

Title: Functional Assessment Screening Patient Reported Information: FAST-PRI

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Abstract

Purpose: To evaluate the impact of a new health information technology (HIT)-based tool that provides patients with immediate, personalized, guideline-based feedback about their behaviors and HRQoL and encourages patients to take a more active role in their health.

Scope: Physicians in a single primary care practice were enrolled along with their patients who had low mental HRQoL, were tobacco smokers, and/or were inadequately physically active.

Methods: Physicians were randomized to have their patients receive or not receive HIT-based feedback. After clinical encounters, participating patients and physicians reported discussions of tobacco use, physical activity, and mental HRQoL. Patients answered detailed questions about their health behaviors and HRQoL at baseline, 6, and 12 months.

We used mixed models to compare the proportion of patients reporting discussions, changes in mental HRQoL and physical activity, and quit attempts.

Results: 88/117 participating physicians had ≥ 1 of the 666 patient participants. There were no differences in the baseline characteristics of the physician participants; intervention patient-participants were younger (44 vs. 47 years, $p=0.02$) and less likely to be female (67% vs. 75%, $p=0.03$). More patients who received the computerized feedback (intervention) reported discussing their physical activity (80% vs. 71%, $p=0.04$) and tobacco use (88% vs. 79%, $p=0.02$) during their clinic visit. This intervention did not increase discussions of mental HRQoL (58% vs. 61% $p=0.29$).

Intervention patient-participants had a slight, non-significant, increase in mental HRQoL ($p=0.098$) and no difference in tobacco quit attempts ($p=0.83$).

Key Words: Health-Related Quality of Life, Physical Activity, Tobacco Use, Patient Activation

PURPOSE

Ensuring the health of our population goes beyond treating disease; it includes promoting wellness and well-being. Healthcare providers play an important role in encouraging healthy behaviors and identifying factors that impact patients' mental and physical health-related quality of life (HRQoL). Clinicians are most effective in this role when they partner with informed, activated, and engaged patients. We evaluated a new tool, based on our current "Functional Assessment Screening Tablets (FAST)," designed to inform and activate patients. The FAST currently uses wirelessly-networked tablet computers to collect patient-reported information (PRI) while patients wait to see their primary care provider and provides the PRI, including health behaviors and HRQoL, to providers at the time of the patient's visit. The new HIT-based tool, used in the FAST-PRI intervention, provides patients with immediate, personalized, guideline-based feedback about their health behaviors and HRQoL and encourages them to take a more active role in their health. This project had three specific aims:

Aim 1. Use HIT patient feedback regarding study-designated PRI (i.e., tobacco use, physical inactivity, and mental HRQoL) to activate patients.

Aim 2. Assess the impact of HIT patient feedback on study-designated PRI.

Aim 3. Evaluate potential mediators of the effectiveness of HIT patient feedback on study-designated PRI.

SCOPE (Background, Context, Settings, Participants, Incidence, Prevalence)

In **Crossing the Quality Chasm**, the Institute of Medicine's first recommendation is that "All health care organizations...should adopt as their explicit purpose to continually reduce the burden of illness, injury, and disability, and to improve the health and functioning of the people of the United States." (1) To achieve this, the health care system must address causes of preventable disease and disability, such as physical inactivity and tobacco use, as well as HRQoL. (2, 3) Fulfilling this mandate, while also treating acute and chronic disease requires an inordinate amount of time, (4) therefore demanding a more collaborative approach to care.

Tobacco use, physical inactivity, and impairment in HRQoL all require patients to initiate the change. In order to make sustainable changes, physicians and practices need to support their patients by ensuring that they have the appropriate, timely information, about the effects certain behaviors may have on health.

FAST-PRI builds on our prior work, (5, 6) as well as that of others, to support patient-centered care, by empowering patients to take a larger role in their health care.

