

## Memorandum

Date: Nov 21th 2019

To: Dear Mr. Loepp

From: Zixi Liu

Subject: Proposal of Cost Control on Radiology Referrals in Philadelphia

In response to your firm's desire to design cost control and practice transformation initiatives to incentivize member physicians to refer patients to lower-cost radiology services, I want to propose a policy of monthly awards based on physicians' referrals of low-cost radiology providers. This policy will improve the quality of radiology referrals and potentially save up to \$25 million for BCBS Philadelphia. The design of this policy uses a small set of principles in behavioral economics, namely immediacy, relative social ranking, and mental accounting, that will promote member physicians to simultaneously provide high-quality radiology referrals and achieve cost-consciousness, saving your firm millions.

The policy I would implement is an award system by which providers would be ranked and rewarded each month based upon their rates of lower-cost radiology referrals. The physicians working at each provider would then be incentivized to provide referrals to lower-cost radiologists due to various behavioral economics principles. First, the principle of immediacy states that immediacy can improve people's responses as they overestimate immediate costs and benefits caused by their behaviors. In the context of radiology referrals, if physicians in one provider are frequently given feedback in terms of cost and quality of their radiology referrals, they are more likely to pay attention to these metrics and funnel patients to lower-cost providers. Second, the principle of relative social ranking shows that people can be influenced by their social ranking due to their sense of competitiveness. Physicians, valuing their social ranking, will be driven to improve the number of low-cost referrals they give when their hospitals were ranked by name. In terms of monthly rewards given to providers, I would suggest providing monetary awards to the top 5 providers that have the highest rate of low-cost radiology referrals. The bonus will be given to physicians in a separate check because of the principle of mental accounting.

Mental accounting is a principle that states people are more likely to respond to monetary incentives in separate checks than in one paycheck. This works for physicians as they would find rewards in a separate check more noticeable and as a result be incentivized.

There are certain challenges in implementing this proposal as well. First, the size of the semi-annual financial incentives needed to influence the behaviors of physicians is hard to decide. The Centers for Medicare and Medicaid Services (CMS) and Premier Inc., for instance, have been providing bonuses for hospitals based on performance and gave the top 10 percent of hospitals who provide the highest quality of care a 2 percent bonus on Medicare payments (Rosenthal 2004). However, if we want to motivate each physician in hospital, it is hard to decide how to distribute the bonus within teams of clinicians. Young physicians who are less wealthy may value monetary rewards more than experienced physicians but they will also offer less radiology referrals than the experienced. Despite complexity of distributing the reward, the up to \$25 million savings on radiology referrals will still make spending on this new policy worthy.

There is also another challenge such that introducing temporary monetary incentives can reduce subsequent willingness of physicians to making low-cost radiology referrals. As demonstrated by Deci, monetary incentives can crowd out intrinsic motivation and therefore rewarding low-cost radiology referrals can reduce the physicians' subsequent interest in referring patients to cheaper radiology services (Deci. 1971). If BCBS decide to just temporarily reward physicians for their high rate of low-cost referrals, it is likely to backfire when they stop paying for rewards or reward physicians less frequently. I would suggest that BCBS make this policy permanent because spending thousands on monthly rewards would be minimal comparing to the \$25 million savings each year.

If I were to evaluate whether the proposal is successful, I would first examine whether the policy is saving money for your firm. I would also like to see whether the percentage of low-cost radiology referrals has increased in each provider. I would specially look at the physicians who were making high-cost referrals and see whether the policy has changed their behavior. If this

new policy is indeed saving a great amount of money for your firm, I would suggest implementing it immediately on BCBS's member physicians in Philadelphia.

Best regards,

Zixi Liu

Senior Consultant

## Cited Articles

Meredith B. Rosenthal, Rushika Fernandopulle, HyunSook Ryu Song, and Bruce Landon, “Paying For Quality: Providers’ Incentives For Quality Improvement”, *Health Affairs* (March/April 2004). 5:5

Deci EL. 1971. Effects of externally mediated rewards on intrinsic motivation. *J. Personal. Soc. Psychol.* 18:105–15