



ANNOTATED BIBLIOGRAPHY EXPANSION



CONTINUITY OF CARE

TEAM-BASED CARE AND CONTINUITY AND VALUE

Bibliography



THE CENTER FOR
PROFESSIONALISM & VALUE
IN HEALTH CARE



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TEAM-BASED CARE AND CONTINUITY AND VALUE

By

Emerson Frizzell

MPH Candidate

The Dartmouth Institute for Health Policy and Clinical Practice



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Methods

Led by a trained research librarian, we searched the Online PubMed database for all papers from inception of the database through present (July 20th, 2022.) For the first search, the medical subject headings [MeSH] and keywords for “Continuity of Patient Care” were combined with the keyword “team based care.” This search yielded 95 results in PubMed. Exact search terms were: (“Continuity of Patient Care”[Mesh] OR continuity of care[tiab] OR continuity of patient[tiab] care) AND team based care[tiab]

For the second search, the MeSH terms and keywords for continuity of patient care were combined with primary care, family medicine, pediatrics, internal medicine, patient preference or values, physician preference or values, and insurance value. This search yielded 101 results in PubMed. The exact search string is as follows: (“Continuity of Patient Care”[Mesh:NoExp] OR continuity of care[tiab]) AND (primary care[tiab] OR primary health care[tiab] OR family medicine[tiab] OR family practice[tiab] OR family practice[mesh] OR pediatrics[-

tiab] OR pediatrics[mesh] OR internal medicine[tiab] OR internal medicine[mesh]) AND (“Patient Preference”[Mesh] OR (“Patients”[Mesh] AND (preference OR value)) OR (physicians[mesh] AND (preference OR value)) OR (insurance[mesh] AND (preference OR value))) AND (y_10[Filter])

In both searches, the titles and abstracts were screened individually to eliminate clearly irrelevant papers, such as papers focusing on teams of nurses and physicians or of the value of continuity of electronic health records. After these papers were excluded, full text screening was performed. Reference lists for these articles were also reviewed, to ensure there were no articles missed during review. Any papers that examined either team-based care, focusing on physician-based teams, or value of continuity to providers, patients, payors, purchasers, and health systems, were selected. These articles were then categorized into either team-based care or value of continuity, closely read, categorized, and summarized below. ○

Executive Summary - Team-Based Care

There is a clear evidence base that continuity of care at the physician level increases positive patient outcomes, decreases avoidable hospitalizations, and reduces costs¹. We sought to understand whether these same outcomes, or other desirable outcomes, were achieved with team-based continuity of care, when delivered by teams of physicians working together at a hospital or physician group. Notably, we did not include teams of

professionals, such as nurses, NP’s, or PA’s who provide the “coverage” in acute settings and then allow the patient to continue seeing their regular provider (with one exception). Due to this distinction, there were only 5 articles included after a thorough literature search was conducted and screening was completed. Three of these studies took place in the Veterans Affairs (VA) healthcare system.

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When examining articles that focused on team-based care, there is a pattern of team-based care emerging as a beneficial and often cost saving model. Additionally, this model was not found to have negative impacts on patient care or increase wait times significantly, making it a viable option to increase patient continuity of care while making physician schedules livable². The most striking findings were found in two VA studies where continuity associated with team-based care implementation resulted in decreased hospitalization rates, which also leads to decreased utilization and cost, as well as decreasing the burden on a strained system and decreasing fragmented care^{3,4}. Finally, these results also held true for the subset of the population with multiple comorbidities, who are both more likely

to need care in acute settings and more likely to value continuity due to their often complex medical situations⁵. These results are bolstered by an additional Canadian study, providing evidence that these effects are not just seen within the veteran population or the US population⁶.

Overall, data surrounding Team-based care and Continuity of Care is lean and emphasizes the need for further research into the connections between these two areas. These five studies, three of which focus on Veterans, a unique subpopulation within the US, are clearly not representative of all the opinions, categories, and outcomes of team-based care, but do reflect best available data at the time of the search and analysis. ○

Continuity and Team-Based Care

Forman JH, Robinson CH, Krein SL. Striving toward team-based continuity: provision of same-day access and continuity in academic primary care clinics. *BMC Health Serv Res.* 2019;19(1):145. Published 2019 Mar 4. doi:10.1186/s12913-019-3943-2

In a VA multisite examination focused on same-day access, when the patient's primary resident physician was absent, the patient received treatment from another team member, often another resident or attending, with some coverage by RN/NP/PA, with majority by resident or attending. This model was found to benefit both training and patient care. This article was included due to the high volume of resident and attending coverage that it utilized.