Primary care providers are challenged to address multiple health behaviors. Despite the multiple health benefits of moderate physical activity, fewer than half of Americans are meeting Center for Disease Control guidelines for adequate physical activity; 27% are inactive. (7) Long after the first Surgeon General's warning regarding the hazards of smoking, over 43 million Americans smoke, and over 443,000 deaths each year are related to smoking. (8) Nationally, rates of counseling regarding physical activity and smoking are low. Fewer than 30% of patients report receiving advice regarding physical activity. Among those who do receive advice, only 38% report receiving help formulating an activity plan. (9) While up to 66% of primary care encounters identify patients' tobacco use status, smoking cessation counseling is provided at only 22% of smokers' visits. (10)

Concerns remain among clinicians that discussing issues like mental HRQoL with patients may further decrease the clinical time available to address acute and chronic disease issues. In contrast to these commonly voiced fears, our own experience, (6) as well as that of other groups has shown that providing physicians and their patients with HRQoL information prior to the encounter facilitates discussions of HRQoL without increasing the length of the face-to-face component of the encounter. (11, 12)

Physician time constraints and limited physician self-efficacy may limit patients' behavior change. It is estimated that delivering all of the care recommended by the United States Preventive Services Task Force would take a clinician over 7 hours. (4) This does not include the time necessary to address patients' acute care needs. Unfortunately, multiple factors constrain the amount of time a physician may spend with each patient to far less time. (13)

In addition, many physicians have limited self-efficacy regarding their ability to help patients make lifestyle changes, due in part to the fact that clinicians are trained in systems entrenched in a biomedical model that has not focused on patient-centered care. (14) As physicians with higher self-efficacy are more likely to counsel patients regarding behavior change than those with low self-efficacy, (15) improving physician self-efficacy through education and positive, engaging responses from their patients may improve their overall effort to engage their patients in behavior change.

Physicians can affect their patients' health behaviors. In response to brief physician encouragement and counseling, physical activity has been shown to increase (16) and smoking rates can decrease. (17) Similarly, HRQoL can improve when physicians address impairment. (12, 18, 19) Systematic collection of PRI from patients with immediate reporting to physicians alerts physicians to problematic health behaviors and suboptimal HRQoL, and provides the physician the opportunity to counsel their patients regarding behavior change. However, merely providing the information to physicians has resulted in mixed effects on patient outcomes.

Prior work has successfully provided physicians with PRI and has increased discussions, but improvement in patient outcomes in major preventive domains has yet to be definitively demonstrated. The first task in allowing physicians to respond to PRI is to provide it to them. Multiple investigators, including our team, have successfully done this. The impact on patient outcomes, however, has been mixed. Our own work implementing the original FAST, which provided physicians with PRI with appropriate highlighting of "alert" values, has not improved patient outcomes.

One of the largest studies to date, conducted in a Veteran's Administration primary care setting, failed to show any benefit of providing information to clinicians. (20) In this study, information was collected and provided to providers far in advance of, as opposed to at the time of, the encounter, and the intervention lacked a

comprehensive provider education component.

In contrast, in a mental health population, preparing providers for the encounter by providing clinicians with standardized information regarding patients' mental health prior to the first visit resulted in a 28% improvement in total symptoms and 29% in depressive symptoms at 6 weeks.(21)

In the primary care setting, Wasson, with Hays (Co-I) found that using COOP charts to provide information to clinicians at the time of encounter improved male patients' perception of receiving help with pain management ($p=0.02$).⁽²²⁾ Similarly, Rubenstein and colleagues found that provider feedback regarding PRI paired with management recommendations and provider education⁽¹⁸⁾ resulted in improvement in emotional well-being and social limitations for the intervention group ($p<0.03$ for both). Additionally, there was an increase in the diagnosis of patient anxiety and stress by Internal Medicine residents and an increase in referrals provided to assist with management of these conditions

In oncology, Velikova and colleagues found that providing HRQoL information to providers increased discussion of symptoms ($p=0.03$) and improved patients' emotional well-being ($p=0.008$). For patients involved in such discussions, HRQoL was also improved ($p=0.02$).⁽¹²⁾ The Rubenstein and Velikova findings point to the roles of provider education, patient-provider discussions, and mediators, such as interdisciplinary referrals, in changing patient outcomes.^(12, 18)

We therefore hypothesize that, perhaps, to be effective, the FAST must explicitly integrate patients into the conversations about lifestyle change and HRQoL, which was not explored in the original implementation.

The Chronic Care Model requires patients to be as involved as their physicians. Collecting PRI from patients may influence behavior change⁽¹²⁾ and providing immediate feedback to patients as well as clinicians has resulted in positive effects on discussions and HRQoL, without lengthening visits.⁽¹¹⁾ In addition, co-I Dr. Hays, working with Wasson and colleagues, found that providing patients and clinicians with feedback regarding PRI improved patients' perception about practice quality as well as the patients' reports of receiving help with emotional problems, social needs, and advanced care planning.⁽¹⁹⁾ Our own work with the FAST-PRI pilot (§C.1.b.2.), conducted after the initial submission of this proposal, also found that providing patients, as well as their physicians, with feedback regarding PRI increased rates of patient-initiated discussions, as well as rates of discussions overall regardless of the initiator, during the clinical encounter.

