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Original Article

Financial Incentives to Increase Advance Care Planning Among Medicaid Beneficiaries: Lessons Learned From Two Pragmatic Randomized Trials

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Abstract

Context. Medicaid populations have low rates of advance care planning (ACP). Potential policy interventions include financial incentives.

Objective. To test the effectiveness of patient plus provider financial incentive compared with provider financial incentive alone for increasing ACP discussions among Medicaid patients.

Methods. Between April 2014 and July 2015, we conducted two sequential assessor-blinded pragmatic randomized trials in a health plan that pays primary care providers (PCPs) \$100 to discuss ACP: 1) a parallel cluster trial (*provider-delivered* patient incentive) and 2) an individual-level trial (*mail-delivered* patient incentive). Control and intervention arms included encouragement to complete ACP, instructions for using an online ACP tool, and (in the intervention arm) \$50 for completing the online ACP tool and a small probability of \$1000 (i.e., lottery) for discussing ACP with their PCP. The primary outcome was provider-reported ACP discussion within three months.

Results. In the *provider-delivered* patient incentive study, 38 PCPs were randomized to the intervention ($n = 18$) or control ($n = 20$) and given 10 patient packets each to distribute. Using an intention-to-treat analysis, there were 27 of 180 ACP discussions (15%) in the intervention group and 5 of 200 (2.5%) in the control group ($P = .0391$). In the *mail-delivered* patient incentive study, there were 5 of 187 ACP discussions (2.7%) in the intervention group and 5 of 189 (2.6%) in the control group ($P = .99$).

Conclusion. ACP rates were low despite an existing provider financial incentive. Adding a *provider-delivered* patient financial incentive, but not a *mail-delivered* patient incentive, modestly increased ACP discussions. PCP encouragement combined with a patient incentive may be more powerful than either encouragement or incentive alone. *J Pain Symptom Manage* 2017;■:■-■. © 2017 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

Key Words

Advance care planning, behavioral economics, financial incentives, Medicaid, enrollment, engagement

Introduction

Advance care planning (ACP) is a process whereby patients identify their values and goals for medical

care.^{1,2} ACP includes a range of behaviors including documentation of medical wishes in an advance directive and/or having discussions with surrogate decision makers and medical providers.^{1,3} Although there is

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some controversy regarding the effectiveness of written advance directive documents,⁴ a systematic review and meta-analysis of English language randomized trials concluded that ACP interventions focused on discussions improved concordance between patients' preferences and end-of-life (EOL) treatment.⁵ The Centers for Disease Control and Prevention reports that only 30% of U.S. adults have some form of advance care plan,⁶ and low-income, minority, and low-literacy populations are the least likely to have engaged in ACP discussions or documentation.^{7–9}

The traditional approach to promote ACP is through clinic or hospital-based education. Behavioral decision theory suggests that education alone cannot overcome psychological biases that interfere with ACP.^{10,11} A key cognitive barrier to complete ACP is present-biased preferences.¹⁰ Present-biased preferences result in deferral of pro-health behaviors via the natural tendency to overweight immediate and tangible costs and benefits over delayed costs and benefits.¹² For example, eating provides immediate gratification but may cause later obesity, and exercising now may be uncomfortable but may prevent a future heart attack. In the case of ACP, the cost is thinking about death, which may be uncomfortable. The benefit—receiving EOL treatment consistent with your values—is intangible and “far off” in the future. This procrastination is reinforced by *optimism bias*¹³—individuals' tendency to believe they are less at risk of negative events—like dying connected to machines in the ICU—compared with others.

Tangible, immediate rewards in the form of financial incentives can promote action to overcome this bias.¹⁴ Patient financial incentives have been used successfully to promote other health behaviors influenced by present-biased preferences,¹⁵ such as smoking cessation¹⁶ and weight loss.¹⁷ Financial incentives may be particularly salient for Medicaid beneficiaries. Furthermore, patient financial incentives may be less morally fraught than other behavioral economics informed interventions related to EOL care, such as changing defaults for resuscitation from cardiopulmonary resuscitation (CPR) to comfort-focused treatment.^{10,18,19} Furthermore, public opinion supports paying patients over doctors for ACP.²⁰

Health insurers and the Centers for Medicare and Medicaid Services²¹ have begun paying providers to have ACP discussions, but do not currently pay patients for ACP.²² A proposed “Medicare Choices Empowerment and Protection Act” would offer a \$75 incentive to patients for completing ACP. In this article, we report findings from two sequential pragmatic randomized controlled trials (RCTs) conducted in a health system that already provides financial incentives to providers for ACP discussion and documentation. We sought to test the effectiveness of patient plus provider financial incentive, compared with provider financial

incentive alone, on provider-reported ACP discussions among Medicaid patients in primary care practice. In the first study, the patient's primary care provider (PCP) provided patients a packet (with or without a patient-financial incentive inside) and verbal encouragement during a routine clinic visit. In the second study, the patient's insurer mailed patients a packet (with or without a patient financial incentive inside). We hypothesized that adding a patient financial incentive to the existing provider financial incentive would increase ACP discussions. We also anticipated that the provider-delivered incentive would result in greater patient engagement than the mail-delivered incentive, but that providers might be a barrier to distribution.