Reddy A, Wong E, Canamucio A, et al. Association between Continuity and Team-Based Care and Health Care Utilization: An Observational Study of Medicare-Eligible Veterans in VA Patient Aligned Care Team. *Health Serv Res.* 2018;53 Suppl 3(Suppl Suppl 3):5201-5218. doi:10.1111/1475-6773.13042

In a retrospective cohort study within the VA, veterans who received care in clinics with higher levels of team-based care implementation had lower odds of hospitalization. Team-based care within the VA likely has implications for both physician and mental health, because the acute care hospitalizations documented were for both physical and mental health, instead of just one area. A 10-percentage point increase in continuity with a VA PCP was associated with 4.5 fewer hospitalizations($p<0.001$), 3.2 fewer ambulatory case sensitive hospitalizations($p<0.001$) and 2.6 more ED visits($p=.07$) per 1,000 patients.

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Germack HD, Leung L, Zhao X, Zhang H, Martsof GR. Association of Team-Based Care and Continuity of Care with Hospitalizations for Veterans with Comorbid Mental and Physical Health Conditions. *J Gen Intern Med.* 2022;37(1):40-48. doi:10.1007/s11606-021-06884-5

In another study of veterans with comorbid mental and physical health conditions who were reliant on the VA for healthcare services, those with increased continuity with their VA PCP and high-functioning team-based care clinics was associated with fewer ED visits and hospitalizations than those who had lower levels of continuity. When comparing veterans in the greatest vs lowest quartiles of implementation of team-based care, hospitalization differed greatly (8.8% vs 12.3%; adjusted OR=0.92, CI 0.85-0.99, p<0.035) but did not differ at the clinic-level⁴.

Ehman KM, Deyo-Svendsen M, Merten Z, Kramlinger AM, Garrison GM. How Preferences for Continuity and Access Differ Between Multimorbidity and Healthy Patients in a Team Care Setting. *J Prim Care Community Health.* 2017;8(4):319-323. doi:10.1177/2150131917704556

In a team-based care setting, patients with multi-morbidity are often understudied and misunderstood. This study examined their opinions regarding continuity of care and willingness to wait in acute scenarios to see their normal provider. It was found that patients with multi-morbidity were willing to wait 15% longer than patients without to see their normal provider in acute scenarios to sustain continuity. Overall, all patients prefer access over continuity for acute needs and continuity over access for chronic management and preventative visits.

Jesmin S, Thind A, Sarma S. Does team-based primary health care improve patients' perception of outcomes? Evidence from the 2007-08 Canadian Survey of Experiences with Primary Health. *Health Policy.* 2012;105(1):71-83. doi:10.1016/j.healthpol.2012.01.008

In this Canadian study, the average treatment effect for team-based care was found to be positively significant and robust for after-hours care, quality of care, confidence in the system, overall coordination of care and patient centeredness. This emphasizes the aspects that patients in team-based care practices felt were the most important and how they felt their care was improved through the use of team-based care. This is one of the first studies to assess patients' perceptions of team-based care and how it changes the delivery and quality of care for patients, and the insight provided allows for stakeholders to advocate for the utilization of team-based care as a means to preserve continuity of care.

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Executive Summary - Continuity & Value

Continuity of care has been well established as providing value in terms of improved outcomes, decreased costs, hospitalizations, and unnecessary utilization¹. We sought to define whether patients, providers, health systems, payors and purchasers valued continuity of care and the associated positive outcomes. Specifically, we focused on continuity of providers, avoiding continuity of records or continuity across health systems. Our search was fruitful for value to patients and providers, with no evidence available at the time of the search for whether health systems, payors or purchasers directly valued continuity of care. After examining the patient and provider evidence, we will also discuss the ways that continuity of care is valuable to health systems, payors, and purchasers.

When examining these studies and their findings, both patients and providers view continuity as something that adds value to healthcare and prioritize it when given a choice¹. This knowledge, when combined with the improved outcomes associated with continuity of care, makes a strong argument for the utilization of continuity of care measurement and encouragement of continuity in the U.S. There is a notable caveat that too much trust in continuity can lead to negative outcomes^{10,12}, if the provider is not providing adequate services, due to the strong bonds that patients often form with providers and their unwillingness to break this bond. This should be noted by individuals studying and emphasizing continuity of care and is a potential drawback of legislation or other measures that aim to promote continuity of care. Appropriate protective measures should be placed to protect patients in the event the provider is not upholding their end of the provider-patient agreement.

