Title: Automated Referral to Centralized Pharmacy Services for Evidence-Based Statin Initiation in High-Risk Patients
Participants: Dr Alexander Fanaroff
Date: 13/11/23

Dr Alexander Fanaroff

"I'm Alex Fanaroff. I'm an interventional cardiologist assistant professor of Medicine at the University of Pennsylvania.

Reasoning Behind this Trial

So statins are highly effective at preventing cardiovascular events, at preventing secondary cardiovascular events in patients that have already had events. But a lot of patients that are supposed to be on statins are not prescribed them. When you ask primary care providers, give them hypothetical patient scenarios and you ask them to pick the patient should be on statins, they get it right most of the time. So the issue about getting patients on statins is not that primary care providers don't know, it's just that they don't really have enough time to take care of all the preventive care needs for their patients in addition to all the acute needs in their clinic visits. And clinical pharmacists can be really helpful at getting patients that should be on statins and other preventive medicines onto statins, but it's hard to know exactly how to operationalize that in clinical practice. So that's what led to this study that we did.

Patient Population and Study Design

So we did two clinical trials here in similar patient populations so that the patient population was patients that were seen in primary care clinics in Lancaster, Pennsylvania, that had an indication for a higher intermediate dose statin, but were not prescribed statins. And so, like I said, we did two clinical trials in these patient populations. One trial was done at one clinic and it was a stepped wedge clinical trial of an interruptive EHR alert that showed up in physicians EHRs when they saw a patient that met study criteria. And clinicians were randomised at the single clinic into one of two groups. In one, the EHR alert came on in months three through nine of the trial, and

the other one, it came on just in months six through nine. And we looked at the difference between patients that were seen by clinicians in group one versus group two to see the effect of the interruptive visit based EHR notification.

The second trial was a cluster-randomised trial at ten clinics in Lancaster, Pennsylvania. And in this one, the clinics were randomised to either usual care or to identify patients that had an indication for a statin but were not on statins, and to have an appended order for pharmacist consultation placed into the clinician's inbox for signing. And so in both cases, in that case, when the clinician entered the order or when the clinician signed the order for the pharmacy consult, the pharmacist called the patient and talked about getting them onto an appropriate dose statin.

Key Findings

So in the cluster randomised trial sorry, in the stepped wedge trial of the visit based intervention, we saw that there was about a three to five percentage point increase in the percentage of patients that were prescribed the statin in the intervention arm versus the usual care arm. So a three to 5% increase in percentage of patients prescribed to statin appropriately. And then there was about a one to two percentage point increase in the proportion of patients that were prescribed to stat at the appropriate dose in the cluster randomised trial of the non visit-based interventions. The one where we just put the orders into the clinician's inbox and had them sign them all. And the pharmacist just called all the patients that were relevant the intervention. So just putting the order in increased the proportion of patients prescribed a statin by 16 percentage points and increased the proportion of patients prescribed an appropriate dose statin by 17 percentage points. So a much bigger effect was sort of the non visit-based approach or the asynchronous approach of just putting orders into physicians mailbox for them to sign.

Take-Home Messages

So I think that the take-home message is that this asynchronous approach of sort of bypassing clinicians and not putting something else onto their plate is much more

effective at getting them to getting prescriptions of sort of these medications that are effective at reducing events. And if you sort of look at the implications of a 17 percentage point increase in patients prescribed statins, it's fairly significant. So these are patients with about a 17% risk of ASCVD events over the next ten years and statins reduce that risk by about 33%. So in patients that are prescribed to statin, we're reducing their risk for about 17% to 11%. So about a number needed to treat of about 17. So if we're increasing statin prescriptions by 17%. So for every 100 orders that we put in, we're reducing one cardiovascular event over ten years. That's a pretty substantial decrease in cardiovascular events.

So this is an effective strategies and adjunct sort of visit-based strategies to sort of engage the pharmacist early and help get patients on medicines that they should be prescribed.

Next Steps

I think the next steps it was a 2000 patient trial, it's fairly significant, but it was really only in one health system and in ten clinics. I think the question is whether this can be scaled across multiple health systems, whether this is the sort of thing that you can do in multiple health systems and how to implement it more broadly. And I think the other question is, does it have to be a pharmacist that does this pharmacist time is pretty valuable and could we do this with nurses or NPS or sort of patient care navigators? Does it have to be pharmacists? And I think those are the questions that we're looking to answer next. Thank you."