

## Is Advanced Access an Advancement for Primary Care?

Rose KD, Ross JS, Horwitz LI. *Advanced access scheduling outcomes: a systematic review. Arch Intern Med 2011 Apr 25 [online ahead of print].*

### Study Overview

**Objective.** To summarize research regarding outcomes of advanced access scheduling in the primary care setting.

**Design.** Systematic review.

**Review methodology.** Advanced access was defined as a scheduling system that allowed patients to receive care from their providers at the time of the patient's choosing instead of scheduled visits weeks or months ahead of time. The investigators conducted a comprehensive search of publicly available electronic databases (MEDLINE, OVID, Web of Science, Scopus) through August 2010 as well as bibliographies of resultant studies. They included English-language studies with specified methods and outcomes data that assessed implementation of advanced access scheduling in the primary care setting. Two investigators independently extracted data and assessed for bias using a modified version of the Cochrane Effective Practice and Organization of Care Group Risk of Bias criteria.

**Main outcome measures.** Time to third-next-available appointment, physician and practice outcomes, and patient outcomes. Physician and practice outcomes included no-show rates, provider satisfaction, and fiscal outcomes. Patient-level outcomes included satisfaction, continuity of care measures, emergency and urgent care utilization, chronic disease quality measures, and lost-to follow-up as-

sessments. Given the heterogeneity of outcomes and lack of uniform reporting, the authors were unable to conduct a meta-analysis.

**Main results.** The authors found 2691 citations. 28 articles encompassing 24 studies from the US and UK met eligibility criteria. The settings for the studies ranged from small private practices in the US to large integrated health providers such as the VA in the US or NHS practices in the UK. Most studies were pre/post designs without concurrent controls, and only 1 was a randomized controlled trial. Only one-third of studies reported a clear access outcome measure (time to third-next-available appointment), and there was great heterogeneity of outcomes across the various studies. Overall, advanced access was associated with decreased time to third-next-available appointment in all 8 studies in which it was measured, with relative differences of 50% or greater (all  $P < 0.05$ ) in all 5 of the studies in which statistical tests were applied. Notably, only 2 studies reported that time to third-next-appointment dropped below 48 hours. Both of these studies started with baseline wait times between 3 and 4 days, much shorter than other studies discussed (18- to 36-day wait times). No show rate changes were presented in 11 studies, ranging from 0% to -24%. Four of the 11 studies reported statistically significant ( $P < 0.05$ ) decreases, 4 studies reported nonsignificant changes, and 3 studies did not report statistical results. Overall patient satisfaction improved in 1 study, was unchanged in 2 studies,

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and not compared statistically in 2 studies. Four studies of appointment system satisfaction showed 3 with nonsignificant differences and 1 without statistical comparison. Urgent care utilization decreased in the 2 studies that measured it, while emergency room use and hospitalization appeared generally unchanged. Continuity of care and loss to follow up rates showed generally mixed results, though there was some suggestion of possible increased loss to follow up, and some chronic disease process measures improved slightly.

**Conclusion.** Research on advanced access scheduling is heterogeneous and of suboptimal quality for systematic comparison. Most studies describe difficulties with full implementation. Wait times and no-show rates may improve, but data are mixed or insufficient for satisfaction, utilization, continuity, and quality of care outcomes.

**Commentary**

Popularized over a decade ago by advocates of patient-centered care such as Don Berwick, advanced access scheduling has become a widely advocated quality improvement initiative in primary care. However, little is known about its effects on outcomes or even its potential to be fully implemented. In this context, the study by Rose and colleagues is a welcome addition.

They carried out a well-conducted systematic review of the literature on advanced access, concluding that while wait times and no show rates may decrease, other outcomes have insufficient data to draw any firm conclusions. Overall, they highlight the paucity of high-quality studies in this arena that clearly can establish a link between this practice improvement initiative and real-world outcome changes.

So what are we to draw from these results? At least 3 reasonable possibilities emerge. First, perhaps there is little to no association between meaningful improved outcomes and advanced access policies. Second, there could be a relationship between them, but the studies conducted so far are of insufficient quality, design, or duration to adequately describe this association. Or third, the studies so far are not measuring the right exposure or outcomes.

The first possibility ignores the fact that when measured, significant declines were seen in real waiting times and no show rates in nearly all of the studies, regardless of setting. Other outcome measures were so heterogeneous as to make firm conclusions nearly impossible to draw, but that does not discount changes seen in ED utilization and some quality process measures for chronic diseases. Notably, though, some measures such as loss to follow-up showed concerning signals after advanced access implementation.

The second possibility is certainly a factor in the contradictory results given that a minority of studies used control

groups or even measured outcomes of interests in a statistically comparable way. Many studies also were contaminated by concomitant quality improvement initiatives in the clinics. The follow-up time was also generally short, often less than 12 months.

Finally, the third possibility bears some careful consideration. The investigators conclude quite reasonably that advanced access has limited high-quality studies supporting its implementation. However, their implication that this strategy therefore is not necessarily worth pursuing until a randomized controlled trial proving its efficacy is conducted is debatable. It is not clear that the original goal of full “open” access scheduling, where all appointments are scheduled on an as-needed basis, is a laudable target, especially given the troubling loss to follow-up signals seen. The authors point out that most initiatives studied could not reach a time to third-next-available appointment within 48 hours using this target. But in an era of team-based care, proactive shared care planning, and other patient-centered primary care initiatives, this full advanced access model seems potentially misguided. Rather, it may be that clinics should aim to keep a minority of appointment slots open for same day or same week scheduling, while keeping the majority of visits as scheduled in order to promote longitudinal follow-up for chronic conditions. A hybrid model such as this can be adequately supported by teams enabled through physician extenders in the patient-centered medical home (PCMH) model, and guideline standards around PCMH recognition appear to support this type of implementation. Studying whether this hybrid model is associated with some of the waiting time and outcomes benefits without increased loss to follow-up is an important goal for future research in this area.

**Applications for Clinical Practice**

While it is important to tease out the individual effects of advanced access, studying it in isolation from wholesale practice transformation may be difficult at best and misleading at worst. Reductivist scientific models looking to disentangle the effect of individual interventions on specific outcomes ignore the complex adaptive system nature of real-world primary care practices undergoing transformation. Current large-scale health delivery reform requires rethinking old paradigmatic assumptions about the hierarchy of knowledge production within health services research. Waiting for the “perfect” controlled trial to happen may not give policymakers and practitioners the answers they need now to move forward with delivery reform. Rather, it may be that multiple well-described pre/post, case study, or qualitative evaluations of these interventions have much wisdom to offer, even if their results do not rate highly on Cochrane review scores or

enable future meta-analyses. The question of whether advanced access “works” may not even be the right one to ask. As Leif Solberg points out in an accompanying editorial, one finds it hard to imagine that transforming toward more patient-centered care can be done without radically improving access to appointments when and how patients want and need them [1]. Therefore, the issue is not whether advanced access is a worthwhile goal, but

rather what kind of advanced access program meets the particular needs of patients the best.

*—Review by Asaf Bitton, MD, MPH*

### Reference

1. Solberg L. Advanced access—fad or important? Arch Intern Med 2011 Apr 25.

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