Therefore, stakeholders should be cautious and emphasize that continuity can be rebuilt with alternative physicians and is only effective if the provider is providing a useful level of service and meeting the needs of the patient. Continuity was found to be a highly valued attribute by both patients and providers, when compared to other choices such as earlier care, lower cost care, different work opportunities, etc^{7,8}. Further, the strong association between patient satisfaction and interpersonal continuity⁹, and more specifically the importance of continuity to medically complex patients¹², emphasizes the value of continuity. These findings are bolstered by the fact that studies were qualitative, quantitative and mixed methods, completed in numerous countries, including the US, and included medically complex patients, as well as both patient and provider voices.

Although there were no studies found that directly tied continuity of care to health systems, payors, or purchasers' views of continuity of care or how they view or value it, it is reasonable to assume that due to patients and physicians both valuing continuity, these three stakeholders should, and will, as well. Health systems will value continuity, not only due to the patient and provider views, but due to the decreased unnecessary hospitalizations which will decrease the burden placed on already stressed systems, potentially aiding in decreasing burnout. Similarly, payors and purchasers will value continuity due to the decreased costs related to improved outcomes and unnecessary testing and be able to use these funds elsewhere. There is a clear need for further research into the utility of continuity to these stakeholders to further these arguments.

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Overall, there is strong evidence supporting the value of continuity of care for both patients and physicians as well as the utility of continuity of care for other stakeholders through cost, utilization, and other met-

rics. These findings are clear that continuity is valued by both patients and physicians, and provide evidence that payors, purchasers, and health systems find similar value in continuity of care. ○

Continuity and Value

Norwood P, Correia I, Heidenreich S, Veiga P, Watson V. Is relational continuity of care as important to people as policy makers think? Preferences for continuity of care in primary care. *Fam Pract.* 2021;38(5):569-575. doi:10.1093/fampra/cmab010

In this study, based in Portugal, patients were found to highly value continuity of care, specifically relational continuity and were willing to trade other primary care attributes to achieve relational continuity with one provider. The size of this study, with 517 respondents completing a Discrete Choice Experiment, indicates that relational continuity is likely an important attribute to many patients.

van den Broek-Altenburg EM, Atherly AJ. Patient preferences for provider choice: a discrete choice experiment. *Am J Manag Care.* 2020;26(7):e219-e224. Published 2020 Jul 1. doi:10.37765/ajmc.2020.43761

This study, which also utilized a Discrete Choice Experiment, examined patient preferences related to insurance coverage and willingness to pay, coverage of a personal doctor was the most important attribute, followed by premium, wait time to see a primary care provider, the breadth of the network, and travel time to the closest doctor covered by the plan. Respondents were willing to pay \$95 per month to have a plan that covers care for their personal doctor, and they were willing to wait 6 days for an appointment to have a plan covering care for their personal doctor. This willingness to pay and to wait emphasizes the importance to patients of continuity of care, even when compared to both monetary and time concerns.

Saultz, J. W., & Albedaiwi, W. (2004). Interpersonal continuity of care and patient satisfaction: a critical review. *Annals of family medicine*, 2(5), 445–451. <https://doi.org/10.1370/afm.91>.

In this critical review of literature focused on patient satisfaction and interpersonal continuity of care, the two were found to be consistently and positively related. There was significantly higher satisfaction reported when interpersonal continuity was present, as noted in 19 out of the 22 articles examined. The authors noted that the available literature had methodologic problems, but that there was a notable consistent relationship regardless of this.

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Gérard L, François M, de Chefdebien M, Saint-Lary O, Jami A. The patient, the doctor, and the patient's loyalty: a qualitative study in French general practice. *Br J Gen Pract.* 2016;66(652):e810-e818. doi:10.3399/bjgp16X687541

Alternatively, in the French healthcare system, which encourages loyalty to a physician and relational continuity, themes of trust, relational exchanges, and the recognition of benefits of loyalty to a physician emerged. However, when examining reasons to cease a relationship with a physician, the inability to meet patient needs was not a reason to break this loyalty to a physician, implying that patients are often quite loyal to physicians regardless of the physicians' capabilities. This both emphasizes patients high value placed on continuity of care, but also presents the alternative argument that continuity can create a negative environment if the provider is not meeting patient needs.

Detz A, López A, Sarkar U. Long-term doctor-patient relationships: patient perspective from online reviews. *J Med Internet Res.* 2013;15(7):e131. Published 2013 Jul 2. doi:10.2196/jmir.2552

This study focused on online website analysis of patients writing physician reviews, organized by length of time the patient had been seeing the physician. The study found that patients who had been with their physician for over 1 year wrote overall positive reviews and focused on physician attributes. The overall domains that were commented on were personality or descriptors, technical competency, communication, access to physician, office staff/environment, and coordination of care. Overall, the study found that those with relationships with physicians longer than 1 year had overall positive feelings towards their physician, as noted by online reviews.

