We Fought for a Law and the Law Works:

Statewide Outcomes for Pharmacy Driven Medication Histories

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DISCLOSURE

- No conflicts of interest to disclose

OUTLINE

- History of California Senate Bill 1254
- Demonstrating the impact of SB1254 – study overview and results
- Institutional Site Experience – UC Davis Health
- Institutional Site Experience – Kaweah Delta Health Care District

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Learning Objectives

- Describe the evidence regarding the importance of pharmacy staff performing medication histories and requirements of California Senate Bill 1254.
- List common high-risk criteria developed by the study participants.
- Evaluate the impact of patient safety by preventing medication errors through obtaining accurate medication lists for high-risk patients.
- Summarize lessons learned about conducting a multi-center study and pitfalls to avoid.

Senate Bill 1254 – Medication Histories for High-Risk Patients

Passed into Law *September 22, 2018*

Law enforced beginning *January 1, 2019*

<u>Hospital Pharmacy staff to obtain an accurate medication profile or list for each high-risk patient upon admission</u>

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1254

Literature Review

Errors Associated with Inaccurate Medication Histories

SOURCES OF MEDICATION LISTS

HOME

Patients
Family Members
Caregivers
Home Health Nurses

OUTPATIENT

Medical Assistants
Nurse Practitioners
Physicians
Community Pharmacies
Patients

LONG-TERM CARE

Nurses
Physicians
Technicians

HOSPITAL

Nurses
Physicians
Pharmacists
Pharmacy Technicians
Residents
Students

THE PROBLEM

- **20% of admissions** are medication related
- High risk patients have **8 errors on admission medication** lists
- Only 5.3% of patients 65 years or older on >5 medications have accurate lists
- One third of inpatient orders have errors and 85% originate from the medication history
- Up to **59% of errors identified are clinically significant** and can contribute to patient harm
- Up to **80% of patients** have at least **1 medication error** at discharge

Davies EC et al. Br J Clin Pharmacol. 2010
Pevnick JM et al. BMJ Quality and Safety. 2017
Kaboli PJ et al. Am J Manag Care. 2004
Gleason KM et al. J Gen Intern Med 2010
Tam VC et al. Canadian Medical Association Journal. 2005
Kilcup M et al. J Am Pharm Assoc. 2013

Minimizing Errors in Medication Histories on Admission

Randomized Controlled Trial

- **Usual Care: MD or RN**
- **Pharmacist**
- **Trained Technician**

Medication Errors Drop 80 % When Pharmacy Staff Take Medication Histories in ER

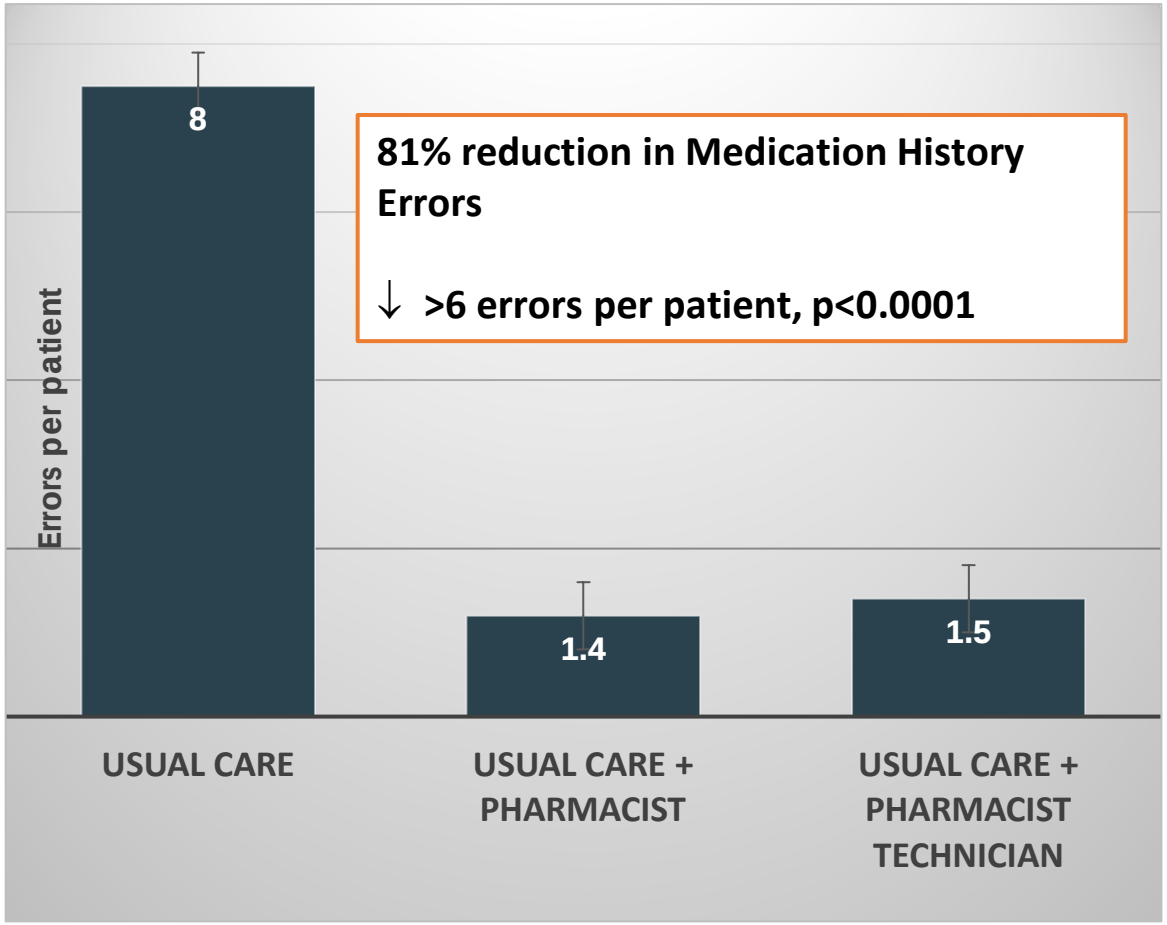
High risk patients* admitted from the Emergency Dept