Materials and Methods

Setting and Population

We designed this research study in response to the Robert Wood Johnson Foundation's request for applications “Applying Behavioral Economics to Perplexing Health and Health Care Challenges,” which required the conduct of a RCT with an outside partner. We partnered with the public assistance medical insurance program of the most populous and diverse U.S. state, California's Medi-Cal program, and one of the county-organized health plans contracted to provide a delivery system for Medi-Cal patients, Partnership Health Plan of California (PHC). PHC covers 560,000 Medi-Cal patients in 14 Northern California counties; approximately 97,000 are elderly or disabled and 17% speak Spanish as their primary language. As of January 1, 2014, PHC had 220 contracted primary care entities, representing over 1500 individual PCPs in solo practice, small groups, community health centers, large groups, and integrated health systems. We chose to work with PHC because of their interest in ACP. As part of their quality improvement initiatives, PHC pays PCPs \$100 to discuss and document ACP once every 12 months with Medi-Cal patients aged ≥ 65 and < 65 years with a life-limiting illness. In the fiscal year before the start of this study, however, fewer than 5% of contracting PCP groups had taken advantage of this incentive, at a frequency of 1–30 provider-reported ACP discussions/PCP group/year, with the largest number of payments accruing to solo private PCPs.

Study Design and Ethical Approval

Between April 2014 and July 2015, we conducted two pragmatic RCTs of patient plus provider-financial incentives, compared with provider financial incentives alone, on provider-reported ACP discussions among PHC Medi-Cal patients in routine primary care (Table 1). Both RCTs used the same educational information: a pamphlet with instructions for using a 5-step online ACP process developed specifically for low-literacy

Table 1
Study Conditions

Control Condition	Intervention Condition
Provider financial incentive ^a	Provider financial incentive ^a
Encouragement to complete ACP ^b	Encouragement to complete ACP ^b
PREPARE brochure and URL	PREPARE brochure and URL Patient financial incentive ^c

ACP = advance care planning; PCP = primary care provider; PREPARE = Prepare for Your Care, an online advance care planning tool available at prepareforyourcare.org.

^a\$100 to provider for documenting ACP conversation with a member via "ACP attestation form" (1 attestation per 12 months allowed).

^bIn both trials, the study packet contained identical written encouragement to complete ACP; in the provider-delivery trial, the PCP also provided verbal encouragement following a script that, in the intervention condition, also drew the patient's attention to the patient financial incentive.

^cWe Pay MasterCard 1) loaded with \$50 when subject completes PREPARE educational modules and action plan and 2) entry into lottery to win \$1000 when subject's physician submits attestation.

Medi-Cal populations called "Prepare for Your Care" (PREPARE; public use version available at www.prepareforyourcare.org). The University of Pittsburgh Institutional Review Board and the California Health and Human Services Agency Committee for the Protection of Human Subjects reviewed and approved the study. Intervention and control materials contained a patient information sheet including all required elements of informed consent written at a sixth grade level.

We began, between April 2014 and February 2015, with a parallel cluster RCT with PCPs as the unit of randomization and *provider-delivery* of ACP encouragement in both the control and intervention groups plus a patient financial incentive in the intervention group. The rationale for this approach was that we expected patients would be more likely to engage in ACP if their PCP recommended it. Furthermore, we hypothesized that providers randomized to the patient financial incentive would be motivated to help their patients earn the incentive. PCP engagement was very low. Therefore, between March 2015 and July 2015, we conducted a simple RCT with patients as the unit of randomization and *mail-delivery* of ACP encouragement and a patient financial incentive. We describe the study procedures for each study sequentially in the sections that follow, highlighting relevant differences.

Recruitment, Randomization, and Enrollment. For the *provider-delivered* patient incentive study, we targeted clinics with at least some prior uptake of the existing provider-directed quality incentive. The principal investigator consented interested PCPs in person or by telephone to be randomized to provide 10 of their patients one of two different types of "active patient education and engagement interventions" in pre-assembled packets. Thus, the cluster size for each cluster-randomized PCP was up to 10 of the PCP's patients. To minimize expectation bias, before randomization, we

concealed the fact that one of the interventions involved a patient financial incentive. After randomization, an investigator familiarized PCPs with the content of their packets (including, for PCP's randomized to the patient incentive arm, information about the patient incentive) and provided them with a script to follow when introducing the study. We stratified randomization based on practice type (i.e., salience of the financial incentive: private solo/small group [incentive accruing to the PCP] vs. salaried practice [incentive accruing to the clinic]) with an allocation ratio of 1:1. The study statistician performed randomization using permuted blocks in SAS version 9.3. When the PCP handed a packet to a patient, the patient completed an enrollment card consenting to share their information with the University of Pittsburgh. PCPs could provide a study packet if the patient met eligibility criteria: 1) PHC Medi-Cal patient; 2) age 65+ or <65 years with a life-limiting illness; 3) internet access (including access at a public library); 4) English-speaking (because PREPARE had not yet been translated into Spanish); and 5) the provider had not already submitted an attestation to PHC in the last 12 months documenting an ACP discussion.

For the *mail-delivered* patient incentive study, we received a waiver of informed consent for mass randomization and de-identified data collection. We identified potentially eligible Medi-Cal patients from PHC enrollment files at three large multispecialty Federally-Qualified Health Clinics that had not yet participated in PHC's provider-directed quality incentive for ACP. Patient eligibility was identical to the provider-delivered patient incentive study except: 1) we did not include patients <65 years old, as we did not have access to medical record information to identify life-limiting conditions (a criterion for provider-directed quality incentive payment for ACP with patients <65 years old); 2) we did not ascertain internet access, but over-sampled to account for the fact that 37% of older Medi-Cal patients do not have private Internet access;²³ and 3) we did not limit to English-speaking patients (PREPARE was available in Spanish by March 2015). We stratified randomization by clinic with an allocation ratio of 1:1:1. The study statistician performed randomization by using permuted blocks in SAS version 9.3. Investigators and staff applied mailing labels to sealed, sequentially numbered identical envelopes. We considered a patient enrolled if the packet was not returned undeliverable and the patient did not opt out using a toll-free telephone number.

