Perceptions of the Effects of Electronic Health Records on Staffing, Workflow and Productivity in Community Health Centers

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Background

- Number of community health centers using electronic health records has more than doubled since 2009
  - Supported by federal investments under Health Information Technology for Economic and Clinical Health Act & Affordable Care Act

- EHR implementation has been linked to new and changing staff roles in primary care settings
  - New roles: scribes, IT staff, quality improvement staff
  - Changing roles: medical assistants, nurses

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Background

- EHR implementation is known to cause significant changes to clinicians' use of time and productivity
  - Clinicians spend more time on charting & disease prevention tasks, less time on prescribing & within-office communication
- EHR implementation by CHCs enables study of how new technology intersects with staffing changes to influence care delivery
  - CHCs use flexible and innovative staffing models
  - CHCs are subject to data reporting requirements & incentives (Uniform Data System, Meaningful Use) that may influence staffing decisions, workflows and productivity

Study Objectives

- To understand how community health centers' implementation of electronic health records has changed staffing models, staff roles and workflows

- To understand the mechanisms by which using electronic health records influences staff productivity, coordination between providers and quality of care in community health centers

Study Design & Methods

- Qualitative exploratory study of EHR implementation at CHCs
- Interviews with 17 staff members at 6 CHCs
  - Variety of staffing configurations and EHR experience levels
- Domains:
  - Staff roles & staffing models
  - Workflow & productivity
  - Coordination & quality
- Funder: HRSA Health Workforce Research Center

Study Design & Methods

- Identified potential participants using 2014 Uniform Data System data
  - Aimed for variety of CHC size, state policy context, EHR experience level, EHR system
- Invited potential participants via email and telephone
- Conducted telephone interviews with CHC administrators, support staff & clinicians
- Audio recorded & transcribed interviews
- Conducted thematic analysis of interview transcripts in ATLAS.ti

New Staff Roles:
Making the Case

"I think another area that we've been able to use the system to really help is the Medicare Wellness Visit. This was one of those arguments that we have with providers who are like, 'I see my Medicare patients every five months. They're coming in,' and we're like, 'But they're not getting all that stuff needed to be done,' because they'd come in and they'd have one of their chronic issues that need to be done, or refills, and they'd spend the time on that. [Our analyst] would often say when we would do chart audits we see, 'Address next visit, address it next visit, address it next visit.' This time we were able to make the case. And this is maybe one of those positions that changed, is that we are now using a nurse practitioner to serve one of our group of our sites…She does the Welcome to Medicare, or the Annual Wellness Visit for them."

(CHC Chief Operating Officer)

New Staff Roles:
Making the Case

"I know how much [the case manager] does because she's right down the hall from me. I hear the patients coming in, I hear the providers coming in…, but we have no way to show what kind of work she's doing, how long she's doing it, how long it takes…. You can't show that in reports, and that's what we're hoping, to start pulling out more numbers of who she's helping, how many she's helping. It would be really nice to see a report that says she educated 35 new diabetics this month. That can really show justice to her position, whereas right now we just say, 'Yeah, she does a lot.' …but that's not something that you can prove and put on paper to justify needing another one."

(CHC Nurse)

Expanded Staff Roles:
Maximizing Value

"How do we help the staff use the data that's in the system when we have good data? What kind of roles are people going to play? If we're going to use someone who, for lack of a better term, is going to help be the investigator for the doctor and do that all the information, preventative care the critical decisions, support questions and preventative... And kind of tee up the patients for the doctors so they can just go in and see them, who's that going to be? Is it an LPN? Is it an MA? Or does everybody need one? How many do you need per provider [and that] sort of thing. We make sure that we really are taking advantage of the system, and doing the good preventative care that we should be."

(CHC Nurse)

Expanded Staff Roles:
Fostering Provider Trust

"My big thing is trying to utilize the support staff to help achieve the quality goals. Trying to help the provider realize it doesn't have to be a one-person show…A lot of that is helping pull them along the paradigm so that they are willing to shift, and not everybody's quite there…A number of our more vintage physicians in family practice were not really trusting of the MAs to do that information gathering and documentation. We still have that, [and it] of course slows down the process, since we should be working as teams…We are gradually having the folks that wanted to do everything themselves, physicians…finally coming around to allowing the MAs to actually enter the information and save themselves a little bit of time and effort in getting the part of the EHR documentation done that they need to do, in addition to actually talking with and seeing the patients."

(CHC Chief Medical Officer)

Expanded Staff Roles:
Importance of Critical Thinking

"How do [we] interview new staff to make sure we get staff that have those critical thinking skills, and not just a license? Because a certification isn't enough. Doing some kind of behavioral interviewing and giving scenarios to say, 'Okay, what is this?'…It's challenged us to look at where are the good folks coming from, from what nursing schools, or medical assistant training programs…And do we want to not take candidates from a certain school, because there are issues with those students, and gap in knowledge? Or do we want to talk about that school, and kind of partner and say, 'You know, we're noticing everybody we have from you has this gap. How can we help do that?' I think that's one of the things that we've noticed from the outside that's changed the need in the workforce as well."

(CHC Chief Operating Officer)

Reduced Productivity:
Short and Long Term

"I think initially, when we first went from paper to electronic health records, it's pretty well-known that the corporate-wide productivity dropped as we were doing that. It's a pretty big transition. Now that we've been in electronic health records a while, I think, again, from what I hear from an organizational standpoint, we still are not as productive as we were when we were just on paper. I think it kind of goes back to what we've said. The process takes longer to keep everything updated from the front to the back, and the patients are here longer to get that process completed, so I guess I would say productivity has decreased. I hope quality has increased, but overall, if I had to say true or false, I would say productivity, as far as [the number of patients we can see in a day] has decreased."

