Why Not? Persuading Clinicians to Reduce Overuse
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Abstract

Objective: To explore how best to deimplement nonrecommended medical services, which can result in excess costs and patient harm.

Methods: We conducted telephone interviews with 15 providers at 3 health systems from June 19 to November 21, 2017. Using the case of nonrecommended imaging in patients with cancer, participants assessed the potential for 7 rationales or “arguments,” each characterizing overuse in terms of a single problem type (cost or quality) and affected stakeholder group (clinicians, institutions, society, or patients), to convince colleagues to change their practices. We tested rationales for all problem-stakeholder combinations appearing in prior deimplementation studies.

Results: Participants’ views varied widely. Relatively few found cost arguments powerful, except for patients’ out-of-pocket costs. Participants were divided on institution-quality and clinician-quality rationales. Patient-quality rationales resonated strongly with nearly all participants. However, a “yes, but” phenomenon emerged: after initially expressing strong support for a rationale, participants often undercut it with denials or rationalizations.

Conclusion: Deimplementation efforts should combine multiple rationales appealing to clinicians’ diverse perspectives and priorities. In addition, efforts must consider the complex cognitive dynamics that can undercut data and reasoned argumentation.

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the optimal rationale (or set of rationales) for promoting clinician engagement in overuse-reduction efforts. Qualitative approaches have been identified as especially vital to this task.

We therefore sought to qualitatively explore the effectiveness of different rationales for convincing clinicians to reduce overuse, using nonrecommended diagnostic imaging in patients with breast cancer as a case in point. Our purpose was to examine in depth the range of clinicians’ views, exploring such crucial questions as: Are clinicians concerned about overuse? What overuse consequences resonate with them, and why? We hypothesized that clinicians would respond more strongly to arguments focusing on patients and quality problems than to those focused on costs and other stakeholders.

METHODS

We conducted interviews with clinicians, focusing on nonrecommended diagnostic imaging in patients with cancer. This topic presents ripe terrain for exploring overuse-reduction strategies. First, diagnostic imaging is a commonly overused service in the cancer setting. Second, there is evidence of wide provider-driven variation in rates of nonrecommended imaging in patients with cancer. Finally, overuse in oncology may be particularly detrimental given high disease acuity and high costs.

From June 19 to November 21, 2017, one author (K.L.D.-M.) conducted 30-minute telephone interviews with clinicians at Memorial Sloan Kettering (MSK) Cancer Center in New York, New York (a tertiary cancer-focused institution); Hartford HealthCare Cancer Institute (HHCI) in Hartford, Connecticut; and Lehigh Valley Healthcare Network (LVHN) in Allentown, Pennsylvania. HHCI and LVHN are members of the MSK Cancer Alliance, a quality-improvement collaboration between MSK and community-based providers. These sites represent an optimal mix for exploring providers’ attitudes around overuse. Geographically and institutionally varied, they have diverse payment models and include a large urban cancer center and suburban and rural community hospitals. While sharing common cancer-care standards, including MSK’s diagnostic testing guidelines, they exhibit institutional differences in nonrecommended imaging rates.

Discussions centered on a hypothetical situation introduced by the interviewer:

Imagine you wanted to reduce unnecessary use of an imaging test by your colleagues. I’m going to take you through a list of arguments that you might offer to try and convince a colleague to change his or her practice. I’d like to know which of these statements, if true, would be likely to change your colleague’s behavior.

Participants were asked to consider 7 arguments or rationales, each characterizing overuse in terms of a single problem type (cost or quality).
and affected stakeholder group (clinicians, institutions, society, or patients; Table 1). These rationales were supported by studies of MD attitudes toward overuse and reflect all relevant problem-stakeholder combinations described or tested in prior deimplementation studies, including 2 variations for patient quality (lack of benefit to patient and harm to patient). We did not develop rationales for 2 problem-stakeholder combinations absent from the literature (clinician-cost and society-quality).

Participants were guided to assess each rationale in turn, rating it as very, somewhat, or not compelling. The moderator prompted participants to elaborate on their responses, explaining in greater depth why each rationale would or would not convince colleagues to change their practices. Finally, participants reviewed all 7 rationales and selected the most, second most, and least powerful.