Control Condition. For the *provider-delivered* patient incentive study, the control condition included: 1) a packet with educational information (PREPARE pamphlet with instructions to log-in to the research version of the PREPARE website)³ and 2) verbal encouragement by their PCP to do PREPARE and to follow-up within three months to discuss ACP.

For the *mail-delivered* patient incentive study, the control condition was identical except that the packet arrived by mail and therefore did not include verbal encouragement by their PCP. A reminder post-card followed the packet one month later.

Intervention Condition. For the *provider-delivered* patient incentive study and the *mail-delivered* patient incentive study, intervention packets additionally included a patient financial incentive: a MasterCard that could be loaded remotely with an immediate financial reward (\$50) on completing PREPARE and a small probability of a large reward (i.e., lottery for \$1000) for discussing ACP with their PCP. To obtain the \$50 incentive, the participant called a toll-free number and the research coordinator confirmed that the participant had logged into PREPARE and reviewed some or all the modules. To be entered into the lottery, the participant returned to their PCP office to discuss ACP with the PCP within three months, and the PCP documented the discussion (see Outcomes, below). We used theory to design the rewards,^{24,25} but the actual incentive amounts were chosen somewhat arbitrarily. For the immediate financial reward, we chose \$50, which was half of the quality incentive paid to PCPs (\$100), yet sufficiently large to garner attention.

Data Collection and Outcomes. For both trials, the primary outcome was provider-reported ACP discussion within three months of enrollment, measured by submission to PHC of an attestation form necessary for the \$100 provider-directed quality incentive payment. These attestations were tracked by blinded PHC staff, and subject to confirmation by medical chart audit by PHC staff. A secondary process measure was PREPARE web site use, measured by web site user metrics tracked by a blinded contractor. We shared patients' PREPARE "summary" or "action plan" with their PCP.

For the *provider-delivered* patient incentive study, we collected self-reported socio-demographic data (age, sex, ethnicity, race, education, clinical comorbidity, and self-reported health status) from the enrollment card. For the *mail-delivered* patient incentive study, we received de-identified data containing age and preferred language from PHC, but only collected self-reported ethnicity, race, education, and health status from those who used PREPARE.

Sample Size and Statistical Analysis. For the *provider-delivered* patient incentive study, assuming an intra-class correlation of 0.05²⁶ and a rate of provider-reported ACP discussion of 10% in the control arm, we calculated that 20 PCPs per arm and 10 patients per PCP ($n = 200$ per group) would provide 92% power at a two-sided alpha of 0.05 to detect a 15-percentage point

absolute difference²⁷ between intervention and control groups. We used an intention-to-treat approach using generalized linear mixed models with a logit link and fixed effect for the intervention and practice type with a random effect for provider for the dichotomous outcomes.

For the *mail-delivered* patient incentive study, also assuming a rate of provider-reported ACP completion of 10% in the control arm, we calculated that 133 patients per group would provide 90% power at a two-sided alpha of 0.05 to detect a 15-percentage point absolute difference between intervention and control groups. Anticipating that more than 30% of patients would have undeliverable mail, would opt-out, or not have any internet access, we oversampled and randomized 392 patients (~130 per clinic) to achieve an effective sample of at least 266. We used an intention-to-treat approach and Chi-squared analyses to compare outcome rates in the two groups.

Debriefing Interviews. To learn about barriers and facilitators to study engagement, satisfaction with the PREPARE web site (for those who used it), and perceptions of financial incentives for ACP, we conducted structured debriefing interviews after each study. A research assistant summarized participant responses onto the interview guide, including verbatim patient quotes whenever possible. For the *provider-delivered* patient incentive study, we purposively sampled participating and non-participating patients and PCPs. For the *mail-delivered* patient incentive study, we sought to interview all patients who used PREPARE (where they had provided electronic informed consent for telephone contact by study staff). In addition, as part of their ongoing ACP quality incentive program, PHC member services staff sought to interview 50 randomly-selected English speaking and 50 randomly-selected Spanish-speaking patients who had not logged-in to PREPARE to determine if they received and opened the mailing. Two investigators reviewed each completed structured interview form to summarize responses into categories. Any disagreements were resolved via consensus.

Results

Provider-Delivered Patient Incentive

PCP and Patient Enrollment. Between April and June 2014, we approached 28 clinics, 13 of 28 clinics (46%) allowed us to approach their 300 providers (Fig. 1). The main reason for clinic refusal was increased clinical demands due to roll-out of the Affordable Care Act in January 2014. We recruited and randomized 38 of 300 PCPs (13%; target

$n = 40$). The main type of PCP refusal was passive non-response.

Among 18 PCPs randomized to intervention (180 patient packets), nine distributed 49 patient packets ($49/180 = 27\%$). Among 20 PCPs randomized to control (200 patient packets), seven distributed 28 patient packets ($28/200 = 14\%$). The PCPs practiced in solo, small group, and large group practices, and most of their enrolled patients were ≥ 65 years old, had less than a college education, and reported fair or poor health (Table 2). The only PCP who distributed all of his/her packets was a solo private practice provider in the intervention group (eFig. 1).

We anticipated accruing ~ 1 patient per randomized PCP per week. By week 22, actual accrual rates were ~ 0.1 patients per PCP per week (range 0–1 patient/PCP/week). On November 26, 2014, we terminated

the RCT for slow patient accrual based on a previously defined stopping rule.

