Commentary

# How a Resident Clinic Quality Improvement Initiative using Patient Health Cards can Serve as a Model for Improving Patient Care

**Andrew J Chin**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Gurmat K Gill**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Benita M Mathai**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Sidrah Saleem**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Hoang T Phung**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Olabisi T Odukoya**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Saadri Rashid**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Danilo M Aurelio**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Tamar Y Bejanishvili**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

**Jonathan H Wynbrandt**

Department of Internal Medicine, University Hospitals of Cleveland, United States of America

## ABSTRACT

**Keywords:** Primary care; Quality improvement; Patient care; Patient engagement; Resident clinic; Health card.

## Background

Primary care, which is care that incorporates health promotion, disease prevention, health maintenance, patient education, patient counseling, and the diagnosis and treatment of acute and chronic illnesses in a variety of settings, plays an important role in the health of any population. Studies performed in the United States in early 1990s found that states with higher ratios of primary care physicians had better

health outcomes, including but not limited to lower rates of mortality from heart disease, cancer, and stroke compared to states with lower ratios of primary care physicians [1,2].

However, with an aging population with increasingly complex medical needs, there has been an increasing trend in the United States health care system of bypassing primary care in order to obtain more specialized and intervention-focused health care [3]. Coster et al., stated that this trend is likely due to several reasons: 1. Limited access to and/or confidence in primary care, 2. Patient-perceived urgency, 3. Patient convenience, and 4. Views of family/friends and other health professionals [4]. This current trend has contributed to an increasing cost of health care through duplications and redundancies in care.

Another consequence of this trend is that the health care system has become increasingly fragmented. With all the advancements in medicine and an ever-specializing health care system, health care has unfortunately transformed into a complex, confusing endeavor for patients as well as providers. One of the solutions to this crisis was the development of the patient-centered medical home. Lauffenburger et al., found that the receipt of care in a patient-centered medical home was associated with better patient adherence, a vital measure of health care quality, among patients initiating treatment with medications for common high-cost chronic diseases [5]. In a study involving diabetes complications and patient involvement, patients who were enrolled in a patient-centered program had significantly lower hemoglobin A1c and LDL levels compared to the control group [6]. In addition, CKD progression was also shown to be more gradual in the patient-centered group compared to the control group.

Little et al., suggested that high-quality, patient-centered health care should include the following three things: 1. Communication, 2. Partnership, and 3. Health promotion [7]. In their observational study, a positive correlation was found between the severity of illness and the desire of the patient for effective communication and partnership with their provider. These two components set the stage for effective health promotion, leading to enhancement of patient well-being, reduction of risk factors for comorbid illnesses, and early detection of disease.

While providing care for the patients at the University Hospitals – Bedford Medical Center (UH-BMC) Internal Medicine Resident Clinic, we observed that patients often did not know important details regarding their health, such as their past medical history, their medications, if/when they received their adult preventative vaccinations such as the pneumonia vaccine or the shingles vaccine, and if/when they received important screening tests such as mammography or colonoscopy. In addition, we found that patients were often overwhelmed with the amount of health-related information that they received.

As a result, we designed a Patient Health Card (PHC) that contains pertinent information regarding a patient's health that can be conveniently carried in a wallet or purse. The PHC was designed to serve as a snapshot of a patient's medical history similar to a summary page of the Electronic Medical Record (EMR). In addition to being printed and carried in a wallet or purse, the PHC was designed to be able to be scanned and uploaded directly into the patient's EMR. We postulated that the PHC would help our patients have a better understanding of their medical conditions, their medications, and important preventive health measures, which would lead to a more engaged and informed patient population.

The PHC was divided into six sections as shown in Figure 1. 1. Patient information, 2. Immunizations, 3. Screening, 4. Active medical problems, 5. Surgical history, and 6. Medications. The Patient Information section included basic identifying information including patient name, Date of Birth (DOB), name of PCP, code status, and allergies. In emergent situations, these are important pieces of information that can help guide the trajectory of medical management in the event that the patient is unable to personally provide this information. The Immunizations section contained a checklist of immunizations commonly recommended for the general adult population, including the influenza vaccine, the Tdap/Td vaccine, the pneumococcal (PCV13 and PPSV23) vaccine, and the shingles vaccine. The Screening section contained a checklist of important screening tests commonly recommended for the general adult population, including colonoscopy, mammogram, Pap smear, and DEXA scan. The last three sections consisted of the patient's active medical problems, their surgical history, and their medications, respectively.

