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# Implementation of an EMR-based cardiovascular discharge checklist to close gaps in care

Tyler J Gluckman

*Center for Cardiovascular Analytics, Research and Data Science (CARDS), Providence St. Joseph Heart Institute, Portland, Oregon, Tyler.Gluckman@providence.org*

Maulin P. Shah

*Providence St. Joseph Health, Informatics, Renton, Washington, Maulin.Shah@providence.org*

Elizabeth A. Widhalm

*Providence St. Joseph Health, Informatics, Renton, Washington*

Daniel J. Weidert

*Providence St. Joseph Health, Informatics, Renton, Washington, daniel.weidert2@providence.org*

Stephanie C. Fine

*Providence St. Joseph Health, Healthcare Intelligence, Renton, Washington, Stephanie.Fine@providence.org*

*See next page for additional authors*

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**Authors**

Tyler J Gluckman, Maulin P. Shah, Elizabeth A. Widhalm, Daniel J. Weidert, Stephanie C. Fine, Jonathan V. Larius, Braden Batkoff, and Mark L. Sanz



# Implementation of an EMR-based cardiovascular discharge checklist to close gaps in care

Ty J Gluckman<sup>a</sup>, Maulin P Shah<sup>b</sup>, Elizabeth A Widhalm<sup>b</sup>, Daniel J Weidert<sup>b</sup>, Stephanie C Fine<sup>c</sup>, Jonathan V Laius<sup>c</sup>, Braden W Batkoff<sup>a</sup>, Mark L Sanz<sup>a</sup>

<sup>a</sup>Center for Cardiovascular Analytics, Research and Data Science (CARDS), Providence St. Joseph Heart Institute, Portland, Oregon;

<sup>b</sup>Providence St. Joseph Health, Informatics, Renton, Washington; and <sup>c</sup>Providence St. Joseph Health, Healthcare Intelligence, Renton, Washington

## Background

- Substantial gaps persist in the delivery of evidence-based care for patients with cardiovascular (CV) disease.
- While computerized clinical decision support tools have had varied success, the use of “hard stops” in electronic medical record (EMR) systems have several limitations.

## Methods

- An interactive EMR-based checklist was implemented to drive best practices at hospital discharge for patients with heart failure or acute coronary syndrome and those undergoing percutaneous coronary intervention (PCI), coronary artery bypass graft (CABG) surgery, and/or valve surgery.
- The checklist shows, in a sidebar, the status of recommended clinical measures.
- ‘Smart’ data processing occurs in the background, color-coding measures, such that finished items appear green, those that don’t apply appear yellow, and those needing attention appear red.
- The checklist is unique in its ability to facilitate proper documentation in a discrete, reportable manner.
- It streamlines entry of diagnostic and therapeutic orders, risk factor counseling, and scheduling of follow up appointments.

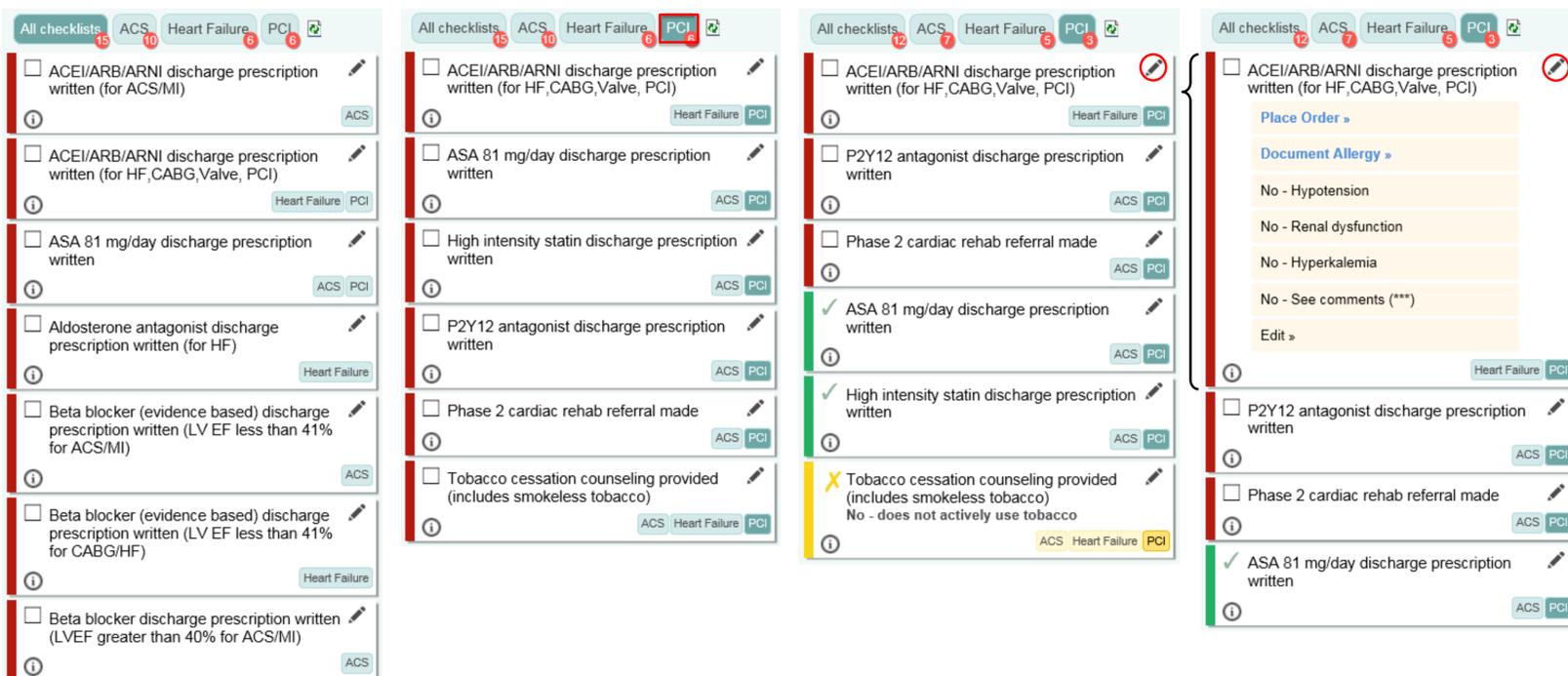
- It launches automatically when a) related ICD-10 codes are included in the problem list, b) the patient undergoes PCI, CABG surgery, or valve surgery, or c) nurses initiate related CV care plans.
- Because each measure is discretely captured, completion tracking is available at the measure-, provider-, and facility-level. Checklist results can be included in the discharge summary to improve transition-care communication.