ACP Outcomes. There were 32 of 380 provider-reported ACP discussions (8.4%); 27 of 180 (15%) in the intervention group and 5 of 200 (2.5%) in the control group ($P = .039$). There were 35 of 380 PREPARE users (9.2%); 16 of 180 (8.9%) in the intervention group and 19 of 200 (9.5%) in the control group ($P = .701$). Among those with ACP discussions, 10 of 27 (37%) occurred after the patient used PREPARE in the intervention group and 5 of 5 (100%) in the control group ($P = .0149$).

PCP and Patient Perceptions. We interviewed five engaged and non-engaged PCPs and 15 patients who did and did not complete ACP (but who received

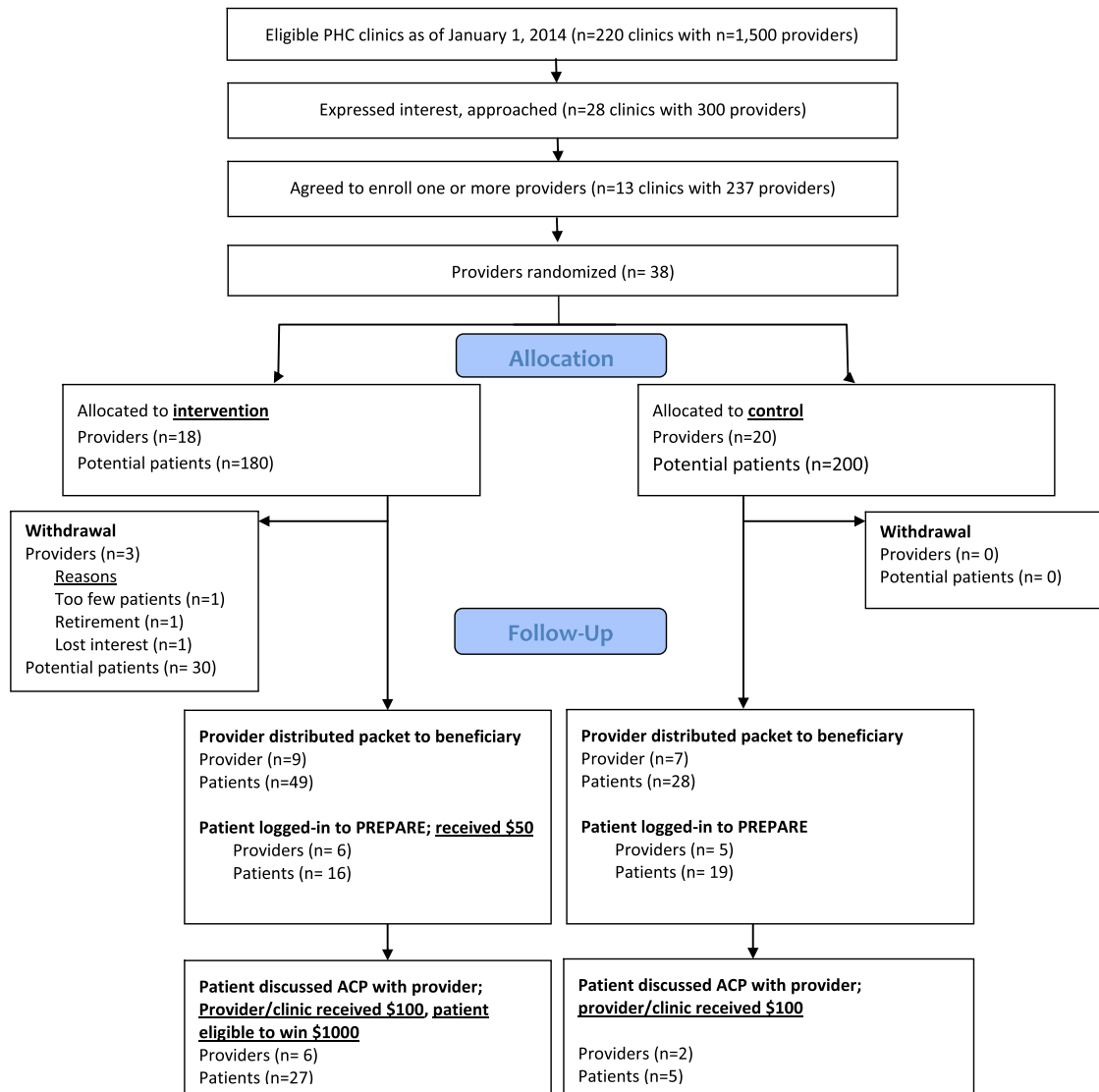


Fig. 1. CONSORT Diagram: Provider cluster randomized clinical trial, provider-delivered incentive. PHC = Partnership Health Plan of California; ACP = advance care planning.

Table 2
 Characteristics of PCPs and Patients in the Cluster RCT (PCP-Delivered Patient Incentive)