Interestingly, the Bank of America Study, which only provided guideline-based feedback to patients without involving providers, found a decrease in smoking, an increase in physical activity minutes, an improved overall health-risk score (2 point difference in change between intervention and control group, $p<.01$) after one year among those who received the information.^(23, 24)

By examining the components of each successful, or failed, prior intervention, we identified key components for successful use of HIT feedback to change health behaviors and improve HRQoL, which have informed the FAST-PRI project. These include: 1) a patient-centered approach, 2) integration within an interdisciplinary team management infrastructure, 3) clinician education regarding the use of PRI, 4) proximity of provision of information to time of care, and 5) targeting intervention to patients with a PRI amenable to change.

Mediators, such as patient self-efficacy, provider self-efficacy, and referrals, may provide a path between a productive patient-provider interactions and improved health behaviors and HRQoL. Providing information to patients and physicians can, in some circumstances, result in beneficial improvements in processes of care, patient-provider communication, and possibly changes in behavior and HRQoL. The particular combination of circumstances yielding maximal benefit, however, remains unknown.⁽²⁵⁾ There is a lack of understanding of mechanisms by which change can occur.⁽²⁶⁾ We therefore plan to examine potential mediators in addition to the role of discussions of PRI: 1) patient self-efficacy, 2) provider self-efficacy, and 3) use of referrals by patients and physicians.

Patient and Provider Self-efficacy. Self-efficacy is the belief that one is capable of carrying out a behavior such as quitting smoking, increasing physical activity, improving HRQoL, or counseling patients.⁽²⁷⁾ Self-efficacy derives from multiple sources including a person's own experiences, vicarious experiences, and verbal persuasion. While self-efficacy is usually understood as domain specific, there is a re-emergence of an appreciation of the importance of a generalized sense of self-efficacy that stretches across situations,⁽²⁸⁾ that is compatible with our framework of patient-centered care.

Research has shown that individuals with higher self-efficacy regarding tobacco cessation are more successful in attempts to quit smoking and remain tobacco free.^(29, 30) There is also evidence that self-efficacy regarding physical activity is linked to ability to increase and maintain a wide variety of physical activities and that clinician counseling can influence self-efficacy around physical activity.⁽³¹⁾ General self-efficacy has been

shown to be related to behavioral intention(32) and improved HRQoL.(33)

Physician's counseling self-efficacy is associated with increased counseling regarding health behaviors including tobacco use.(15)

Referrals. Interdisciplinary teams of practitioners can help motivate behavior change and improve HRQoL. Accessing appropriate members of an interdisciplinary teams can be difficult, especially if a patient is unaware of the resource. Referrals, when appropriate, to mental health professionals, physical and occupational therapists, nurse educators, and social workers, can have powerful effects on a patient's health. As noted by Rubenstein,(18) assembling an appropriate interdisciplinary team for a patient through referrals may mediate the relationship between gathering PRI and improving health behaviors and HRQoL.

Summary.

Tobacco, physical activity, and poor emotional HRQoL are major causes of morbidity and mortality that are not being adequately addressed in the current systems of care. As described in the Chronic Care Model, patients, as well as their physicians, need to be involved in their own care. While physician involvement can help patients make positive changes in their health behaviors and improve their HRQoL, physician time constraints and limited physician self-efficacy may limit patients' behavior change. Innovations, such as the proposed HIT feedback solution are required to improve the health of millions of Americans. We have successfully implemented and pilot tested FAST-PRI, and are poised to complete a full-scale evaluation of its use in a large primary care setting.