The authors reviewed each interview before conducting the next to enable exploration of emergent concepts. Data saturation was achieved through 15 interviews in which similar themes recurred. Using standard-content analysis techniques, 4 authors (S.C.C., K.L.D.-M., D.R.K., and A.N.L.-S.) reviewed 3 transcripts to identify major themes and draft a codebook. Two transcripts were test-coded to finalize the codebook (Supplemental Appendix C, available online at https://mcpiqojournal.org). Two authors (B.E.B. and K.L.D.-M.) independently coded 14 transcripts (audio was unavailable for 1 interview) using QDA Miner software (Provalis Research). Coding differences were resolved through consensus, with a third author (S.C.C.) participating as needed.

RESULTS
Fifteen individuals participated, 5 from each location. Most (11) were MDs, with 3 NPs and 1 APRN. Participants had been in practice for an average of 9 years (Table 2).

Participants’ assessments of the 7 rationales varied, but most favored arguments about patients and quality over those about costs and other stakeholders. However, even when participants initially expressed strong support for a rationale, they often went on to supply rationalizations or denials undercutting it.

Clinician-Quality and Institution-Quality Comparisons: Wanting to Fit In
Participants considered 2 peer-comparison rationales for the combinations of institution-quality and clinician-quality: “Clinicians at your institution use this test more frequently than clinicians at comparable institutions” and “Your colleague uses this test more frequently than other clinicians at your institution.” Nearly all (12 and 14, respectively) rated these rationales as somewhat or very compelling (Table 3), agreeing they could drive change among “outlier” colleagues.

It will make them think about why they are the outliers [and] whether they are overutilizing. [MD at LVHN]
That colleague would go to his or her other colleagues and ask, why don’t you order [this test]? Or what do you order in its place? Or how do you make your treatment decisions without it? [MD at LVHN]

They found the clinician-quality rationale particularly convincing.

So Dr X is ordering 500 PET [positron emission tomography] scans and Dr ABC is ordering 3? That’s compelling. [MD at MSK]

Because you’re working at the same hospital, same patient population…That would be a compelling argument for my colleague to look into why he’s ordering more - is he not following the guideline or standard of care? [MD at HHCI]

However, despite this initial enthusiasm, many participants proceeded to cast doubt on the arguments. Some questioned the value of peer comparisons in general.

A difference [in rates] doesn’t necessarily mean that one is better than the other. [MD at HHCI]

Others cautioned that peer comparisons could trigger indifference or hostility.

Some people don’t care…like, “Nope, this is what I like to do.” [NP at MSK]

Pointing out [behaviors]… might make people angry. [MD at HHCI]

In the end, participants were divided. About a third (5) ultimately rated these rationales most or second-most powerful, while a similar number (4) judged them least powerful (Table 4).

### Detachment From Institutional and Societal Costs

Participants considered 2 rationales about institutional and societal costs: “This test leads to higher costs for the hospital or practice” and “This test contributes to higher costs in the health care system.” About half (7 and 9, respectively) found these arguments very or somewhat compelling, describing them as timely and relevant.

All of us are getting cost aware…Regardless of whose pocket it is coming from, we are all paying for it at the end of the day…We have to be responsible. [MD at HHCI]

Cancer is a big financial burden for the health care system…All the medications are all very expensive, all these tests that we do…Everything adds up. [MD at LVHN]

However, again, support soon gave way to critiques. Some participants doubted the arguments’ effectiveness given clinicians’ focus on individual patients.

We are all mindful of the high costs in the health care system, but when it comes to that individual patient sitting in front of you…[you] focus on the immediate and less on the global picture. [MD at MSK]

When people order tests…they’re thinking of the individual and not the greater [picture]…We kind of look at each person and not the system. [NP at MSK]

Others described clinicians’ insulation from costs.

Most of us don’t even know what most things cost…We don’t deal with billing stuff…We’re very out of the loop. [NP at MSK]

I’m an employed physician so…if I want to have that test done, I don’t have to worry about the cost. [MD at HHCI]
Ultimately, no participants selected these rationales as most or second-most powerful. About a third rated them least powerful.

**Sensitivity to Patients’ Costs**
Nearly all participants (13) found “This test leads to higher out-of-pocket costs for patients” somewhat or very compelling. They vividly described the issue.