Variable	Primary Care Providers		Patients	
	Intervention (<i>n</i> = 18)	Control (<i>n</i> = 20)	Intervention (<i>n</i> = 49)	Control (<i>n</i> = 28)
PCP type, <i>n</i> (%)				
MD	14 (77.7)	13 (65)		
DO	1 (5.5)	4 (20)		
NP	1 (5.5)	3 (15)		
PA	2 (11.1)	0 (0)		
Practice size, <i>n</i> (%)				
Solo	1 (5.5)	1 (5)		
2–5	5 (27.7)	7 (35)		
6–10	1 (5.5)	1 (5)		
11–49	5 (27.7)	5 (25)		
50+	6 (33.3)	6 (30)		
Eligibility category, <i>n</i> (%)				
≥65			36 (73.4)	19 (67.9)
<65 with health problem			12 (24.5)	9 (32.1)
Missing/Refused			1 (0.02)	0 (0)
Gender, <i>n</i> (%)				
Female			25 (51)	14 (50)
Race, <i>n</i> (%)				
White			32 (65.3)	22 (78.5)
Black			4 (8.2)	0 (0)
Asian			10 (20)	1 (3.5)
American Indian/Alaskan Native			1 (2)	1 (3.5)
Mixed race			1 (2)	0 (0)
Missing/Refused			1 (2)	4 (14.3)
Ethnicity, <i>n</i> (%)				
Hispanic/Latino			1 (2)	2 (7.1)
Not Hispanic			44 (89.8)	23 (82.1)
Missing/Refused			4 (8.2)	3 (10.7)
Highest level of education, <i>n</i> (%)				
Did not graduate high school			12 (24.5)	3 (14.2)
High school/GED			13 (26.3)	7 (25)
Some college			13 (26.3)	6 (21.4)
College graduate			9 (18.4)	8 (28.6)
Missing/Refused			2 (4.1)	4 (14.2)
Self-reported health status, <i>n</i> (%)				
Excellent			0 (0)	0 (0)
Very good			2 (4.1)	5 (17.9)
Good			18 (36.7)	5 (17.9)
Fair			22 (44.9)	7 (25)
Poor			6 (12.2)	7 (25)
Missing/Refused			1 (2)	4 (14.3)

PCP = primary care provider; RCT = randomized controlled trial; MD = doctor of medicine degree; DO = doctor of osteopathy degree; NP = nurse practitioner; PA = physician assistant; GED = general educational development test (high school equivalence).

packets). We provide illustrative quotes in Table 3. No interviewed PCP or patient raised ethical concerns about paying PCPs or patients for ACP. Salaried PCPs denied being motivated by the provider-directed financial incentive. Being able to offer the patient a financial incentive (in the intervention group) helped PCPs overcome barriers to broaching ACP, such as worrying the patient. Other PCP-reported barriers included lack of time and lack of a clinic champion; facilitators included workflow modifications such as pre-visit planning and “warm” hand-offs to a social worker or nurse to continue the ACP discussion. Intervention group patients who completed ACP stated that they did not do it for the money. Patient-reported barriers included cognitive impairment and computer literacy; the primary facilitator was PCP encouragement. ACP addressed an unmet need.

Mail-Delivered Incentive

Patient Enrollment. In March 2015, we randomized 392 PHC patients ages 65–74 years from three clinics to receive intervention or control packets (Fig. 2). Patients were on average 67 years old, and about one-third reported Spanish as their preferred language (Table 4).

ACP Outcomes. There were 10 of 376 provider-reported ACP conversations (2.7%); 5 of 187 (2.7%) in the intervention group and 5 of 189 (2.6%) in the control group ($P = .99$). Seven patients (0.8%) used PREPARE; 6 of 187 (3.2%) in the intervention group and 1 of 189 (0.5%) in the control group ($P = .0667$). Among those with ACP discussions, 1 of 5 (20%) occurred after the patient used PREPARE

Table 3

Perceptions of ACP Financial Incentives Among Northern California Medicaid Managed Care Patients and Their Primary Care Providers in a Trial of Provider-Delivered Patient Financial Incentives

Financial Incentives for ACP

Among providers in both groups: provider payment not motivating to salaried PCPs

"I do not have a problem with it, but in our setting I did not see the money for it, the clinic did. It would be insulting to give me money for something I should be doing as part of my job ... Being paid for the encounter makes it beneficial for the clinic to have me spend time doing it because it is helping their bottom line." (PCP 1026).

Among providers in patient-incentive group: being able to offer the patient a financial incentive helped providers overcome barriers to broaching ACP:

"Sometimes it was awkward to talk about. They would say 'Is something wrong with my health? Do you think I'm dying?' It [ACP] brings out all kinds of emotional responses. It was good to have the study to be able to introduce the topic. That was helpful. I could say: 'no, it's something we are doing for everyone.'" It always helped at the end to tell them about the gift for doing it. It was nice to be able to say that." (PCP 1026).

Among patient-incentive condition group patients: patient incentive nice but not necessary

"I have to admit it was enticing, but it was not the reason I was interested. It was the other benefits like the connection you have with the doctor and everything with the health providers. It helped me form a connection again. The money was an added bonus. The patients being paid, they are getting something for their time, but the reward is the rest of it, the benefits with your health. The money would entice people, but you have to get into it not just for the money." (Patient 1003–686)

Among control group patients: patient incentive not necessary

"I would not want to be paid for that. People are looking for money from anyone. If you get all the information and can use it when the time comes that's good enough." (Patient 1001–726)

"I never heard of such a thing. I think it would be kind of silly." (Patient 1014–170)

Barriers to ACP

Among providers: time; lack of clinic champion:

"Ancillary staff would like to get money in their pocket. If you were doing that, they'd be sticking that information in my face every day. But I think to do something like this you need a nurse coordinator to put it together." (PCP 1026)

Among patients: cognitive impairment:

"My daughter helped me with it [PREPARE] because of my memory problems. She did most of it. She would ask me the questions. They were not hard to answer but she had to explain things to me." (Patient 1016–230).

