

## **Reduce Harm from High Alert Medications Clinical Study** *Final Aggregate Report*

Date: June 2009

Data Collections: 1<sup>st</sup> Q 2008 and 1<sup>st</sup> Q 2009

Number of cases: 586 and 328 cases, respectively

Number participating facilities: 21 and 14 PIN member facilities, respectively

**Abstract** Participating PIN member facilities submitted admissions data in 2 cycles, baseline and re-measurement, in order to evaluate aggregate, peer group and facility-specific process improvements in managing 5 high-alert medication management processes and outcomes. Performance measures were defined using IHI 5 Million Lives Campaign definitions.

**Participants** Fourteen of the PIN's 47 members representing each of the five established PIN peer groups submitted 328 cases for the remeasurement data collection.

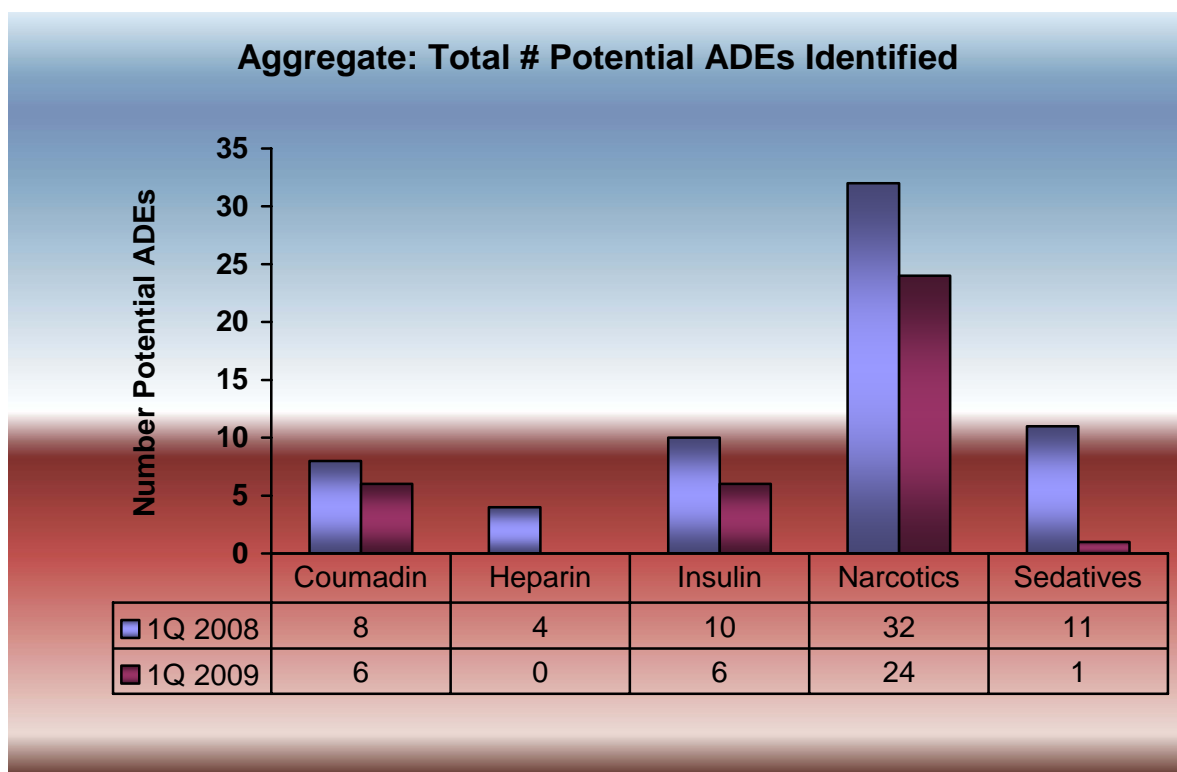
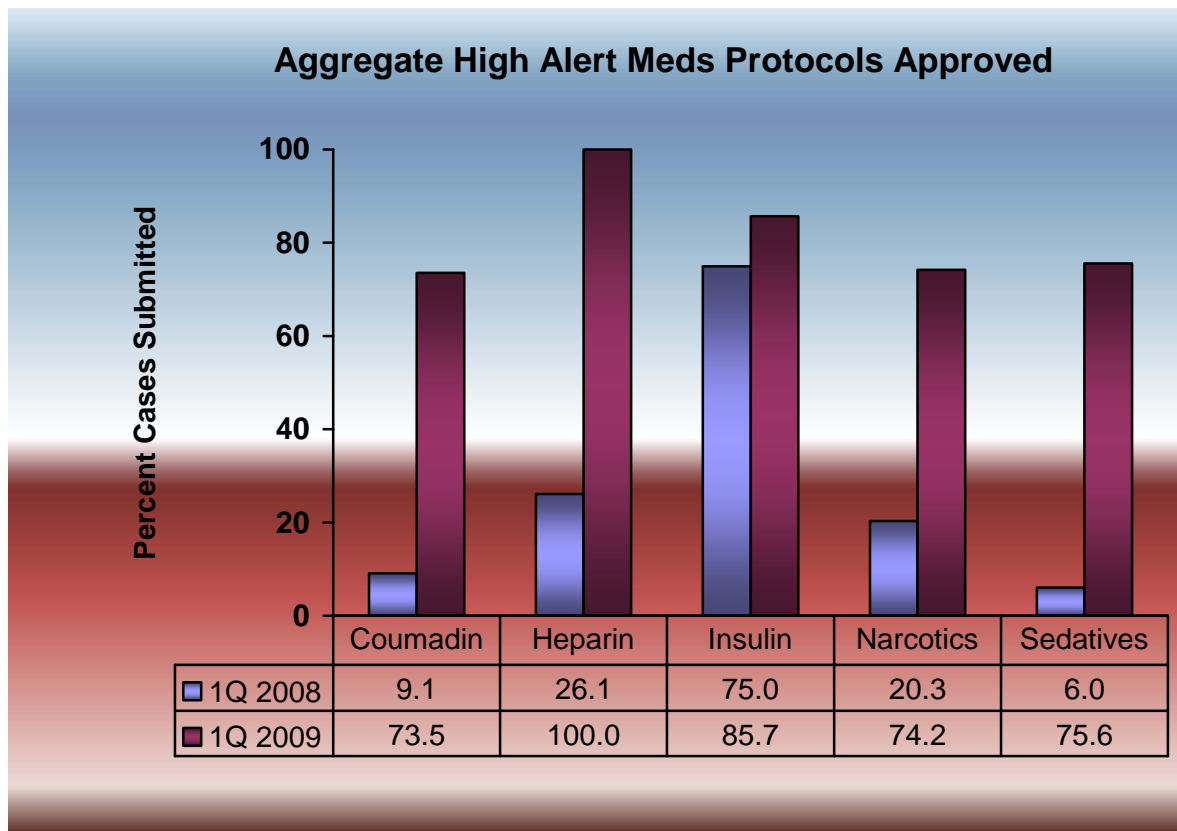
**Limitations** The number of facilities in each of the five peer groups submitting re-measurement data combined with the number of cases submitted precludes valid peer baseline and re-measurement performance comparisons at this time (n = 1, 5, 3, 4, 1) facilities submitting cases for the peer group).