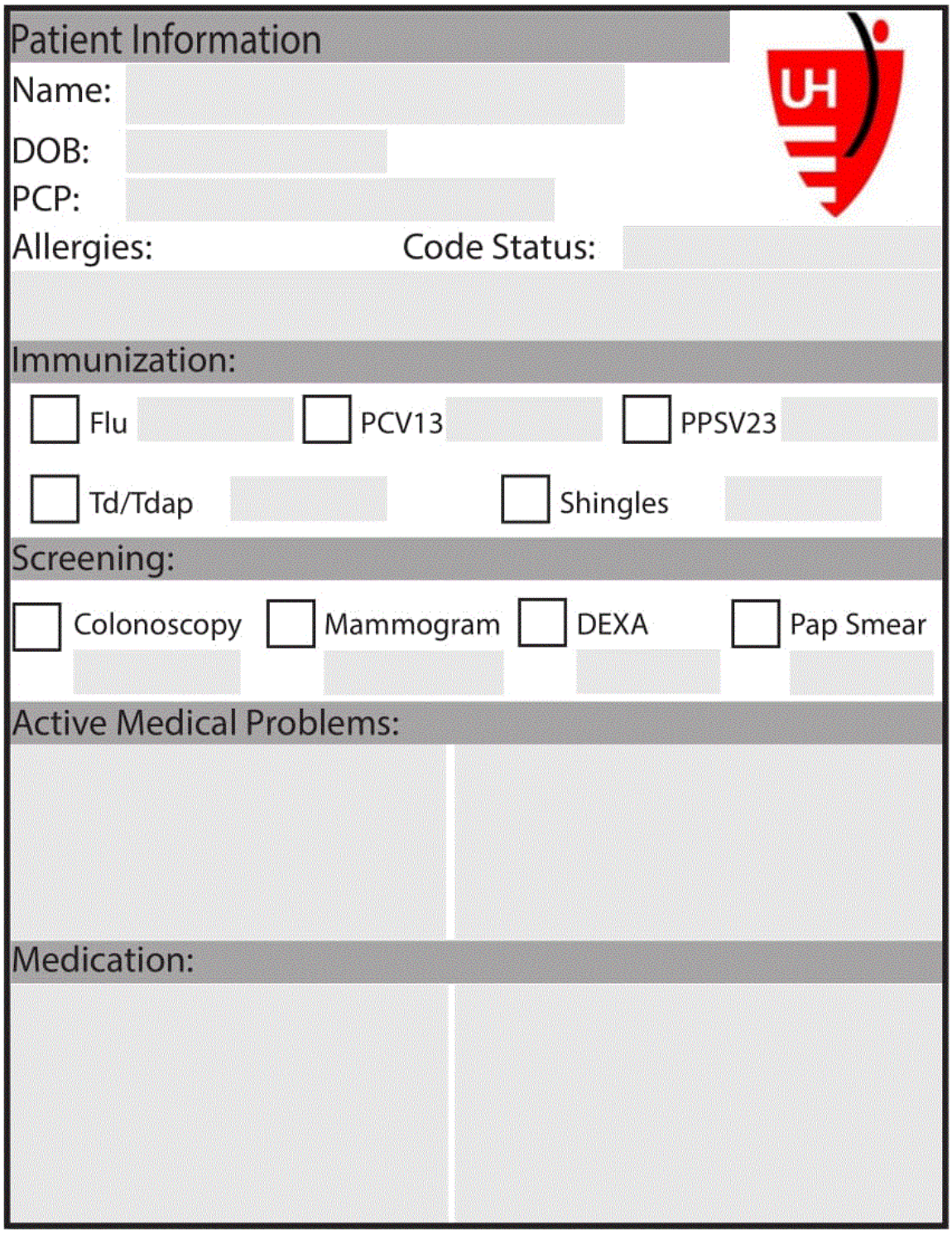


**Figure 1:** Patient Health Card (PHC).

The PHC was extremely well received by both our patients as well as our health system. Many positive outcomes were noted after an initial trial period of six months. Patients stated using their PHC at their pharmacies when they could not recall their medications, using their PHC with other providers such as specialists, using their PHC to discuss and schedule important screening tests, and even using their PHC when they were traveling in another state and had to visit the emergency room. Another positive outcome of the PHC was the improved exchange of information between the patients' PCP and other providers. Because the PHC was designed to be not only printed and stored in a wallet or purse but also scanned and uploaded directly into the patient's EMR, providers had easy and quick access to pertinent information regarding their patient. Another positive outcome of the PHC was a change in attitude of many of the patients. There was a

discernable change in the scope of dialogue with many of the patients at their follow-up visits with patients being more engaged and proactive with their care.

Because all of our patients were adults >18 years of age and because the PHC was specifically designed for adults, it is unclear whether the pediatric patient population could also benefit from a health card. However, based on the initial success of the PHC with our adult population, it is likely that the pediatric patient population would also benefit from the use of a health card. The health card would likely need to be redesigned so that it is tailored specifically for children.

With the design and implementation of the PHC, we saw our patients have a better understanding of their medical conditions, their medications, and important preventive health measures, which lead to a more engaged and informed patient population. However, a more rigorous study would need to be conducted before further conclusions can be made regarding the efficacy of the PHC. Based on its initial success, it is our hope that the PHC can be used as a model by other primary care practices while providing care for their patients.

## References

1. Shi L. The Relationship between Primary Care and Life Chances. J Health Care Poor Underserved 1992. 3: 321-35.
2. Shi L. Primary Care, Specialty Care, and Life Chances. International J Health Serv 1994. 24: 431-58.
3. McGlynn EA, Steven MA, John Adams, Joan Keesey, Jennifer Hicks, et al. The quality of health care delivered to adults in the United States. N Engl J Med 2003. 348: 2635–2645.
4. Coster JE, Turner JK, Bradbury D, Cantrell A. Why Do People Choose Emergency and Urgent Care Services? A Rapid Review Utilizing a Systematic Literature Search and Narrative Synthesis. Acad Emerg Med 2017. 24: 1137–1149.
5. Lauffenburger JC, Shrank WH, Bitton A, Franklin JM, Glynn RJ, et al. Association Between Patient-Centered Medical Homes and Adherence to Chronic Disease Medications: A Cohort Study. Ann Intern Med 2017. 166: 81–88.
6. Rachmani R, Levi Z, Slavachevski I, Avin M, Ravid M. Teaching patients to monitor their risk factors retards the progression of vascular complications in high-risk patients with Type 2 diabetes mellitus--a randomized prospective study. Diabet Med 2002. 19: 385–392.
7. Little P, Everitt H, Williamson I, Warner G, Moore M, et al. Preferences of patients for patient centered approach to consultation in primary care: observational study. BMJ 2001.14: 468–472.

**ADDRESS FOR CORRESPONDENCE:**

Andrew J Chin, Department of Internal Medicine, University Hospitals of Cleveland, United States of America, E-mail: Andrew.Chin@UHhospitals.org

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