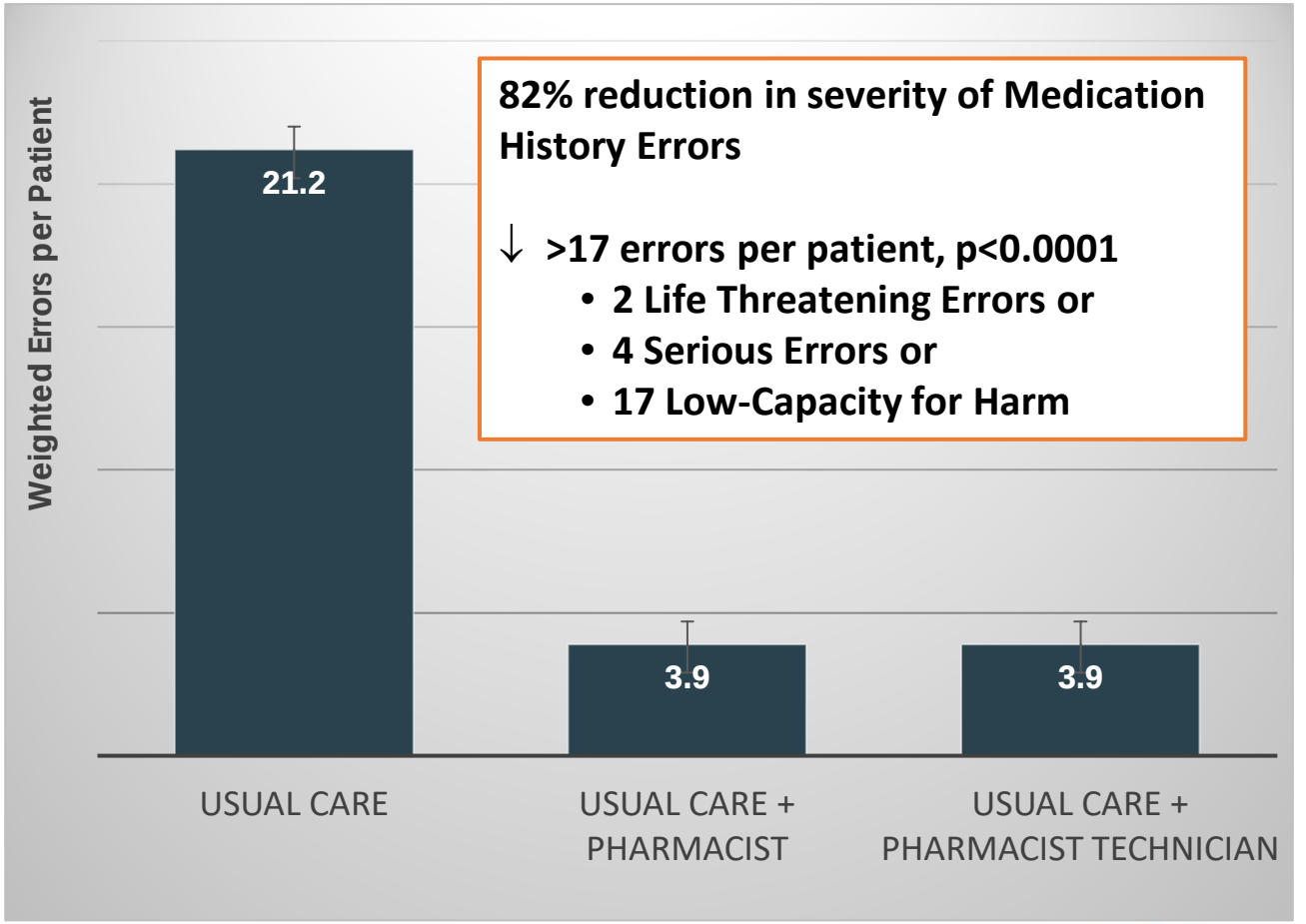
- 300 pt enrolled; 283 in final analysis
- Median age: 76 (range: 50-83)
- Median # of meds: 14 (range: 10-19)

