

Financial incentives plus information decrease patient preference for diagnostic testing

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Finance, risk & benefit in head CT

Scenario-based patient survey, 913 adult ED attenders

Excl: chest pain, recent head injury, altered mental status



Willingness to undergo diagnostic CT head

Benefit

Chance of detecting life-threatening bleed

0.1%

226
(49.6%)



1%

269
(58.9%)



Risk

Chance of developing cancer in next 10 years

0.1%

271
(59.3%)



1%

224
(49.1%)



Incentive

Cash from insurance to forgo testing

\$0

275
(60%)



\$100

220
(48.3%)



Effects persisted when adjusted for age, income, education level, numeracy, sex, race, ethnicity, previous health care training or employment, self-reported overall health, history of cancer, hypertension, diabetes, atrial fibrillation, myocardial infarction, and head trauma requiring hospital visit.

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Scenario-based patient survey of 913 adult emergency department attenders.
Credit: Kirsty Challen

Providing financial incentives to forego testing significantly decreases patient preference for testing, even when accounting for test benefit and risk. That is the finding of a study published in the October 2019 issue of *Academic Emergency Medicine* (AEM), a journal of the Society for Academic Emergency Medicine (SAEM).

The lead author of the study is Rahul Iyengar MD, a [resident physician](#) at Aurora St. Luke's Medical Center, Milwaukee, WI.

The study explores the hypothesis that patient preferences for diagnostic testing will vary substantially when the patient is presented with different quantitative information about risk, benefit and cost.

This single center survey indicated that patient "acceptance rate" for computerized tomographic (CT) imaging of the head varied substantially, even if the assumed risk and benefit of the [test](#) were varied only slightly: either 0.1 or 1%. This work supports the hypothesis that discussing benefits and risks of low-value diagnostic testing via head CT scan with patients, even when absolute benefit or risk is very low, may impact patients' decision-making and can be the scientific cornerstone of a shared decision-making model to reduce low value diagnostic testing.

Further, providing [financial incentives](#) to forego testing significantly decreased patient preference for testing, even when accounting for test benefit and risk, suggesting that implementation of a cash incentive to forego unnecessary [diagnostic testing](#) may further prove to be a successful method to decrease healthcare costs for ED patients.

The authors suggest that further study of the impact of financial incentives on patient decision making across other clinical scenarios and in nonhypothetical patient situations is needed.

Commenting on the study is Jesse Pines, MD, the National Director of

Clinical Innovation at US Acute Care Solutions and a professor of emergency Medicine at Drexel University. Dr. Pines works clinically in the emergency department at Allegheny General Hospital and Adventist Shady Grove Medical Center.

"This study was hypothetical in nature, but found financial incentives to patients to forego testing for head CT in low-risk scenarios lowered the likelihood they would choose to pursue testing, a preference that persisted even at different likelihoods of benefit and risk from the test. This demonstrates that patient preferences for ED care decisions may be influenced by financial considerations such as out-of-pocket costs—particularly in the case of using expensive tests like CT to find rare but important clinical findings. This work is important and deserves further study as increasingly patients are required to pay for care out-of-pocket in the United States."

More information: Rahul Iyengar et al, The Effect of Financial Incentives on Patient Decisions to Undergo Low-value Head Computed Tomography Scans, *Academic Emergency Medicine* (2019). DOI: [10.1111/acem.13823](https://doi.org/10.1111/acem.13823)

Provided by Society for Academic Emergency Medicine

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