FROM 5 TO 80% - HOW TO HACK COMPLIANCE Qualitative, feedback-driven investigation of methods to improve delirium screening compliance

Benjamin T. Dodsworth¹, Fabian Gautschi¹, Martin Zozman², Victoria Engler¹, Damien Recht², Konstantinos Kalaitzis², Nayeli Schmutz Gelsomino^{1,3}

¹PIPRA AG, Zurich, Switzerland ²Klinik Hirslanden, Zurich, Switzerland ³University Hospital Basel, Basel, Switzerland

INTRODUCTION & METHODS

We ran an initiative to improve the quality of screening for delirium in the wards of a tertiary care private hospital in Switzerland. Initially, compliance with screening for delirium in wards was low: 5% of the expected delirium screening activities were actually carried out. As a result, the majority of delirium cases were missed and therefore not treated.

With this new initiative, the Delirium Observation Screening (DOS) method was applied by nurses three times a day (i.e. once per shift) and documented in the EHR.

Methods

Automated emails

Training and Education

Continuous Identification of Roadblocks

Ongoing Feedback Collection









Implementation of an automated process running daily to:

- ✓ Calculate compliance of screening eligible patients for delirium
- ✓ Send out daily email showing DOS compliance per ward per day

		DOS Score Compliance					
Wa	ard	DOS Compliance (June 20th)	Number of expected DOS Scores	Thereof performed	Addition DOS Scores	7-Average	
Wa	ard 1	95%	12	11	8	90%	
o Wa	ard 2	0%	6	0	0	46%	
🖥 🔚 Wa	ard 3	92%	13	11	11	76%	
wa ya wa	ard 4	91%	15	12	18	81%	
e Wa	ard 5	67%	12	5	9	58%	
Wa	ard 6	33%	3	1	0	33%	
o Wa	ard 7	49%	15	5	5	60%	
Wa	ard 8	68%	7	1	12	58%	
Wa Ye	ard 10	88%	3	1	13	63%	
= Wa	ard 11	76%	5	1	11	55%	
o Wa	ard 12	90%	22	18	18	84%	
Wa	ard 13	91%	19	16	15	82%	
Wa Wa	ard 14	92%	13	11	12	70%	
Wa	ard 15	58%	17	9	2	51%	

Figure 1 – Exemplar email report on delirium screening compliance ✓ Training and Education

- ✓ Distribution of training materials
- ✓ Organizing all-hands educational sessions
- ✓ Distribution of job aids in the form of pocket guides

BEURTEILUNG Während dieser Schicht wurde	GENAUERE BESCHREIBUNG & BE	ISPIELE wusstseinslage ler Behandlungen ill abgelenkt keinen Bezug zu ihr	7. Denkt irgendwo anders zu sein Denkvermögen Wenn die Person die äussort der es durch ihr Handeln erkennbar ist. Bps., Wo ist die Hotelrezeption? 8. Erkennt die Tageszeit Orientierung Person weiss, wie späte es ist oder welche Tageszeit ist. Bps., Der Peiden zehrt mite im der Nacht auf dim öchte sich duschen oder verlangt am Abend Frühstuck. 9. Erinnert sich an kürzlicher Ereignisse Gedächtnis
weight das oeschriebene Verhalten beim Patienten nie beobachtet. Manchmal - Immer Während dieser Schicht wurde das beschriebene Verhalten beim Patienten mindestens ein Mal beobachtet. Weiss nicht Während dieser Schicht wurde das beschriebene Verhalten beim Patienten nicht beobachtet, entweder weil der Patient immer schlief, weil er keinen Kontakt zur beobachtenden Person hate oder weil die beobachtende Person die Aro oder Abwesenheit des Symptoms nicht beurteilen konnite. ACHTUNG! tienten, die ruhig und gut führbar sind, können auch liant sein. Demente Patienten sind sehr häufig delirant.	Delirium Observation Screening Scale	keinen Bezug zu ihr m worde. ne ruhige Frage, die ert. n der Handlung iespräch oder der such in der Lage sein, lenker, wenn dese orten nicht en nicht beendet. n Denkvermögen angiose Korversä- u onenvarrete stasset. stasset. enkvermögen het von Stille und d.	Serimert sich an Kürzliche Ereiginsse Gedächtnis Die Person kann nicht zagen, ob kürzlich Besuch da war oder was er gegessen hat. Serie Statuelles, unordentlich und nachlässig Psychomatorik Serie Statuelles, and sonde oder an Katheter usw. Psychomatorik Serie Statuelles, and Statuelle Statuelles, and
n das Modul korrekt abzuschliessen, nach dem Ausfüllen: Die Bezugswerte laden 🛥 Das Modul abschliessen	Wenn das DOS 3 oder höher ist, bitte für Unterstützung Konsiliarpsychiatrie unter 9814 anrufen oder eine E-Maii senden an: delirmanagement@hirslanden.ch	-	