**Findings** PIN members submitting data for re-measurement demonstrated the group had made measurable improvement in high alert medication management processes and outcomes in the following areas:

- Approval and implementation of protocols for the management of coumadin, heparin, insulin, narcotics and sedatives use.
- Reduction of potential adverse events associated with the use of coumadin, heparin, insulin, narcotics and sedatives use.
- Recognition and reporting of potential adverse drug events (ADEs) related to the use of insulin.

**Opportunities** for future improvement work include:

- Ongoing work to achieve 100% implementation of protocols for these high alert medications.
- Documentation of reasons why protocols are not used for specific patients.
- Continuing to encourage staff recognition and reporting of potential adverse drug events (ADEs) related to the use of high alert medications.



Aggregate	1Q 2008	1Q 2009	Change
<b>Coumadin</b>	n = 129	n = 68	
There is a protocol approved by medical staff for use of this medication.	9.1 %	73.5 %	↑↑
The med was ordered, received and managed per protocol.	9.3 %	57.4 %	↑
If not used, there is a documented reason why the protocol was not used.	0.0 %	0.0 %	no change
The patient had an INR > 5 at any time during the admission.	4	3	↓
The patient received Vitamin K at any time during the admission.	4	3	↓
The patient had a reported ADE related to the use of this medication.	1	0	↓
<b>Heparin</b>	n = 23	n = 10	
There is a protocol approved by medical staff for use of this medication.	26.1 %	100 %	↑↑↑
The med was ordered, received and managed per protocol.	21.7 %	100 %	↑↑↑
If not used, there is a documented reason why the protocol was not used.	4.4 %	0.0 %	↓
The patient experienced any episode of active bleeding at any time during the admission.	3	0	↓
The patient had a platelet count less than 100,000/mm <sup>3</sup> at any time during the admission.	1	0	↓
The patient had a reported ADE related to the use of this medication documented.	0	0	no change
<b>Insulin</b>	n = 188	n = 112	
There is a protocol approved by medical staff for use of this medication.	75.0 %	85.7 %	↑↑
The med was ordered, received and managed per protocol.	68.1 %	77.7 %	↑↑
If not used, there is a documented reason why the protocol was not used.	1.1 %	0.9 %	↓
The patient had a glucose less than 50 mg/dl at any time during the admission.	10	6	↓
The patient had a reported ADE related to the use of this medication documented.	3	6	↑

Aggregate	1Q 2008	1Q 2009	Change
<b>Narcotics</b>	n = 163	n = 93	
There is a protocol approved by medical staff for use of this medication.	20.3 %	74.2 %	↑↑
The med was ordered, received and managed per protocol.	26.4 %	73.1 %	↑↑
If not used, there is a documented reason why the protocol was not used.	0.6 %	1.1 %	↑
The patient received one or more doses of narcan (naloxone) at any time during the admission.	0	0	no change
The patient experienced one or more episodes of hypotension within 8 hrs of narcotic administration.	20	17	↓
The patient experienced one or more episodes of hypoxia within 8 hrs of narcotic administration.	12	7	↓
The patient had a reported ADE related to the use of this medication documented.	3	2	↓
<b>Sedatives</b>	n = 83	n = 45	
There is a protocol approved by medical staff for use of this medication.	6.0 %	75.6 %	↑↑
The med was ordered, received and managed per protocol.	6.0 %	66.7 %	↑
If not used, there is a documented reason why the protocol was not used.	0.0 %	0.0 %	no change
The patient received one or more doses of romazicon (flumazenil) at any time during the admission.	0	0	no change
The patient experienced one or more episodes of hypotension within 8 hrs of sedative administration.	6	0	↓
The patient experienced one or more episodes of hypoxia within 8 hrs of sedative administration.	5	1	↓
The patient had a reported ADE related to the use of this medication documented.	1	0	↓