Facilitators of ACP

Among providers: workflow modifications such as pre-visit planning and "warm" hand-offs to a social worker or nurse to continue the ACP conversation

Among patients: provider endorsement:

"The doctor made it sound like something really good to do. I trust her and will do something if she feels it is good to do." (subject 1016–23)

"I might as well do it as the doctor told me to do it and I like my doctor so I did it." (subject 1026–525)

"The doctor had done a lot for me especially years ago when I had my accident, he went above and beyond, so if it was important to him that I do it, then I decided to do it to support him." (Patient 1032–113)

Importance of ACP

ACP facilitated by this study addressed unmet need:

"I am on O2 and on a high amount of morphine for back pain and he [my PCP] just did some blood work to make sure I am still in remission from cancer. I am in a wheelchair most of the time. [Making an ACP] allayed my fears. The fear is gone now. I know now that my wife will be in charge. I'm in my mid-50s, I would not call myself a girl but I shed a good bit of tears over this the last two weeks. I am going to have a family meeting with my kids too, and discuss what I've decided. We're doing that this weekend. I do not want them fighting with my wife. There are seven of them. Can you see all them hollering at my wife? 'What do you mean you're doing this to dad?' [Regarding the payment] I probably would have done it even without money if it had been brought up to me. Twenty years and two months with the same doctor and it never came up. I do not think I'll be around for more than a few years. My lungs are toast. I smoked for 40 years. This should have been done 5, 10, no 20 years ago." (Patient 1026–389)

"I'm real thankful he [the doctor] chose my dad, the website is so easy and it made me feel good now. I wish I had it for my mom. We had to make the decision to stop the dopamine for her. They told me if I stopped the medicine she would die. We stopped it but there was a little voice wondering if she would have wanted to keep it going. I was afraid that I would not be able to navigate the website to be honest with you. I thought, "Oh yeah, like I'm going to be able to do this website." But then I did it. If I can do it, anyone can. I'm going to encourage my nieces and nephews to do it too. The way life is today, you just never know what will happen. Even if you're younger you should have a plan. Thank you for doing this study. I'm glad there are people doing this kind of work." (Surrogate for patient 1021–312)

Table 4
Characteristics of Patients Enrolled in the Individual RCT (Mail-Delivered Patient Incentive)

Variable	Intervention	Control
<i>Available for all patients who received a packet</i>	(n = 186)	(n = 190)
Age, yrs, mean (SD)	67.6 (3.9)	67.5 (3.8)
Preferred language, n (%)		
Spanish	57 (30.6)	74 (38.9)
English	115 (61.8)	112 (58.9)
Missing	14 (7.5)	4 (2.1)
<i>Available for those who logged-in to PREPARE^a</i>	(n = 7)	(n = 1)
Female gender (n = 5 non-missing), n (%) ^a	4 (100)	1 (100)
Race (n = 6 non-missing), n (%) ^a		
White	5 (100)	1 (100)
Black	0 (0)	0 (0)
Asian	0 (0)	0 (0)
American Indian/Alaskan Native	0 (0)	0 (0)
Mixed race	0 (0)	0 (0)
Refused/declined	0 (0)	0 (0)
Education (n = 6 non-missing), n (%) ^a		
High school/GED	1 (20)	0 (0)
Some college	3 (60)	0 (0)
College graduate	1 (20)	1 (100)
Self-reported health status (n = 6 non-missing), n (%) ^a		
Excellent	1 (20)	1 (100)
Very good	2 (40)	0 (0)
Good	2 (40)	0 (0)
Fair	0 (0)	0 (0)
Poor	0 (0)	0 (0)

RCT = randomized controlled trial.

^aDid not collect data on sex, race, ethnicity, education, or health status from patients unless they logged-in to PREPARE, provided consent, and indicated that they were new to the web site. Two of eight persons who logged-in indicated that they were returning to the web site, although they had not yet been to our study web site.

in the intervention group and 0 of 5 (0%) in the control group ($P = 1.00$).

Patient Perceptions. We sought to contact the seven patients who used PREPARE and interviewed four. Intervention patients reported that the financial incentive motivated action. PHC Member Services attempted to contact 100 patients who did not use PREPARE and succeeded in contacting 15 English- and 15 Spanish-speaking patients. Most patients (18 of 30 [60%]) did not recall receiving the packet.

Discussion

In this study of patients enrolled in a large Northern California Medicaid managed care plan that offers providers a financial incentive of \$100 for ACP discussions, we found low rates of PCP and patient engagement in ACP discussions, despite high need among seriously ill and older patients. Adding *provider-delivered* encouragement and a patient financial incentive increased the

rate of provider-reported ACP discussions modestly. However, adding *mail-delivered* encouragement and a patient financial incentive did not.

Comparing ACP rates incrementally across the four conditions in the two sequential trials is instructive. A provider incentive plus mailed, written encouragement from their insurer to use an online ACP tool and discuss ACP with providers resulted in equally low ACP rates (2.7%) in both the no patient incentive and patient incentive arms. When the same written information was instead hand-delivered to patients by their PCP with PCP verbal encouragement, the ACP rate more than tripled (8.4%); and when a patient incentive was added to that, the ACP rate almost doubled again (15%). These findings suggest that 1) provider incentives alone may have limited benefit, particularly among salaried providers; 2) insurer mailings may have limited benefit, indeed, most contacted patients did not even remember receiving the mailing; 3) PCP verbal encouragement is powerful, indeed, interviewed patients reported that their main motivation for logging-in to PREPARE and engaging in ACP was because their PCP asked them to do so; and 4) in the context of existing provider incentives for ACP discussions, PCP encouragement combined with a patient incentive may be more powerful than either encouragement or incentive alone.