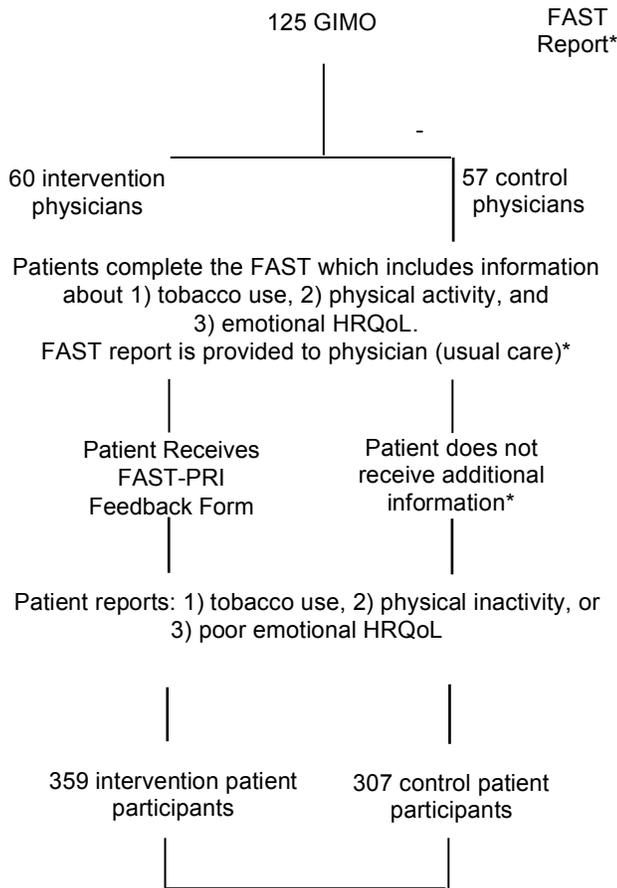
METHODS (Study Design, Data Sources/Collection, Interventions, Measures, Limitations)

Study Design:

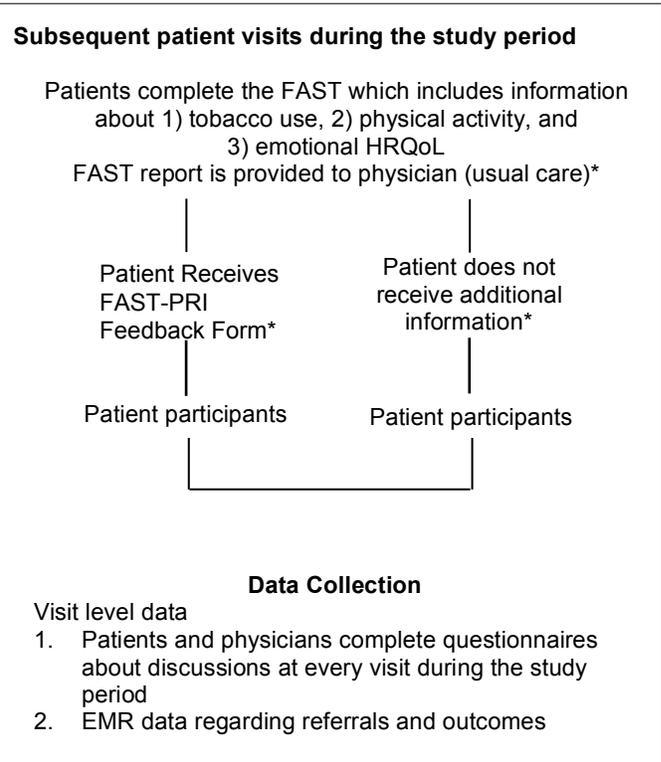
FAST-PRI was a randomized controlled trial, clustered at the physician level. Patients receiving HIT feedback were provided with immediate, personalized, guideline-based information on tobacco use, physical activity, and mental HRQoL, *prior* to their clinical encounter. This complemented the provision of information to physicians already part of routine clinical practice.

An overview of the project is provided in Figure 1.

Initial patient visit during the study period



*Will happen at every visit during the study period



Data Collection

Visit level data

1. Patients and physicians complete questionnaires about discussions at every visit during the study period
2. EMR data regarding referrals and outcomes

Individual level data

1. Patients complete demographic questionnaires at baseline and questionnaires about mediators (referrals and self-efficacy) at baseline, 6-months, and 12-months
2. Physicians complete demographic questionnaires at baseline and questionnaires about mediators (self-efficacy) at baseline, 12-months, and 24-months (study closure)

Figure 1. Overview of FAST-PRI study design.

Data Sources and Measures

Characteristics of the sample population

FAST-PRI involved two types of participants: 1) GIMO physician participants and 2) patient participants seeing a participating physician.

Physician participants were recruited from GIMO's faculty and resident physicians who together saw about 850 patients each week.