PCI Checklist

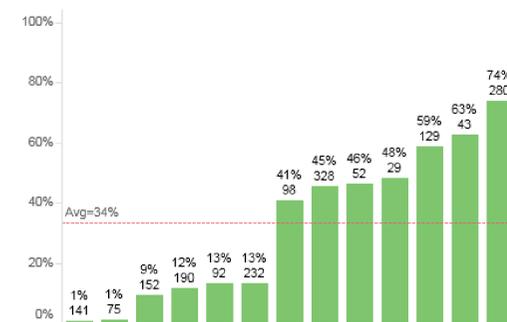
ACEI/ARB prescribed:	Not addressed
Aspirin prescribed:	Yes
High intensity statin prescribed:	Yes
P2Y12 antagonist prescribed:	Not addressed
Referral to cardiac rehab:	Not addressed
Tobacco cessation counseling provided:	No - does not actively use tobacco

## Results

- In January 2017, 28 hospitals within our health system went live with the checklist.
- Rates of measure completion were highly variable, with the most common misses being failure to a) refer to phase 2 of cardiac rehabilitation, b) prescribe a high intensity statin, and c) provide tobacco cessation counseling.
- A process was set up for immediate notification to facilities for missed prescriptions for a P2Y<sub>12</sub> inhibitor after PCI.



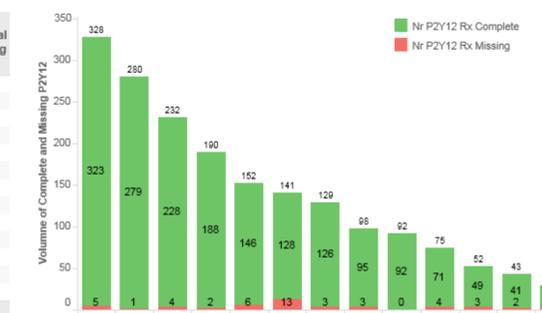
PCI Checklist Compliance



PCI Checklist Performance by Metric

PCI Checklist Count	Completion Rate	PCI P2Y12 Rx Missing Rate	PCI Aspirin Missing Rate	PCI ACEI Missing Rate	PCI Statin Missing Rate	PCI Tobacco Missing Rate	PCI Referral Missing Rate
43	63%	5%	9%	7%	7%	5%	37%
52	46%	6%	4%	19%	29%	8%	52%
141	1%	9%	6%	9%	25%	14%	94%
98	41%	3%	3%	8%	16%	13%	57%
75	1%	5%	8%	11%	35%	32%	99%
92	13%	0%	9%	1%	16%	17%	74%
29	48%	7%	7%	3%	14%	21%	10%
129	59%	2%	9%	3%	9%	20%	16%
280	74%	0%	6%	2%	4%	10%	11%
152	9%	4%	4%	7%	15%	28%	82%
190	12%	1%	8%	9%	11%	33%	76%
328	45%	2%	5%	8%	19%	15%	34%
232	13%	2%	3%	8%	12%	28%	79%
1,841	34%	3%	6%	7%	15%	19%	54%

P2Y<sub>12</sub> Inhibitor at Discharge



## Conclusions

- Evidence-based best practices remain significantly underutilized in patients with CV disease.
- Implementation of an EMR-based checklist facilitates easier identification of care gaps with the opportunity to drive individualized performance improvement.