Nevertheless, most PCPs in this study did not follow through with distributing ACP packets. Less than 15% of PCPs volunteered to participate in the study and the majority who did volunteer did not hand out any ACP packets—despite the opportunity to earn up to \$1000 for their practice through the PHC quality incentive. Participating clinics were generally resource-poor settings without additional staff who could be devoted to this per-patient ACP quality incentive. Given limited resources, clinic staff were most likely focused on increasing compliance with other, non-ACP quality targets that are more closely tied to each clinic's total revenue. In debriefing interviews, PCP-reported barriers included lack of time and local champions, consistent with the literature on primary care practice change.^{28,29}

We assumed that the patient incentive would work through motivating the patient to action; however, it appears that in the provider-delivered patient incentive condition, it may have worked, instead, through motivating the PCP to action. Twice as many ACP packets were handed out in the patient financial incentive condition than in the control condition. Greater PCP engagement in the patient incentive condition should not have been due to expectation bias, as randomized providers were blinded to the details of the alternate condition. Instead, intervention PCPs reported that the financial "gift" to patients helped them to overcome discomfort associated with

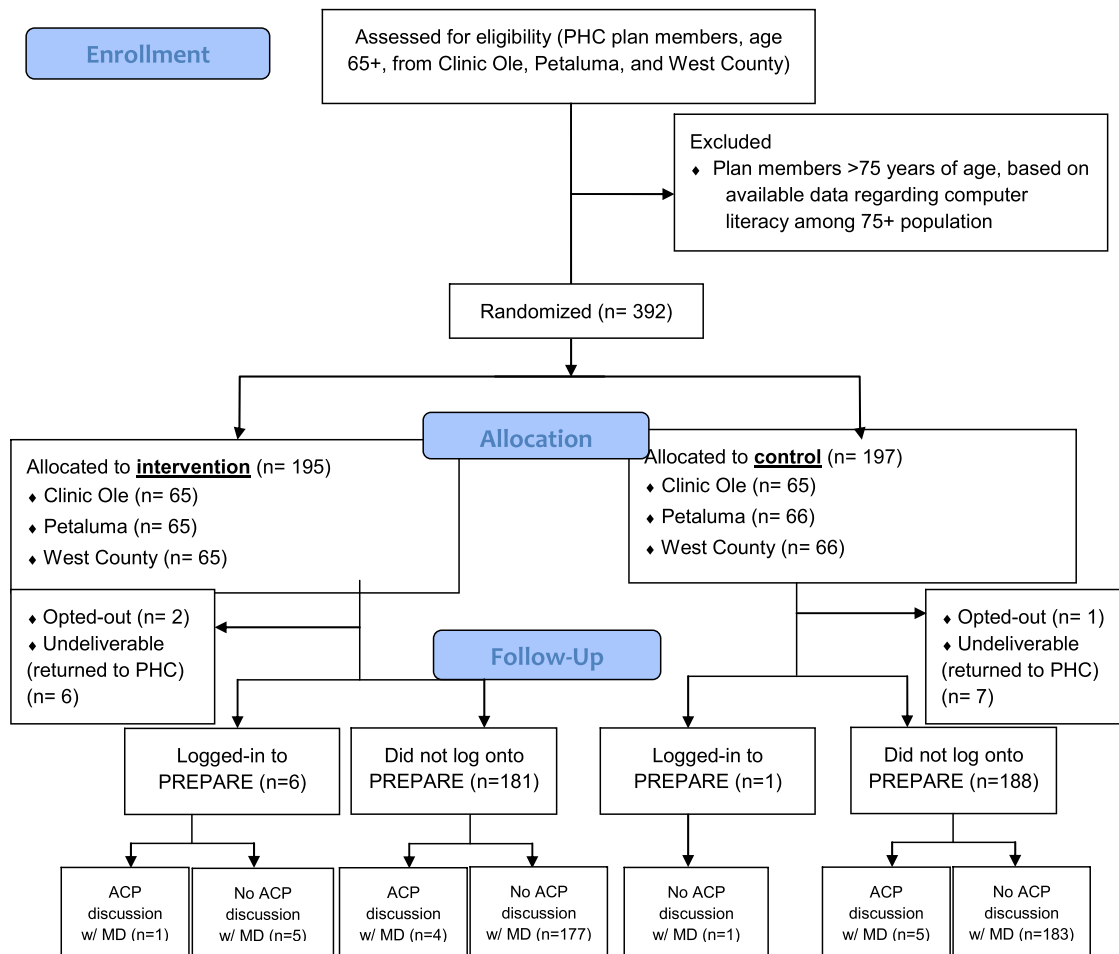


Fig. 2. CONSORT diagram: Individual randomized clinical trial, mail-delivered incentive. PHC = Partnership Health Plan of California; ACP = advance care planning.

broaching ACP. Specifically, the incentive allowed PCPs to reference the financial benefit to the patient as their motivation, rather than age, infirmity, or “end-of-life” issues.

The rate of PREPARE web site use among patients who received packets was actually lower in the patient incentive group than in the control group, despite the opportunity to earn \$50. This may have been an example of a financial incentive backfiring.³⁰ Several studies demonstrate the psychological phenomenon that providing financial incentives to complete a behavior, such as donating blood, can actually decrease the behavior. This is thought to be due in part to the financial incentive interfering with one’s sense of moral or ethical obligations.²³ Alternately, it may be a result of selection bias. In their enthusiasm to give the patient a “gift” PCPs may have engaged a greater fraction of patients who were 1) earlier in the stages of change for ACP,³¹ and therefore less motivated to seek online education, or 2) more disenfranchised, and therefore less likely to have readily available internet access (and the \$50 incentive was

not enough to overcome the barrier of seeking out internet access elsewhere, such as at their local library).²³

There have been many interventions designed to increase ACP, summarized in recent systematic reviews^{32,33} and one systematic review and meta-analysis.⁵ These interventions principally involved patient-focused decision aids using varied formats (paper, web, video, structured conversation) to facilitate decisions involving choices of health care proxy, treatment regime, and site of care (e.g., home, hospital, hospice). We included one such decision aid, PREPARE,³ as a component of both the control and intervention arms for the present study. The evidence suggests that such aids can increase the chances of patients completing advance directives and discussing EOL care preferences with their health care providers. The event rates and effect sizes in those trials are similar to our own. A handful of trials have found that they can increase the concordance in how patients and proxies³⁴ or patients and providers³⁵ view hypothetical decisions and between patients’ documented preferences for EOL care and

the care that they actually receive.^{6,36,37} We did not study concordance in our trial.