Patient participants: Patient participants were seeing a participating physician and had at least one of the following: Tobacco use, physical inactivity, or poor mental HRQoL. They were drawn from the practice's diverse patient population of individuals over age 18. Thirty percent are non-white, 16% have Medicare, and 13% have Medicaid or receive free care. About 17% of patients use tobacco, 38% are physically inactive, and 25% have poor mental HRQoL.

Questionnaire Data

After every visit, patient and physician participants completed the questions shown in Table 1.

Table 1. FAST-PRM questionnaire for patients and physicians regarding clinical discussions

0. (Physician's only) Did you use information from the FAST physician report during your appointment with (patient name)?						
	Yes			No		
1. During your appointment, did you talk with your physician (patient) about:						
Physical activity or exercise?	Yes			No		
Smoking or tobacco use?*	Yes			No		
Limitations you have that are due to your emotional health?	Yes			No		
2. Who started the discussion about:						
Physical activity or exercise?	I did	My doctor (patient)	Not discussed			
Smoking or tobacco use?*	I did	My doctor (patient)	Not discussed			
Limitations you have that are due to your emotional health?	I did	My doctor (patient)	Not discussed			
	Not at all useful	A little useful	Somewhat useful	Useful	Very useful	Not discussed
3. Did you (your patient) find the discussion about:						
Physical activity or exercise?	1	2	3	4	5	0
Smoking or tobacco use?*	1	2	3	4	5	0
Limitations you have that are due to your emotional health?	1	2	3	4	5	0
*If the patient is a never smoker, this question will not be asked						

At baseline, 6-months and 12-months, patient participants completed questions regarding smoking quit attempts, physical activity (the modifiable activity questionnaire, mental health related quality of life, referral to other sources of care and self efficacy.

At baseline, 12-months, and 24-months, physician participants completed information regarding self-efficacy for caring for their patients with physical inactivity, tobacco use, and poor mental health-related quality of life.

All measures are summarized in Table 2 below.

Electronic Data

Data regarding health behaviors and health-related quality of life was extracted from the FAST.

Table 2. Overview of FAST-PRI Measures— Physicians will be at synchronous "study" time points. Individual patient participants can be asynchronous; that is, at the same "study" time points at different calendar times.

Study Month	Baseline	6	12	24	# of questions	Time (minutes)
	Physician Participation Duration					
Patient Participation Duration						
Visit Level						
Physician questionnaire regarding PRI discussions	Baseline*				10	2
Patient questionnaire regarding PRI discussions	Baseline*				9	2

EMR data regarding tobacco use, physical activity, and HRQoL				Abstracted		
EMR data regarding referrals				Abstracted		
Individual Level						
Physician Demographics	Baseline				5	1
Patient Demographics	Baseline				8	2
Physician questionnaire regarding self-efficacy	Baseline		12-months	24-months	17	5
Patient questionnaire regarding tobacco quit attempts,** physical activity, HRQoL, self-efficacy, and referrals	Baseline	6-months	12-months		70	30
*discussion questionnaire will be completed at every visit for 12-months; **tobacco quit attempts will only be asked of ever smokers						

Interventions

Patients seeing physicians in the intervention group received electronic feedback immediately prior to the clinical encounter as described in Table 3.

Table 3. Feedback used in the HIT patient feedback form

Feedback regarding tobacco use

Non-smoker

No feedback

Current smoker

Smoking puts you at risk for many health problems including heart disease, emphysema, and lung cancer. Smoking can also lower bone density, cause wrinkles, and interfere with sexual functioning. There are a lot programs that can help you quit smoking. Please let Dr. _____ or anyone at GIMO know if you are interested in quitting, we're here to help!

Former smoker

Congratulations! You stopped **smoking**. That's great. It's important to keep up your motivation to stay quit! Did you know that after remaining tobacco free for 1 year, your risk of heart disease is half way back to normal? Please let Dr. Fischer, or anyone in GIMO, know if you need any help to remain tobacco free. Remember that it is normal for many people who have quit smoking in the last year to still need help in remaining smoke free. The PA quit line (1-877-724-1090) is a good number to have on hand. They are there 24 hours a day 7 days a week.

Relapsed smoker

Staying quit from smoking is hard work! Most people make 5-10 serious quit attempts before they succeed. The most important step is to try again! Please let Dr. _____ or anyone at GIMO know how we can help you quit again.

Feedback regarding physical activity

Physically active

You are doing a great job being physically active. Being physically active makes you less likely to have medical problems such as:

Diabetes Heart disease Colon Cancer High blood pressure

Physical activity can also improve your mood an increase the amount of energy you have.

