Red, Green, or Grey… Do your screenings today!

Andrew Konesky, MSN, APRN; Vera Borkowski, MSN, APRN;
Jason Morrill, CFA IT Director; Anna Goddard, PhD, APRN

Aim Statement: Create an alert system in order to improve the tracking of documented screenings to include: Asthma Maintenance Visits, Asthma Action Plans, Annual Physical examination, Annual Risk Assessment, BMI screening and counseling (>85%tile), Depression screening, Chlamydia screening, and Sexual Activity by March 2019.

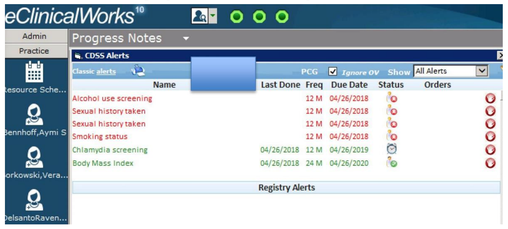
Introduction/Statement of the Problem

The mission of Child and Family Agency (CFA) includes the strengthening of effective delivery of services to children and their families. These services include preventative health care services with the additional component that national recommendations are met. Annual health screening(s) are

- recommended by the American Academy of Pediatrics (AAP)
- required in annual reporting for the Department of Public Health (DPH)
- needed for implementation of Screening, Brief Intervention, Referral and Treatment (SBIRT) for substance use.

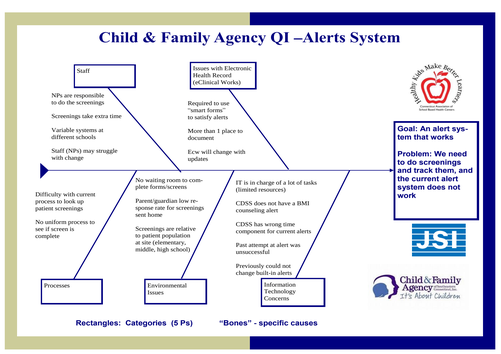
Annual screenings should include the five Collaborative Improvement & Innovation Networks (CoIIN) performance measures: annual examination, risk assessment, depression screening, BMI screening, and Chlamydia testing.

Our electronic medical record (EMR) is unable to support provider needs for screenings. At each visit, multiple opportunities for screening and brief interventions are missed due to a lacking alert system. At the start of this project, CFA's EMR offered alert functionality for some screenings. However, the prepopulated alerts were not set up for appropriate age parameters and date ranges (academic year) and were not consistent with grant reporting requirements and did not facilitate screening or tracking. This screenshot displays the EMRs alert system at baseline



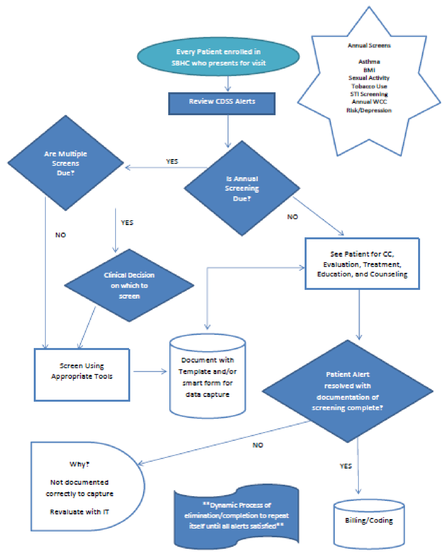
The purpose of this project was to establish an alert system within our current EMR (eClinical Works/eCW) in order to identify when a patient is due for recommended annual health screening(s), indicate when the screening is satisfied, and enable the provider to easily track what completed screenings have been completed and which ones remain to be completed during future visits.

Utilizing the Institute for Healthcare Improvement (IHI) framework for Quality Improvement, a root-cause analysis was performed.



PLAN

- Review EMR functionality
- Identify screening-related measures to determine which alerts should be prioritized
- Consult with IT on approaches to integrating screening alerts into EMR
- Test alerting mechanism

