

# PulseCheck ED Insight

Information you need - when you need it

**Insight™**, integrated with PulseCheck ED, provides advanced decision support for a high-performance ED. Insight sends notifications to clinicians and administrators, during patient documentation, to help capture events for core measures reporting and help provide them with clinical reminders during the documentation of high-risk patients. Insight helps emergency departments provide better department management, proactive patient care and, as a result, increase charge capture.

## Problem

Emergency department (ED) clinicians and administrators are constantly making rapid decisions. Picis understands clinicians' need for a full-featured decision support tool to help them provide better department management, help provide proactive patient care and improve charge capture.

## Solution

The Picis Insight tool, within PulseCheck ED, consists of a rules processor that allows clinicians and administrators to create "rules" that automatically track activity, both within the ED and within individual patient records. It notifies clinicians, in near real-time, when certain defined conditions are present that require immediate attention. Insight features department rules, charge rules and "your rules."

Rules are written with an easy-to-use "natural" query language. The main components of each rule include the rule itself and notification options for when the rule is activated. Insight checks for new rules that have fired at regular intervals. Users are able to track and report on the instances of rules being triggered.

## Department rules

Urgency	Patient	Age	Complaint	Physician	RN	PMD	Orders	Done	Dispo	Comments	LOS
ED 01	Martinez, Anthony	Go	M39 Abdominal Pain	SRM		Ave, Erik	L X E N M S	5 C F D V	DIS:HOME		4:15
ED 02	Fryday, Carol	Go	F50 MVC	SRM	TOM	Turnbull, Peter	L X E N M S	A P		Family in Waiting Room	2:23
ED 03	Ng, Sandra	Go	F45 Chest Pain	MDC	CAT		L X E N M S				5:57
ED 04	Ahlborn, Chris	Go	F30 Ankle Sprain	MDC	TOM	Anderson, Alex	L X E N M S	5 C A P			3:23
WAITING	Anderson, Phillip	Go	M70 Shortness of Breath			Turnbull, Peter	L X E N M S	F V			1:26
WAITING	Corday, Elizabeth	Go	F47 Nausea and Vomiting			Carter, James	L X E N M S				1:23
WAITING	Johnson, Donald	Go	M7 Rash			Ave, Erik	L X E N M S	F V			:31
WAITING	Tanner, Michelle	Go	F10M Fever				L X E N M S	F V			:12

### Manage departmental workflow - increase efficiency

Clinicians rarely have the time to figure out why they are so busy. Department rules have been designed to help them proactively identify problem areas, in the ED, that need correction. Powered by the Insight rules processor, department rules statistically analyze the performance and health of a department, on a facility-wide basis, by checking data gathered periodically by PulseCheck ED.

Department rules are based on ED metrics, rather than patient-specific metrics, and assist clinicians and administrators in managing departmental workflow and increasing departmental efficiency.

#### A sampling of department rules might include:

- The average length of stay in the waiting room has exceeded X minutes
- The average turn-around time for labs has exceeded X minutes
- The average time to disposition has exceeded X minutes
- There are more than X patients in the ED without an attending physician assigned
- There are more than X patients who have been triaged and are in the waiting room
- There are more than X patients waiting for triage

The PulseCheck ED system can help improve wait times and length of stay (LOS), and can notify departmental leaders, via PulseMail, an alpha page or regular e-mail, when specific ED bottlenecks occur so they can change course while the bottleneck is happening.

Trending is, also, taken into account. Trends in the wrong direction for average patient length of stay (LOS), average LOS in each area of the ED, nurse to patient ratio, physician to patient ratio, number of high acuity patients in the ED, average turnaround times for orders, average time to get a patient to a bed, to a doctor or to a nurse, can all be observed by using department rules in Insight.

## Charge rules

The screenshot shows the ED PulseCheck interface for patient Martinez, Anthony. The patient's information includes MRN: 7891404, Acct: 6541335, Bed: ED WAITING, Sex/Age: M39, Weight: 85.7 kg, Complaint: Abdominal Pain, Orders: XILINIM, Done: SCFD, BP: 115/90, Resp: 12, O2 sat: 99 on RA, Pulse: 83, Temp: 98.7, Pain: 2. Below the patient information, an InSight ED Rules notification is displayed: 'Charge Rule: Total IV Infusion Time Site 1 This patient had documentation of an IV infusion to IV site #1. Please remember to document a stop time and total infusion time.' A 'Continue' button is located below the notification.

### Clinical reminders, proper charging and reimbursement

Insight charge rules are designed to assist clinicians in documenting key charting components, and help ensure the information passed to the coding department is accurate, meets Centers for Medicare and Medicaid Services (CMS) core measures requirements and helps reduce the number of billing denials. Charge rules remind clinicians of important documentation elements that may be missing while they are still working on their charts. Considerable time can be saved by not having to go back and forth, between coders and clinicians, asking for clarification on documentation.

