

Patient management system programmed alert to notify providers of suspected TB cases

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Introduction

An increase in tuberculosis (TB) among homeless men residing in Marion County, Indiana, was noticed in the summer of 2008. The Marion County Public Health Department (MCPHD) hosted screening events at homeless shelters in hopes of finding unidentified cases. To locate men who had a presumptive positive screen, the MCPHD partnered with researchers at Regenstrief Institute (RI) to create an alert for healthcare providers who use the Gopher patient management system in one of the city's busiest emergency departments. A similar process was used at this facility to impact prescription behavior (1). A similar method was also used at the New York City Department of Health and Mental Hygiene (2).

Methods

MCPHD and RI created a legal memorandum of understanding so that MCPHD could share the names and date of births of suspect cases to the programmers at RI. The alert went into effect in July of 2010. When a healthcare provider's search is also one of the suspected names, an alert appears on the screen informing the provider that this person should have a chest x-ray as part of a follow-up to a TB outbreak investigation. A phone number of a MCPHD nurse on call is provided. The suspect list is periodically updated to remove names of patients who have been located in other medical settings. The novel aspect of this system is that normal methods of locating these individual such as phone or address was not available. Additionally, other traditional public health methods to contact these patients had not proved successful.

Results

Fifty-three different patients have been on the alert list since activation. Only one notification has occurred in the 13 months of activation. On December 1, 2010, the TB program reported that a provider had seen one of the suspect cases and the alert prompted the provider to order a chest x-ray and notify the MCPHD staff.

A review of a hospital patient management system revealed that 12 other patients were seen in the emergency departments while on active alert lists. Some patients were seen more than once while on the list. Some cases showed that the chest x-rays were performed as requested but the patient records did not indicate if the procedure was prompted due to the alert or because the patient presented with symptoms of TB. A review of the process is underway to better understand why these encounters did not provide a notification to the MCPHD.

Several MCPHD staff work in local homeless shelters daily looking for the suspect patients. If a staff member prompts an

individual to go to the ED, that encounter is not recorded in the MCPHD Patient Management System. Therefore, the provider may ignore the TB alert on these patients since the patient was already suspected for TB.

In some instances, the patients were seen at the MCPHD TB clinic within a couple of days of being seen at the hospital ED. Again, the records do not indicate if the patient was prompted to go to the TB clinic. Interestingly, no new TB cases among this population were reported for the month of August.

Future attempts at locating patients: Since many of the identified cases have known psychiatric issues, outreach workers in the TB program are hoping to partner with the mental health community to reach some of the suspect cases. MCPHD is working with a local mental health clinic to create a similar alert in their patient management system. Also, RI may help develop another alert that includes contacts of cases, rather than suspect patients in hopes of completing the first initial screening for that segment of the population.

Conclusions

The most important outcome is getting the patients tested and treated if infected. Assessing the effectiveness of the alert is difficult due to a lack of encounter data. Only one-fourth of the patients (13 of the 53) visited the emergency department during the year of the alert. This is another reminder that multiple strategies must be used to reach this population for care. Health informatics can be an aid to public health in such endeavors.

Keywords

Public health alert; clinical encounter; TB; automated alert

References

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