> Having to pay for parking, taking a day from work, getting a babysitter, there are so many things that come into play. [MD at MSK]

There is a large financial burden on our patients. And we try to do our best…to help them in whatever way we can, so that patients are not selling their houses to get through their treatment. [MD at LVHN]

However, again, many went on to undercut the argument. Some denied it applied to most patients.

There is…a fair amount of assistance around to help patients. The majority of time this isn’t an issue. [APRN at HHCI]

Others deflected responsibility, citing demanding patients.

> Frequently [testing] is driven by patients. [MD at MSK]

> For some, the fear of “missing something” overrode cost considerations.

We all try to be mindful of out-of-pocket costs, but…at the end of the day, many providers are just nervous about missing a potential diagnosis. [MD at MSK]

Ultimately, this rationale did not stand out: no participants selected it as most, second-most, or least powerful.

**Patient-Quality I: Supporting Lack of Benefit**
Nearly all participants (14) characterized “This test does not benefit patients” as somewhat or very compelling, if bolstered by evidence:

| TABLE 4. Rankings of Rationales to Reduce Unnecessary Testing |
|---------------------------------------------------------------|
| **Which Would be the Most Powerful Argument for Convincing Your** |
| **Colleagues to Change Their Practice? Second Most Powerful? Least Powerful?** |
|-------------------------------------------------------------------------------|
| Most Powerful | Second Most Powerful | Least Powerful |
|----------------|---------------------|----------------|
| Clinicians at your institution use this test more frequently than clinicians at comparable institutions | 2 | 1 | 2 |
| Your colleague uses this test more frequently than other clinicians at your institution | 4 | 0 | 2 |
| This test contributes to higher costs in the health care system | 0 | 0 | 6 |
| This test leads to higher costs for the hospital or practice | 0 | 0 | 5 |
| This test leads to higher out-of-pocket costs for patients | 0 | 0 | 0 |
| This test does not benefit patients | 7 | 2 | 0 |
| This test has the potential to harm patients | 2 | 12 | 0 |

TABLE 3. Assessments of Rationales to Reduce Unnecessary Imaging

| Would Your Colleagues Find This Argument Very, Somewhat, or Not Compelling? | Very Compelling | Somewhat Compelling | Not Compelling |
|----------------------------------------------------------------------------|-----------------|---------------------|----------------|
| Clinicians at your institution use this test more frequently than clinicians at comparable institutions | 6 | 6 | 3 |
| Your colleague uses this test more frequently than other clinicians at your institution | 7 | 8 | 0 |
| This test contributes to higher costs in the health care system | 0 | 8 | 7 |
| This test leads to higher costs for the hospital or practice | 2 | 5 | 8 |
| This test leads to higher out-of-pocket costs for patients | 5 | 8 | 2 |
| This test does not benefit patients | 3 | 11 | 1 |
| This test has the potential to harm patients | 6 | 7 | 2 |
[If] I have robust data, yes, this argument could work. [MD at HHCI]

In God we trust. Everybody else needs data. [MD at LVHN]

Nonetheless, support soon eroded. Some prioritized colleagues’ judgment.

We kind of respect the fact that [colleagues] have their own patient experience as well as the medical knowledge…so I would have a hard time [using this argument]. [MD at HHCI]

Others doubted the lack of benefit.

[The test] certainly would benefit the patient if there was a positive result. [MD at MSK]

Again, many suggested that fears of “missing something” were overwhelming.

I understand that I may only pick up that 1 patient out of 10…but I don’t want to miss that 1. [MD at LVHN]

In the end, about two-thirds of participants (9) judged this argument most or second-most powerful; none rated it least powerful.

Patient-Quality II: Prioritizing Harms

Nearly all participants (13) found “This test has the potential to harm patients” somewhat or very compelling, given evidence.

[If you] back this up with some data, then I think this could be a compelling argument. [MD at HHCI]

It would have to be a list of what the harms were, what the incidence of the harms were, what the sequelae of the harms were. [MD at LVHN]

When pressed to elaborate, most wanted clinical research data.

The gold standard is certainly a randomized clinical trial, but in the absence of that…retrospective studies, institutional studies. [MD at MSK]

Outcome studies…even in-house studies for possible [harms]…then definitely it would make a difference. [MD at LVHN]

A few found patient stories of harm highly persuasive.