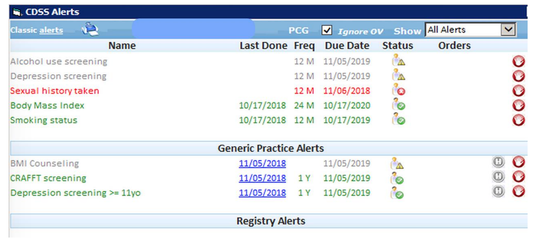


List of Goal Measures and Accompanying Alerts

Name of measure	Definition	Numerator	Denominator	Data source (updated)
Asthma Action Plan	Action Action Plan is on file or completed by SBHC once per year	XXAAP is documented in billing codes signifying AAP was developed or on file	All SBHC USERS with Asthma in their problem list	EHR run report Note: we can't do a procedure alert for this one, because it will come up on every kid
Asthma Maintenance	Asthma symptom assessment is done once per year	Asthma Smart form completed once per year	All SBHC USERS with Asthma in their problem list	EHR run report CDSS alert satisfied
Annual Physical Exam	Physical exam was done once per year	Z02.5, Z00.121 or z00.129 in assessment codes	All SBHC USERS	EHR run report
Annual Risk Assessment	CRAFFT was done once per year Age 13-21 years	CRAFFT documented in chart: Smart form Structured date – CFA Mental health services – CRAFFT negative or positive	All SBHC USERS	EHR run report CDSS alert not working – Alcohol use screening – can it be linked to our CRAFFT We can't edit CDSS Practice Alert created 10/24/18. Must receive and review procedure.
BMI documented	BMI is documented > 3 years old at least once per school year BMI is on the problem list	BMI is documented in a note and charted on Problem list	All SBHC USERS	EHR run report CDSS alert satisfied
BMI Counseling	BMI > 85% patient was offered counseling once per year	BMI counseling is documented in a note (Structured data – Preventative Medicine – BMI counseling - Yes)	All SBHC users > 85% tile	EHR run report Practice Alert created 10/24/18. Must receive and review procedure.
Chlamydia Screening	Sexually active > 13 years old are offered chlamydia screening once per year	Chlamydia screening is offered (Structured data – HPI-declines screening Yes or No)	All sexually active >13 years old	EHR run report CDSS alert satisfied (once per year)
Depression Screening < 11 year old	PSC done once per year "Depression screening < 11 y.o"	Smart form Structured data – CFA Mental health services – PSC or PHQ negative or positive	All SBHC USERS	EHR run report CDSS needs to be linked to satisfy Practice Alert created 10/24/18. Must receive and review procedure.
Depression Screening > = 11 year old	PHQ done once per year	Smart form Structured data – CFA Mental health services – PSC or PHQ negative or positive	All SBHC USERS	EHR run report CDSS needs to be linked to satisfy Practice Alert created 10/24/18. Must receive and review procedure.
Influenza vaccine	Influenza vaccine is given to those with HIGH RISK	90686 or 90672 is given	All High risk patients	EHR run report CDSS alert satisfied
Sexual Activity Screening	All users > 13 years old screened once per year	SMART form or Screening is done (Structured data – HPI- Sexually active yes or no)	All SBHC USERS	EHR run report CDSS alert satisfied (once per year)
Smoking Status	Users > 12 years old are screened once per year	Charted in note (Structured data – Social history-nonsmoker or other)	All SBHC USERS	EHR run report CDSS alert satisfied (once per year)

With this new procedure, the NP documents that screening was performed, which then satisfies the practice alert. The alerts are color coded based on satisfaction:

- **Green** is completed,
- **Grey** is acknowledged or suspended, and
- **Red** is due now.



DO

- We met with our IT director to explore the capabilities and options within the current code/functionality of our EMR.
- Determined that our EMR's pre-populated alert functionality does not allow for new alert creation nor modification of pre-populated alerts (e.g., date parameters, populations, etc.).
- Reassessed our process and reframed objectives to explore the EMR's basic functionality in order to troubleshoot within the limitations.
- Identified the measures and definitions and created a data plan table to prioritize target alerts
- In October 2018, the IT Director attended an eCW conference to further investigate our challenges/barriers.
- We continued to screen patients and test which key strokes/entries in EMR would turn the alerts "on" or "off."

STUDY

We have 2 kinds of alerts:

Clinical Decision Support System (CDSS) Global Alerts	Prepopulated alerts built into EMR, some are diagnosis or patient-specific.
Generic Practice Alerts	Able to be created by each agency, parameters are able to be modified

We had mixed outcomes:

- We were able to change date range and age parameters for the EMR alerts: with one exception, that the chlamydia screening will not turn on more often than every 12 months.
- The CDSS (Clinical Decision Support System) alerts do not capture smart form screens (i.e.: PHQ2 and CRAFFT) which the NPs are using for better documentation and more frequent screenings (e.g., SBIRT).
- We were unable to change the prepopulated "Global Alerts"
- "General Practice Alerts" can be modified and IT can also create entirely new ones, which appear on the screen directly below the CDSS/"global" alerts.

ACT

Although CDSS alerts cannot be changed to coincide with the goals of the Agency, the Generic practice alerts can be utilized, updated, and changed to align with our goals.

In addition, CFA can use the EMR's functionality to run reports to show what screenings are completed across their entire patient population. CFA currently uses this functionality for DPH reporting and other necessary analyses.

Further endeavors will create an alert that only applies to certain populations. For example, CFA wants to investigate "diagnosis related alerts." For example, the BMI counseling alert would only apply to patients who are above the 85th percentile.

A long-term goal is to expand use of the alerts to all 13 SBHCs at CFA. Further discussion and follow-up should identify barriers and facilitators to expanding the alert systems to other clinics.

Another possibility for further investigation is analysis of screening rates with new system compared to initial rates.

REFLECTION ON THE ALERTS SYSTEM

The overall goal of this project was to create a system to ensure care is being provided, while enhancing provider ease of EMR navigation and documentation. Utilization of the created alerts should lead to more clients provided with screenings, and furthermore, follow-up interventions.

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