Physically inactive

You may not be getting enough **physical activity**. Did you know that many health organizations, including the Centers for Disease Control, recommend that you get 30 minutes of moderate activity, or 20 minutes of vigorous activity, at least 5 days a week. Dr. _____ agrees. Some examples of moderate activities are:

Walking Fast Mowing the lawn Riding a bicycle on level ground Playing doubles tennis

Being physically active makes you less likely to have medical problems such as:

Diabetes Heart disease Colon Cancer High blood pressure

Physical activity can also improve your mood an increase the amount of energy you have.

You may want to talk with Dr. _____ about ways you can increase you **physical activity**

Increased activity

Congratulations! You increased your physical activity. Being physically active makes you less likely to have medical problems such as:

Diabetes Heart disease Colon Cancer High blood pressure

Physical activity can also improve your mood an increase the amount of energy you have.

Please let Dr. _____ if you are having any problems keeping up with your **physical activity**

Feedback regarding mental HRQoL

Optimal mental HRQoL (MHC>53)

Your emotional health is excellent!

Good mental HRQoL (MHC >38 and ≤53)

Your emotional health is in the normal range. If you ever feel like you need help with your mood or stress, please let Dr. _____ or anyone in GIMO know.

Poor mental HRQoL (MHC≤38)

There are many reasons that peoples **emotional health** can be lower than average. Life stress, including changes in family and work life, can contribute to emotional stress. Many people suffer from depression and anxiety. Physical health problems can also make emotional health worse. There may be things that you can do to improve your emotional health. Please think about some of the things in your life that may be affecting your emotional health. Whatever the reason,

Limitations

FAST-PRI was conducted in a level 3 patient-centered medical home. Some could argue that an intervention that is successful in GIMO may not make a difference in a less resourced setting. However, as evidenced by the recent AHRQ RFA: Transforming Primary Care Practice (HS-10-002), practices throughout the country are adopting EMRs and learning from, and becoming, patient-centered medical homes. In order to maximize translation out of this setting, we will measure not only patient activation and outcomes but also potential mediators to better understand the mechanisms of the intervention effect. Future work will need to evaluate the implementation of our intervention in more diverse settings, including other University of Pittsburgh Medical Center primary care practices. While some may question the robustness of the proposed intervention that provides information to patients, as shown by Velikova and seen in our pilot work, providing information can increase discussions and patient activation. The intervention, as conceptualized within the Chronic Care Model, goes beyond merely providing information. It is our intention that the information about PRI, in the context of information regarding resources and clinical discussions, will affect patient and provider self-efficacy and lead to positive changes in health behaviors and HRQoL. Alternative strategies that we have considered include removing the physicians from the model and having patients work directly with support resources. While this is an appealing strategy, it is contrary to the Chronic Care Model, which advocates a team approach rather than removal of any team member. There is evidence that physician recommendations can motivate patient change, including increasing smoking quit attempts and physical activity. We therefore believe that there is value to keeping the physician involved in the process. Patients will also still be able to self-refer to these resources. While there is potential for contamination of physicians, this is minimized by randomizing at the level of the physician instead of the patient; any contamination would introduce bias towards the null.

6. RESULTS (Principal Findings, Outcomes, Discussion, Conclusions, Significance, Implications)

We have completed all follow-up on all participants.

Table 4 shows the socio-demographic characteristics of our 666 participants.

Of 125 eligible physician participants, 116 (93%) agreed to participate in FAST-PRI. Table 5 shows the number of patient participants who completed each visit and milestone questionnaire in FAST PRI. Table 6 contains the same data for physician-participants.

Table 4. Demographics (n=666)

Characteristics	N (%)
Gender	
Female	469 (70)
Male	197 (30)
Race	
Native American	14 (2)
Asian	31 (5)
Black	190 (29)
White	442 (66)
Other	14 (21)
Ethnicity	
Non-Hispanic	646 (97)
Hispanic	20 (3)
PRI (sums to >100% as people may qualify for more than 1 PRI)	
Smoking	190 (29)
Exercise	402 (60)
Mental Health	350 (53)

Table 5. Completion of visit and milestone questionnaires by the 666 FAST-PRI patient participants n (%)