Frederiksen HB, Kragstrup J, Dehlholm-Lambertsen B. Attachment in the doctor-patient relationship in general practice: a qualitative study. *Scand J Prim Health Care.* 2010;28(3):185-190. doi:10.3109/02813432.2010.505447

This qualitative study, based in Denmark, focused on 22 patients, 12 who were seeing their normal provider and 10 who saw a discontinuous provider. The need for attachment between provider and patient was a major theme that occurred for patients and was more salient for those who were "sicker" or more "worried." Additionally, these individuals were more likely to express higher degrees of vulnerability in the provider-patient relationship, as well as to be more in need of a regular primary care provider. Lastly, patients found it difficult to change providers after developing a relationship, even if the relationship was negative, highlighting the attachment between patients to their providers. Overall, patients preferred having a regular provider regardless of whether they saw their regular or an unfamiliar provider during the consultation, highlighting the value of continuity of care to patients.

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Mehta PP, Santiago-Torres JE, Wisely CE, et al. Primary Care Continuity Improves Diabetic Health Outcomes: From Free Clinics to Federally Qualified Health Centers. *J Am Board Fam Med.* 2016;29(3):318-324. doi:10.3122/jabfm.2016.03.150256

In this study, there were statistically significant decreases in HbA1c for patients who were linked to Federally Qualified Health Centers (FQHC's), which provided continuity of care for these patients, compared to patients who received discontinuous care from many sources, such as multiple free clinics. These changes were shown via a statistically significant decrease in HbA1c for those linked to FQHCs (9.5 [SD, 2.3] to 8.3 [SD, 2.2]; n = 21). This improved glycemic control was attributed by the authors to the patient and physician relationship created by the FQHC's during the continuous care. In comparison, those patients who were not under the care of an FQHC during the time of the study were found to have trends of an increased BMI, while patients who attended 2 or more FQHC appointments did not. Overall, this study shows the functional utility of a linkage program developing continuity of care for both patients and providers, specifically for treating chronic diseases such as diabetes mellitus.

Staykov E, Qureshi D, Scott M, et al. Do Patients Retain their Family Physicians after Long-Term Care Entry? A Retrospective Cohort Study. *J Am Med Dir Assoc.* 2020;21(12):1951-1957. doi:10.1016/j.jamda.2020.04.016

When transitioning to long-term care, patients in long-term care facilities were found to only retain their original family physician 12.1% of the time. Being in a rural long-term care facility or having a rural physician increased the odds of retaining the original physician. This is an area where continuity is lacking and could be improved, given the high value that patients place on it and the high rate of avoidable hospitalizations and utilization in this group, which could be decreased with continuous care by a trusted provider.

Cubaka VK, Dyck C, Dawe R, et al. A global picture of family medicine: the view from a WONCA Storybooth. *BMC Fam Pract.* 2019;20(1):129. Published 2019 Sep 12. doi:10.1186/s12875-019-1017-5

Providers were found to value continuity of care in a worldwide study of family medicine physicians. In the study, continuity of care was identified as a key attribute of family medicine and as one of the more attractive attributes of the specialty.

Delva D, Kerr J, Schultz K. Continuity of care: differing conceptions and values. *Can Fam Physician.* 2011;57(8):915-921. (efficiency)

This study of Canadian providers additionally identified efficiency as an aspect that continuity provides, as once they know their patients and their wants and needs, they are better able to treat them efficiently. Additionally, more experienced family physicians stated that long-term relationships with patients were a core value in their practice, while trainees learned the value of continuity through role models and theoretical models. Recognition of their patients and being recognized by patients was noted as being a reward to both groups.

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Ridd M, Shaw A, Salisbury C. 'Two sides of the coin'--the value of personal continuity to GPs: a qualitative interview study. *Fam Pract*. 2006;23(4):461-468. doi:10.1093/fampra/cml010

This study of English physicians found that providers additionally value personal continuity, noting that it increases their quality of life and well-being. This is more important than ever as physician burnout, especially among primary care practitioners, is occurring at high rates. Physicians valued continuity especially when providing care for patients with serious, complex, or psychological problems, likely because these are more difficult to manage and require more information and rapport to treat. There were noted difficulties and limitations surrounding continuity, mainly surrounding personal, professional, and external concerns that had to be balanced, such as issues limiting the ability of the provider to deliver continuous services.

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