals are, however, technologically more connected than ever before. Telehealth and other digital and artificial intelligence (AI) technologies promise more efficient and potentially egalitarian connectivity to patients, colleagues, and learners. In fact, these innovations could enable us to fully operationalize the 4Cs.[3] For example,

- (First) Contact: Synchronous and asynchronous virtual care is already expanding opportunities for primary care clinicians to provide care and serve as an access point to health services.
- Comprehensiveness: AI could someday instantaneously collate all the necessary data for complete documentation and guideline-informed chronic disease management and preventive care.
- Coordination: Electronic health record innovations could seamlessly integrate health care services including social services that address upstream social determinants such as housing and food needs.
- Continuity: Innovation in technology could someday help us prioritize continuity so that—at its most basic—I am not seeing my colleague's patient while she is seeing mine on the same morning.

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Although it may seem far-fetched that clinicians will be replaced entirely by a virtual avatar, thought leader Yuval Noah Harari warns that "the battlefront [for AI] is shifting from attention to intimacy,"[4] and examples are emerging where AI is kinder and more polite than actual clinicians.[5] It is, thus, important to address how digital technology affects the fourth C: the strong mutual trust that we obtain through continuity of care.

Dr Starfield devised her tenets in 1992, one year before the invention of the World Wide Web that today enables us to care for patients without stepping outside our front doors. The authors wish to propose that we consider a fifth "C"—Contiguity. Oxford Languages describes contiguity as "the state of bordering or being in direct contact with something"; ie, being in physical proximity with something or someone with whom one is interacting. While others have proposed additional Cs to Starfield's original 4, such as cost-effectiveness, communication, collaboration, compliance, community-engagement, patient-centeredness, and complexity,[6,7,8] the authors propose the uncommon word "contiguity" to represent the literal and unique implications of being in physical face-to-face proximity with another.

At its most basic, contiguity with a patient enables acquisition of vital signs and needed components of a physical exam. But what else does a person desire—or perhaps require—from their primary care clinician? We personal clinicians often recognize that listening to the heart is less important for its literal procurement of objective data than as a laying-on-of-hands[9] to listen to the heart as metaphor of the soul, and thus as a means for building trust. Let us also consider what it may mean to look into the actual eyes of a patient who is seeking answers, support, and caring unfiltered by a screen.

What makes the act of being face-to-face with our patient utterly human that no machine can replace and, moreover, that transcends a pixilated screen of connection? Fundamentally, when not shielded by distance, not only are patients more vulnerable to us but we are also more vulnerable to them. We cannot change our background, hide the coffee stain on our shirt, turn off our screen feigning broadband problems. Our vulnerability is literal and our responsibility to the patient is heightened in this shared space; the possibilities of actions and reactions that can occur become infinite: $1+1=\infty$. We, in fact, co-create the space itself as we, uniquely, confront each other in a specific time and context that cannot be recreated by any other. Consequently, we show ourselves as fallible, biased, and flawed human beings. But equally, in this space, we have the greatest opportunity to be surprised, astonished, and even dumbfounded by the person before us. It is in these moments of vulnerability that we may garner not only trust but also hope for patient and clinician alike.[10]

The responsibility to inhabit, negotiate, and navigate this shared physical space cannot be compared with that of a virtual telemedicine visit.[11] Existing research demonstrates that while telemedicine visits increase access to appointments and shorten time investment required to access care (by reducing travel time and waiting room time), both patients and clinicians lament the lack of "personal connections" that occur during in-person encounters.[9,11] Patients in virtual encounters identify barriers to speaking up and asking questions; perceive that clinicians pay less attention to them; and express concerns about errors related to the limitations of the physical exam available in these visits.[11] Patients feel less involved during virtual visits and report difficulty finding opportunities to speak.[9] It is exactly these characteristics (ability and time to ask questions and information share), however, that patients value in developing trusting relationships with their clinicians.

Contiguity may be a particularly critical principle to embrace when there are grounds for greater distrust in not only a patient-clinician relationship but also a patient- and even population-level wariness of our health care system that is fraught with inequity. Other studies have shown that physical proximity is an important antecedent of trust; enhances social proximity (mutual sympathy); and is particularly important when there is an initial distrust.[12] In studies of patient preferences for telehealth, Black and Hispanic respondents have been more likely than respondents of other races and ethnicities to prefer in-person care, even when acknowledging the convenience of telehealth[13] such as reduced transportation and childcare costs. Contiguity is, thus, central to facilitate, if not assure, resilient trusting relationships[12] that will be further nurtured with continuity, both in-person and virtual. And so, the authors contend that contiguity must not be overlooked as a necessary tenet of relationally based primary care.

As we cautiously emerge from a world wholly upended by COVID-19 and now grapple with the wonders of artificial intelligence, let us reexamine the pillars of primary care. Being in face-to-face contiguity with our patients is often the most challenging thing we do in our busy days, but even before an era of a deadly contagion it was always the most rewarding challenge—to be vulnerable in the face of another. Contiguity is what makes us most human and manifests the heart and hope of primary care. Now more than ever, we must affirm methodologically and empirically the value of face-to-face relationships as we seek an appropriate balance with virtual technological innovations and opportunities.

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Key words: primary health care; physician-patient relations; telemedicine; artificial intelligence; delivery of health care

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