(CHC Nurse Manager)

Quality & Population Health:
Tracking Patients Outside the Facility

"We did have one reporting tool that…was on top of the system that would dig into the system and create reports out of it, a report writer program we purchased separately. I remember one provider saying, 'I really thought that I saw my diabetic patients on a regular basis, and once I pulled this, I realized how time gets away from me, and the patients that I thought I had seen three months ago really I haven't seen for five months, or six months. Or I totally forgot about this patient.' That has been really helpful in being able to get that information."

(CHC Chief Operating Officer)

Sharing Data for Care Management:
Coordination & Accountability Within Facilities

"I think internally our [EHRs] have helped incredibly, because health care is a field where you really need accountability. If someone says that they need to do something, they're going to do something, or if a patient asks for something you need to really make sure that it gets done and you will need to make sure that someone responded to that request. If it didn't happen you need to be able to track it down to the place where there was that gap…The [EHR] allows that, you can send each other notes and it's all a part of the patient's chart and you know when people responded and when people took actions like send a prescription or check the lab...It really adds a credibility that way, which is important."

(CHC Executive Director/Clinician)

Sharing Data for Care Management:
Interoperability Challenges Between Facilities

"There's no obvious interface for those things for most of us. I mean, we might be able to get lab results to come in electronically and digitally so that it will automatically flow into the chart but for most of us, at least at this point, the x-ray reports and obviously consult notes…are usually coming as faxes that get scanned in…If we get a radiologist report on a mammogram, if we get a gastroenterologist operative note from a colonoscopy, that piece of paper comes into our office. I don't know if there is any way to have that through an automated system…We're certainly not connected with those other practices in any way that it would allow that to happen. I don't know how it could happen unless you were somehow on the same system and sharing the information that way. Perhaps it's possible. That's always a roadblock."

(CHC Executive Director/Clinician)

Using EHR Data for Reporting:
Where Must Information Live?

"…There are certain ways that you must document things…There are reports written to extract the data for the UDS report as well as a variety of other reports…If for some reason the clinical staff aren't following that workflow…then that report does not give them credit for the work they have done. Maybe I spent 15 minutes educating a patient about healthy eating and increase in physical activity and I talk about smoking and how harmful it is, and we talk about smoking cessation, and I document that in a free-flow text in my intake note…When these reports are run, it would look like we hadn't done those interventions with that patient. If you multiply that by 15 clinical staff and they're all not doing it the right way, it would appear then that your compliance rate with these particular measures are horrific."

(CHC Chief Medical Officer)

Using EHR Data for Reporting:
Where Must Information Live?

"We choose to report Meaningful Use data, so we're constantly looking at our Meaningful Use reporting system to say where are we having issues, and then going back in and saying, 'Well, remember you have to put it right here. If you don't put it right here, then it's problematic.' In the scheme of things, the provider really doesn't care where they document patient education as long as they're doing it, as long as the patient's getting what they need, so some people you're not going to convince. They don't care that it has to be in a particular place. They want to see the patient, get them what they need, go to the next patient. Then we potentially lose out on Meaningful Use money. It's just the checking the right box, and if you don't check the right box, you forfeit money, which is just…crazy."

(CHC Director of Clinical Operations)

Using EHR Data for Reporting:
Managing Provider Burden

"There's only [so much] in the list of things that we're pushing our physicians to do and then trying to keep them recruited, retained, keep the patients happy. You have to be a little selective about what you push. There is money associated with it as well, so it's a balancing act. The first year of payments where you just had to get payments for getting people on the system, obviously, we get those and then the second, some of the lower hanging fruit we do, but some of the more challenging ones, then we have to assess and we'll do that again in the next month or two as we're looking in next year's budget to really get a sense of where we realistically think we're going to land with Meaningful Use dollars next year."

(CHC Chief Medical Officer)

Limitations

- Used 2014 UDS data to identify potential participants
  - Does not include perspectives of most recent EHR adopters (since 2014)
- Most CHCs in EHR implementation study were large
  - Experiences of using EHRs may be distinct from those of smaller CHCs
- Some informants started working at CHCs after EHR implementation
  - Less knowledgeable about pre-implementation experiences and implementation processes

Conclusions

- CHCs are finding creative ways to adapt staff roles and models to use EHRs to improve coordination and quality of care

- Many new staff roles are designed to take advantage of EHR functions to reduce provider burden (e.g. upgraded MA or LPN roles) or improve population health and quality tracking (e.g. new QI staff)

- Other roles are designed to manage new challenges introduced by the EHR (e.g. new IT staff)

- Influence of EHRs on hiring enabling staff (e.g. case managers) is less direct because their work is less "documentable" in EHRs

Conclusions

- EHRs and information exchanges can be useful in fostering team-based approaches to care by enabling delegation, communication and accountability

- EHRs have been helpful in improving quality and population health in CHCs (e.g. tracking patients outside the facility)

- Interoperability challenges remain—CHCs still use lots of add-on and manual solutions even after implementing EHRs

- Even with sophisticated and tailored EHRs, knowing where information should "live" for communication between providers and required reporting is difficult

Acknowledgments

- Health Resources & Services Administration
  - Health Workforce Research Center: Flexible & Novel Use of Health Workers

- Collaborator: Clese Erikson (GW Health Workforce Institute)

Thank you!

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