Milestone questionnaires	
Baseline questionnaire	630 (95)
6-month questionnaire	614 (92)
12-month questionnaire	596 (90)
Visit questionnaires	
Initial visit questionnaire	611 (92)
Follow-up visit questionnaire*	1060 (93)

*Individuals could complete multiple follow-up visit questionnaires

Table 6. Completion of visit and milestone questionnaires by the 116 FAST-PRI physician participants n (%)

Milestone questionnaires	
Baseline questionnaire	99 (89)
12-month questionnaire*	64 (67)
24-month questionnaire	70 (67)
Visit questionnaires	
Visit questionnaire**	1079 (60)

*Providers who left the institution are not included in the denominator **Individuals could complete multiple visit questionnaires

Table 7 shows the adjusted odds ratios for patient reports regarding discussions related to smoking, low physical activity, and low mental HRQoL. In the intervention group, patients reported more discussions occurred regarding low physical activity and smoking. There was no difference in patient reported initiation of these discussions or of patients reporting that the discussions were helpful.

Table 7. Patient reports regarding discussions related to smoking, low physical activity, or low mental HRQoL.

	Adjusted Odds Ratio	Adjusted 95% Confidence Interval	Adjusted p-value
Low mental HRQoL			
Discussion occurred	0.782	0.496 1.233	0.290
Patient initiated discussion	0.914	0.562 1.487	0.717
Patient found discussion helpful	0.753	0.424 1.336	0.332
Low physical activity			
Discussion occurred	1.615	1.010 2.583	0.045
Patient initiated discussion	0.640	0.353 1.163	0.143
Patient found discussion helpful	0.896	0.531 1.513	0.682
Smoking			
Discussion occurred	2.248	1.159 4.361	0.017
Patient initiated discussion	1.031	0.489 2.175	0.936
Patient found discussion helpful	1.129	0.476 2.676	0.784

Table 8 shows the impact of the intervention on health behaviors and health-related quality of life. There is no difference in outcomes between this intervention and control groups.

Table 8. Aim: Assess the impact of HIT feedback on study-designated PRI.

Linear Outcomes	Intervention Mean (SD)	Control Mean (SD)	P-Value
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Primary (from Questionnaire Data)					
Change in Mental HRQoL*					
6 Months	0.392	(8.229)	-0.017	(5.772)	0.98
12 Months	0.590	(7.568)	0.292	(5.881)	0.701
Change in Physical Activity					
6 Months [median (IQR)]	1	(-5, 15)	2	(-2, 13)	0.70
12 Months [median (IQR)]	1	(-4, 10)	-2.37	(-2, 11)	0.29
Dichotomous Outcomes	Intervention		Control		P-Value
	n (%)		n (%)		
Quit Attempts**					
6 Months	60	(65%)	37	(60%)	0.550
12 Months	40	(53%)	31	(57%)	0.799

*HRQoL: health-related quality of life, p-values based on Fischer's exact test

**Clustering on physician and patient levels included for logistic regression (mixed model)

DISCUSSION:

In this cluster randomized controlled trial, we found an increase in discussions of important preventive health topics, while seeing no change in the rates of smoking, physical activity, or mental health-related quality of life. We suspect that the null finding is due in part towards a lack of on-site resources to assist patients in difficult behavior change. While initiating a discussion is a necessary first step, team-based care that embeds non-physician providers, including behaviorists, in the primary care setting may further improve outcomes for patients.

CONCLUSIONS

FAST-PRI successfully activated patients and led to increased discussions of difficult behavioral health topics. Future work may consider allowing patients to directly ask for behaviorist assistance in managing these challenging healthcare needs.

SIGNIFICANCE:

Tobacco, physical activity, and poor mental HRQoL are major causes of morbidity and mortality that are not being adequately addressed in the current systems of care. As described in the Chronic Care Model, patients, as well as their physicians, need to be involved in their own care. While physician involvement can help patients make positive changes in their health behaviors and improve their HRQoL, physician time constraints and limited physician self-efficacy may limit patients' behavior change. The FAST-PRI model of providing immediate, guideline-based feedback to patients is feasible. Future studies should include more focus on team-based approaches to care.

IMPLICATIONS:

The FAST-PRI model of providing immediate, guideline-based feedback to patients is feasible. Future studies should include more focus on team-based approaches to care as the physician-patient encounter alone may be inadequate to address these issues in a high quality manner.

PUBLICATION:

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We are finalizing manuscript for submission and preparing an analytic data set for secondary analyses.

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