Patient stories stick a lot. They kind of stick in my mind more. [MD at LVHN]

Others, however, said patient stories weakened the argument.

That’s a little too emotional and too subjective. [MD at MSK]

You don’t really make decisions on the basis of some anecdotal report. [MD at LVHN]

Participants’ support also hinged on the type of harm (Table 5). A few (4) found treatment inconvenience compelling.

Oftentimes it’s not just one scan, it’s this scan, [that] scan, and it’s coordinating…It’s very difficult for patients to make this happen. [MD at MSK]

We have a lot of older patients, or people don’t have cars or need transportation arranged, so this…definitely is an issue, just physically getting tests done. [MD at HHCI]

Most, however, dismissed inconvenience as immaterial to patients and clinicians alike.

[Patients] are used to getting tests done. [MD at LVHN]

[Clinicians] feel like, “Who cares if it’s inconvenient?” [MD at HHCI]

Participants expressed more concern for patient anxiety. About half (7) found this

| TABLE 5. Views of Harms to Patients |
|-----------------------------------|
| **What Kind of Harm Might Move Your Colleagues to Change Their Practices?** |
| **Yes** | **No** | **Do Not Know/Neutral** |
| Inconvenience to patients | 4 | 5 | 6 |
| Patient anxiety | 7 | 5 | 3 |
| Adverse events | 11 | 0 | 4 |
| Harm from unnecessary downstream testing | 13 | 0 | 2 |
harm compelling, vividly recounting patients’ distress.

Just a regular MRI [magnetic resonance imaging] can be a harm if you don’t really need it, because a lot of people are very anxious and claustrophobic about it. [MD at LVHN]

Anxiety or worry if there’s any sort of false positive. [MD at HHCI]

Catching it really early doesn’t really change the outcome, but when someone has that label of having [metastatic disease], it’s devastating. [RN at MSK]

Yet again, support gave way to rationalizations and denials. Many argued that anxiety was manageable.

If the anxiety is that...they’re going to find something, then we [explain], “Well, would you not want to know if there was something going on, and we can take care of it sooner rather than later?” Or if they’re anxious about the test itself...then we [respond] by giving them an anxiolytic. [MD at HHCI]

Others contended that testing alleviated anxiety.

That is probably the reason so many [tests] are done, because the patients are anxious. [MD at MSK]

If [patients] had negative [results], they would be very relieved. [MD at MSK]

Sometimes I think tests are ordered because certain patients need to be tested more for their own psyche. [MD at MSK]

One went so far as to deny that anxiety was harmful, even when findings were unactionable.

Knowing...things you can’t act upon...adds to anxiety, but...there’s always value in finding things... So it’s never harmful to a patient to know. [MD at MSK]

Turning to unnecessary downstream testing and adverse events, most (13 and 11, respectively) initially found these harms compelling.

It’s one of the many reasons why sometimes we don’t do certain tests...I’m more likely to pick up benign things that require biopsy or follow-up, and it can just cause a whole cascade of tests that might be unnecessary. [NP at MSK]

Any kind of lasting side effect - for example, kidney damage or radiation-induced effects...increase in probability of secondary cancer. [MD at LVHN]

Yet again, critiques followed. Several disputed or downplayed the risks. That potential harm is very small...I don’t see a whole lot of unnecessary downstream testing. Very rare. [MD at LVHN]

[These] are pretty safe tests. So obviously there’s always some risk, but the risk is pretty low. [MD at HHCI]

Ultimately, a consensus emerged: 14 participants selected the patient-harm argument as most or second-most powerful; none identified it as least powerful.

DISCUSSION

Our study sheds light on optimal approaches for increasing clinician engagement in deimplementation efforts. Participants’ perspectives varied widely, with different arguments resonating strongly with some but falling flat with others. However, several broad trends emerged. First, as hypothesized, cost-related rationales held limited appeal. Although patient costs received more support than hospital and system costs, no participant identified any cost argument as most powerful, and many rated them least powerful. Second, participants were sharply divided on clinician-quality and institution-quality rationales. Some viewed these peer-comparison arguments as strong, but others dismissed them as ineffective. Third, support was robust and consistent for rationales about patient harm and lack of benefit. Though several demanded data or disputed the arguments, nearly all ultimately ranked these statements as
most or second-most powerful, and none characterized them as least powerful.

