

Testing the use of novel patient financial incentives to improve breast cancer screening rates

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Context

- Routine screening mammograms to detect breast cancer can save lives
 - But many eligible women do not obtain the screening (e.g.: average 30% in commercial HMOs¹). Even in high-performing health plans, many do not obtain.
- Financial incentives improved mammography uptake in some studies²
- Lottery incentives have not been evaluated for mammography
 - But, found effective for some other health behaviors³
- Depression may affect use of preventive services and possibly response to incentives

1. NCQA (2012). 2. Stone (2002) 3. Volpp (2008).

Study goals

- Address problem of eligible women who have not received mammogram in past 2.5 years (modified HEDIS selection criteria).
- Randomized controlled trial to evaluate impact of 3 types of low-cost financial incentives for members overdue for routine screening mammography
- Main outcome: Mammography rates
- Includes novel patient-choice option we term “person-centered incentives”
- Qualitative component: Insight into member views on incentives in this context

Design and Methods

Intervention Group 1	Reminder letter + \$15 gift card
Intervention Group 2	Reminder letter + prize-based incentive (1 of 5 \$250 gift cards)
Intervention Group 3	Reminder letter + member's choice of \$15 gift card or prize-based incentive
Control Group	Reminder letter only

Compare cross-group mammography rates
[n=1,175 each group, total=4,700]

Use multivariate modeling including covariates that may be predictive; key explanatory variable is incentives group

4-month intervention period

Sample and Intervention Period

- Privately insured, Tufts Health Plan, Massachusetts members
- Women 40-69 years old, no mammogram past 2.5 years
- Track mammography receipt during 4-month intervention period
- Mail incentives to members who received mammograms as appropriate to intervention group

Sample Description

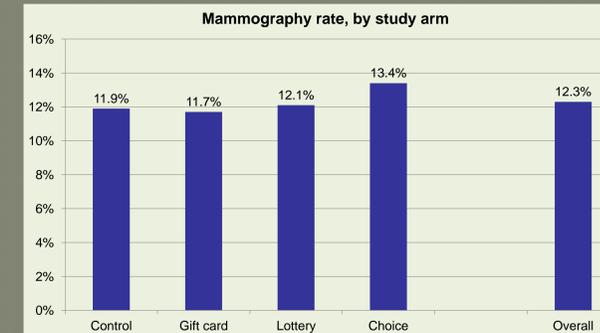
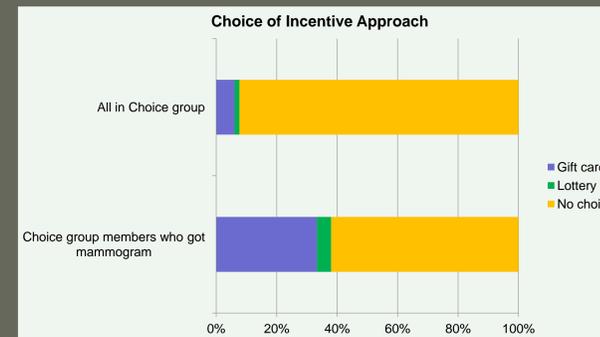
- n = 4,427 subjects *
- Education: 40% completed college, 50% completed high school, 10% neither
- Household income (from zip): mean=\$70,829
- Age: 36% were 40-49; 43% were 50-59, 21% were 60-69
- Common health conditions (in past 12 months, from diagnoses in claims):
 - 20% had hypertension,
 - 11% had depression

* After removing those with undeliverable mail, mammogram since sample selection but before intervention, etc.

Incentive Approaches

- GIFT CARD**
 - The goal was to test low-cost, widely feasible incentives (\$15)
- PRIZE-BASED**
 - We offered the chance to win one of five \$250 gift cards
- “PERSON-CENTERED” (CHOICE)**
 - Choice of \$15 gift card or prize-based
 - Allow each individual to self-match to the incentive she finds most meaningful
 - Could engage patient more in decision-making

Results

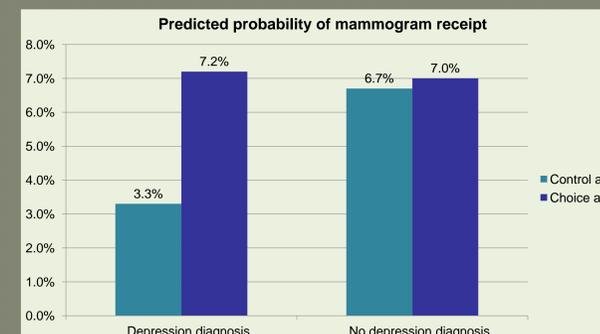


Multivariate results (preliminary)

	Adjusted Odds Ratio	95% Confidence Interval
Gift card	0.965	(0.674-1.179)
Prize-based	0.955	(0.669-1.167)
Choice	1.139	(0.806-1.394)

* Incentive group variables are not statistically significant.

Notes: Adjusted odds ratios are from a model that also included age categories, region indicators, whether member received mammogram before study period, whether enrolled throughout study, Charlson comorbidity category, college completion, number of local mammography facilities, and months enrolled.



Discussion

- Gift card was a more popular choice than prize-based, among those who indicated preference
- None of these incentives was found to be significantly more effective, compared to reminder only
- The sample consisted of women with no mammogram for over 2 years – perhaps especially hard to influence

Implications

- One could consider refinements:
 - Larger incentives, more appealing choices
 - More immediate rewards
 - Intervention might be effective with individuals who have had more recent screening
- The incentives may work better for subgroups, e.g. those with depression, or who are less overdue
 - May not be desirable to offer incentives only to subgroups
 - However, this can help inform further research on response to incentives

References

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Further Information

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