Despite considerable strengths—such as a pragmatic design in a “real world” setting and a focus on a vulnerable Medicaid population—our study also has several limitations. Most importantly, the low adherence (i.e., failure of intervention delivery) limits the impact of our findings. Although our intention to treat analysis retained power for hypothesis testing despite the low primary outcome rate in both arms of both studies, results should be interpreted cautiously given threats to internal and external validity. Given the low rates of uptake of the existing provider-directed incentive, these were foreseeable threats. We might have overcome them if we had conducted a pilot study to systematically address implementation barriers and to optimize the style or content of our packets. For example, more eye-catching packaging, a return address label with the patient’s PCP’s name, and/or a follow-up phone call from the health plan encouraging patients to open the mailing might have increased patient engagement in the mail-delivered patient incentive study.

Other methodologic limitations include that our primary outcome was measured by PCPs documenting ACP discussions through filling out and faxing in an attestation form for the provider incentive. It is possible that there were more ACP discussions than we documented. Furthermore, we did not collect information about the quality of ACP discussions. Also, we cannot disentangle the individual impacts of the guaranteed \$50 reward for using PREPARE and the small probability of the large \$1000 reward for discussing ACP. Finally, the provision of patient financial incentives to Medicaid patients in this study was only permissible because the University of Pittsburgh made the payments. Section 1128A(a)⁵ of the Social Security Act prohibits remuneration by a health plan or provider of greater than \$10 per gift or greater than \$50, in aggregate, annually.³⁸

The findings of this study are relevant to current policy discourse regarding financial incentives for ACP. Many public and private insurers now pay providers to discuss ACP, and patient incentives are currently under consideration.^{20,22} Our study provides some evidence that a patient incentive, in addition to paying providers for ACP, may not be sufficient to increase ACP. Linking the patient incentive with PCP encouragement may be helpful, because we found that a patient incentive combined with PCP encouragement was more powerful than either PCP encouragement or patient incentive alone. Future research should focus on strategies to overcome barriers to ACP-related best practice by PCPs,²⁷ experiment with alternative incentive designs (e.g., incentive size, target recipient), and engage different patient and provider populations.

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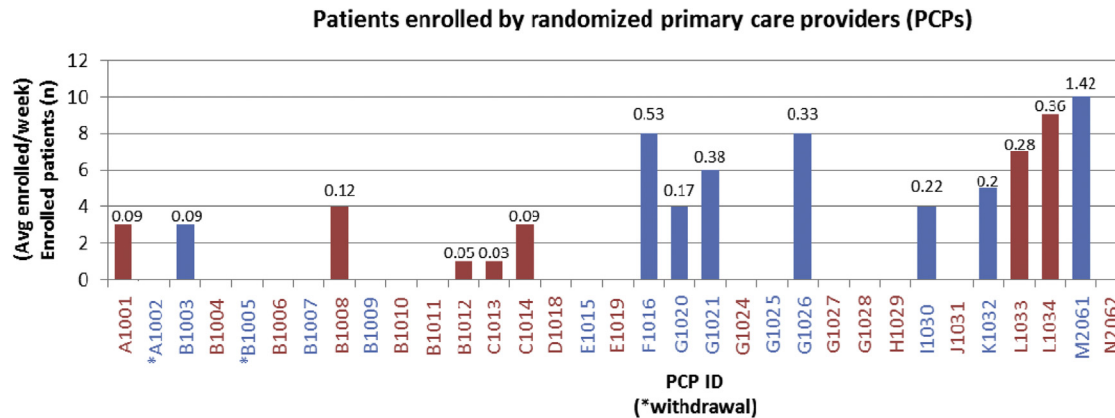
Robert Moore, MD, MPH is the Chief Medical Officer of Partnership Health Plan of California (PHC). Rebecca Sudore, MD is the author and Program Director of the not-for-profit ACP tool “Prepare for your care” (PREPARE). All other authors (Amber E. Barnato, MD, MPH, MS; Charity G. Moore, PhD, MSPH; and Neal Kohatsu, MD, MPH) certify that they have no affiliations with or involvement in any organization or entity with any interest, financial or non-financial, in the subject matter or materials discussed in this manuscript.

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Appendix



eFig. 1. Patient enrollment, by provider. This figure illustrates the number of packets delivered to eligible patients by each randomized primary care provider in the cluster randomized clinical trial. The maximum number of packets was 10 per PCP. Control PCPs are displayed in red, intervention PCPs are displayed in blue. The PCP study IDs along the x-axis include information about clinic site (letter of the alphabet corresponds with clinic), type of practice 1 = salaried practice [provider quality incentive for ACP accrues to the clinic]; 2 = non-salaried [provider quality incentive for ACP accrues to the provider], and whether the PCP withdrew after enrollment. The y-axis is the number of patients enrolled and the number in parenthesis above the bars is the number of packets delivered to patients per week. Most randomized PCPs did not hand out any packets during the study period. PCP = primary care provider; ACP = advance care planning.