A critical “yes, but” trend also emerged. Even when participants initially expressed strong support for an argument, they proceeded to supply rationalizations or denials challenging it. In so doing, they described many clinician-identified drivers of overuse, including insulation from costs, fears of “missing something,” and patient demands.\textsuperscript{36-38} Often, the “yes, but” phenomenon revealed participants’ disbelief that overuse can cause nontrivial harms, which is consistent with research showing that clinicians often underestimate interventions’ harms and overestimate benefits.\textsuperscript{39}

Our findings contrast with those of a recent survey evaluating physician attitudes toward financial penalties to deter use of low-value services.\textsuperscript{16} Support for penalties was strongest when unnecessary services were described in terms of harms to society, rather than patients or health care institutions. This contrast may be explained by clinical scenarios and context. The survey presented familiar inpatient-medicine examples, in which participants may have doubted actual harms. Further, the study’s emphasis on financial penalties may have led to greater cost sensitivity due to loss aversion.\textsuperscript{40} Conversely, our interviews focused on imaging in cancer care and explicitly prompted participants to consider both quality and cost problems. Additional research should elucidate the optimal discursive approach for reducing overuse in different health care contexts.

The “yes, but” phenomenon we observed is a novel finding enabled by our qualitative methodology. Clinician attitudes toward overuse and efforts to reduce it are generally measured using surveys, which can capture initial support—the “yes”—but not the subsequent nuanced cognitive processes—the “but”—which powerfully shape behavior.\textsuperscript{41-43} Our findings may therefore help explain why, for example, clinicians report concerns about overuse while commonly offering services that patients themselves perceive as unnecessary.\textsuperscript{44,45}

The “yes, but” phenomenon may also clarify why peer comparisons, in both deimplementation efforts and other quality-improvement contexts, have been less effective than anticipated.\textsuperscript{10} because clinicians’ denials or rationalizations can undermine comparisons’ impact. Overuse-reduction and other performance-improvement efforts must take into account these complex cognitive dynamics.

Our results underscore the challenges of changing behavior when powerful psychological and social pressures can overwhelm data and reasoned argumentation. The “yes, but” phenomenon may exemplify the dominance of well-described cognitive biases. For example, availability bias leads clinicians to overestimate the likelihood of finding metastatic disease on routine scans, and regret bias leads them to overvalue scanning to avoid remorse from missed abnormalities.\textsuperscript{46} Pressures also arise from patients. Many in our study described patient demand as driving unnecessary tests and treatments. Although patient demand may be weaker than clinicians perceive,\textsuperscript{47,48} future research should explore strategies for clinicians to effectively communicate with patients about overuse.

Our study has some limitations. First, we interviewed only breast cancer clinicians, so it is unclear whether our results translate to other contexts. Second, our findings reflect expressed views, not observed behavior. Future work should assess clinicians’ real-world decision making. Third, as with any qualitative study, our sample size was limited; interviews with more clinicians in other contexts may have uncovered additional insights. However, our findings are intended not to quantify but to elicit the range and dynamics of clinicians’ views. Also, we sampled from a strategic mix of sites, so geographic and institutional diversity are strengths of this study.

CONCLUSION

Our findings suggest that overuse-reduction efforts should combine multiple argument rationales, touching on different problem types and stakeholders, to appeal to clinicians’ diverse perspectives. Several study participants suggested this approach, noting that “I size does not fit all.” Defining the optimal combination of rationales and developing an evidence base to support them are important next steps. As practices, hospitals, and health systems work to reduce overuse, determining how to maximize clinician support will be critical for success.
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SUPPLEMENTAL ONLINE MATERIAL
Supplemental material can be found online at https://mcpiqojournal.org. Supplemental material attached to journal articles has not been edited, and the authors take responsibility for the accuracy of all data.

Abbreviations and Acronyms: APRN = advanced practice registered nurse; HHCI = Hartford HealthCare Cancer Institute; LVHN = Lehigh Valley Healthcare Network; MD = physician; MSK = Memorial Sloan Kettering; NP = nurse practitioner;

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