Figure 2 – Job aids in form of a pocket guide to support nurses performing the DOS

Possible roadblocks included:

- **X** Unclear communication from nursing management to nurses: 'Who to screen?', 'When can screening be stopped?'
- **X** Complicated standard operating procedures (SOP) requiring too much change in the ➤ nurse's daily workflow
 - Subjective "risk assessment" of nurses to decide on whether to screen or not to screen
- X Screening performed at the beginning of the shift (when it cannot be judged) instead of at the end
- \mathbf{X} Screenings forgotten when patients were moved between wards

Daily visits of wards and nurses to:

- \checkmark Clarify questions and ensure they are empowered to perform the screening
- \checkmark Supply them with training materials and job aids
- ✓ Collect feedback which was circled back to the nursing management, so that SOPs could be refined

Compliance of Individual Wards

RESULTS

Delirium Screening Compliance during the Initiative



Ward Size vs Compliance



Left: The compliance does not depend on ward size

Ward 0.0 Median compliance

Compliance distribution

Overall 7-day rolling average compliance over all 14 wards with 95% confidence intervals

✓ Increase of compliance from an average of 5% to up to 61% as of day one of the initiative ✓ Maintaining compliance over time with minor fluctuations

Feedback from Participating Nurses



High **intrinsic acceptance** by nurses to perform the DOS screening with **reasonable efforts** (~30 sec. / patient)



avoided

However, nurses prefer to **screen** at-risk patients only so that unnecessary, extra workload can be

Nurses wish to have a **one-stop-shop**

for accessing / ordering all training

materials and job aids

Nursing management wishes to see (near-)real-time insights on delirium screening and beyond, i.e. delirium management overall



Nurses request better support from the electronic health record (EHR) system for DOS screening:

- ✓ What the **patient's delirium risk** score is and **why**
- ✓ If delirium screening can be discontinued and if so, why (e.g. patient had negative DOS values results for 3 consecutive days)
- ✓ **Previous DOS** values results were for the patient.

Example: Feedback Implementation to Simplify Delirium Screening Rules for Nurses



Right: Violin plot showing the distribution of compliance per ward. The highest scoring ward with a median compliance of 85% compared to the lowest with 41%. Thick line is the median, thin lines are the quartiles.

CONCLUSIONS

We would like to thank all those who were involved in the project, in particular the nurses on the wards, who implemented the prevention measures.

Ethics waiver was received for this quality initiative.



Simple but effective process

Rules for nurses should be kept simple but still effective. For that, have a simple risk assessment tool that is:

> 1. automated 2. objective 3. accurate

Results in lower workload and higher delirium screening quality and compliance

Gamify the activity by having a leaderboard of the individual ward's compliance, that is regularly updated.

Gamify

Results in increased motivation of nurses to screen for delirium



Empower with knowledge

Provide engaging training session and awareness raising materials on delirium and the importance for screening.

Results in a clear understanding of the value they can bring to patients



Observe and iterate

Implementing delirium screening requires short feedback cycles to constantly observe and learn what works and what does not, therefore improve the process over time.

Results in achieving better delirium screening results in shorter amount of time