As part of Insight, Picis provides content within charge rules for improving documentation of infusions and injections. This rule reminds clinicians to document injection/infusion types and sequence along with stop times, making coding simpler and helping to ensure proper payment for these services. Charge rules assist in documentation for the purposes of billing both facility and professional charges.

#### A sampling of charge rules might include:

##### Critical Care Time

- Situation: Patient has documentation of critical care medications and no document of critical care time
- Action: A flag will appear upon disposition to remind both physician and nurse to document critical care time (if the patient qualifies)

## The Sullivan Group Clinical Rules

### Help improve patient care with risk mitigation

Developed by The Sullivan Group (TSG), leaders in risk mitigation in the ED, TSG clinical rules are based on 12 years of extensive clinical evidence, and provide rules for notification in high-risk areas of clinical care. Every two minutes, the PulseCheck ED Insight rules processor reads through patient chart data, provided simultaneously by multiple care givers, and compares the data to clinical rules provided by TSG. The TSG clinical rules scan for information associated with high degrees of patient risk that may not have been considered by the clinicians, yet may be key to helping to accurately diagnose and/or treat an ED patient's condition.

## Your Rules

**ED PulseCheck Clinical Pathways** General Medical Center  
Tom Chelchowski, RN 15:30

Admin | Groups | Admission Req | Allergies | Archive | Beds | Chart | Coding | Current Meds | DCI | Demo | Dispo | Documents | Flowsheet | Forms | Imaging | Insurance | Med SVC | My Charts | My Patients | My Tasks | Orders | Patient Data | Pend ED Admits | Reconciliation | Reg | Reports | Results | Triage | Visits | Display | All | Help | Logout

**Tanner, Michelle** **Bed:** ED WAITING **Complaint:** Fever **BP:** 112/78 **Resp:** 22 **O2 sat:** 98 on RA  
**MRN:** M00789219 **Sex/Age:** F10M **Orders:** **Pulse:** 110 **Temp:** 101.5 **Pain:** 4  
**Acct:** **Weight:** **Done:** FV13 **Comment:**

**Orders** | **Medication Services** | **Results**

**Select Search Type**  
 Pathway  SVC Code  SVC Name

**Common Orders**  
 Nursing/Tech/Sec Orders  
 Acute Stroke (Level 1)  
 Alcohol Withdrawal Panel  
 Allergic Reaction Panel  
 Allergic Reaction Panel  
 Appendicitis/Diverticulitis Panel  
 Asthma/COPD Full Panel  
 Asthma/COPD Lite Panel  
 Bowel Obstruction Panel  
 Cardiac I-Stat Panel  
 Cardiac Panel  
 CHF Panel  
 Code Arrest Panel  
 Code STEM1  
 Diabetic Ketoacidosis Panel  
 Dizzy & Weak Panel  
 Dyspepsia Panel  
 Epigastric Pain/Biliary Colic Panel  
 Epistaxis Panel  
 Eye Panel  
 Gastroenteritis Panel  
 GI Bleed Panel  
 Hip Ext/Compression Fr Panel  
 Hyperkalemia Panel

**Known Allergies:** No known drug allergies  
**Current Medications:** No current medications

**Peds Child Fever Panel**

Select/Deselect All  
 Custom Order

**Common**  
 URINALYSIS Peds if < or = to 4yrs order C&S\*  URINE CULTURE\*  
 This child meets pediatric 0 to 36 month criteria. Obtain the following tests: CBC, Blood Culture, Urinalysis.

**GUIDELINES**  
 Child Fever Guidelines

**LAB**  
 CBC, AUTOMATED (PLATELET & DIFF)  |-Stat 8  
 This child meets pediatric 0 to 36 month criteria. Obtain the following tests: CBC, Blood Culture, Urinalysis.  
 CELL COUNT FLUIDS, AUTOMATED  INFLUENZA A&B DIRECT ANTIGEN  
 CSF FLUID COUNT  METABOLIC PANEL, BASIC  
 CULTURE, BLOOD  RSV DIRECT ANTIGEN SCREEN  
 This child meets pediatric 0 to 36 month criteria. Obtain the following tests: CBC, Blood Culture, Urinalysis.  
 CULTURE, CSF  STREP A SCREEN  
 GLUCOSE, CSF  TOTAL PROTEIN, CSF

Tanner, Michelle Local Intranet 3:30 PM

## Build custom clinical reminders for staff

Your rules are developed entirely by individual hospital ED personnel, and involve writing something unique that meets the need of that particular ED, such as a clinical or departmental metric that must be measured or a unique rule that may change clinician behavior, based on what the rule indicates. Your rules can be used to build reminders for ED staff on anything from clinical protocols to consideration of a patient for a research project. Your rules are based on documentation and are able to pull up special order sets, documentation reminders, questions to be answered prior to discharge and reportable content to determine staff compliance with suggested actions.