**High risk: ≥ 10 chronic meds, Acute MI, CHF, admitted from SNF, on anticoagulants, insulin, narrow therapeutic drugs, history of transplant*

* Pevnick J.M., Nguyen C, et al. Improving Admission Medication Reconciliation with Pharmacists or Pharmacy Technicians in the Emergency Department: A Randomized Controlled Trial. BMJ Qual Saf. 2017:0:1-9.

RESULTS: REDUCTION IN NUMBER AND SEVERITY OF ERRORS





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THE SOLUTION

- On admission, studies demonstrate increased accuracy of medication lists obtained by pharmacy staff vs. usual care

  - Accuracy rates:
    - Nurses, **20%**; Hospitalists, **50%**; Technicians, **100%**
    - Nurses **14%** vs pharmacy technicians **94%** ($p<0.0001$)

Gardella JE et al. Joint Commission J Qual Safety. 2012
Markovic M et al. P T. 2017

Business Case

Cost of Harm	Benefits
• Cost of ADE: $2,262-$5,790 • Excess length of stay due to ADE: 3.1 days • Cost of drug-related readmission: $12,300-$13,800	• 75% reduction in ADEs • Save 41 minutes of nursing time per patient • Save $830,000 when utilizing pharmacy technicians for medication histories • Accurate medication list upon discharge • Reduction of drug-related readmissions • Enable clinicians to practice at the highest level of their license and training

Gardella JE et al Joint Commission J Qual Safety. 2012
Classen DC et al. JAMA. 1997
Bates DW et al. JAMA, 1997
Hug BL et al. Jt Comm J Qual Patient Saf., 2012
https://psnet.ahrq.gov/issue/costs-adverse-drug-events-community-hospitals (Accessed 10/9/20)
https://www.speechmed.com/cost-hospital-readmission/ (Accessed 10/9/20)
Feldman LS et al. Journal of Hospital Medicine. 2012

COST ANALYSIS OF MEDICATION HISTORY

	SB1254 Cost Analysis (2015 OSHPD Data)[α]	Cost Analysis (2017 OSHPD Data)[β]
Cost of admission per day	$3,400	$3,777
Average length of stay (days)	5	5.5
Readmission Impact		
Cost of high-risk admissions per year	$9.1 billion[δ]	$12.3 billion[δ, κ]
Cost of drug-related readmissions per year	$1.8 billion	$2.2 billion[ε, κ]
Serious or Life-threatening Adverse Drug Events Impact		
Number of serious or life-threatening error per high-risk patient	0.8	1.4[λ]
Excess length of stay due to adverse drug events (ADE)	3.1	3.1[λ]
Cost of ADE for high-risk **Medicare** admissions per year[δ]	$3.3 billion	$4.5 billion
Cost of ADE for all high-risk admissions per year	N/A	$10 billion

[α] Data source: 2015 OSHPD hospital data (accessed 10/1/20)
[β] Data source: 2017 OSHPD hospital data (accessed 10/1/20)
[κ] Data source: 2017 CHHS Unplanned 30-day readmission rate data for hospitalized patients (accessed 10/1/20)
[δ] Based on 20% risk for readmission in Medicare, Medi-Cal and indigent patients and a 5% risk for other third-party patients
[ε] Based on 20% risk for drug-related readmission in all patients
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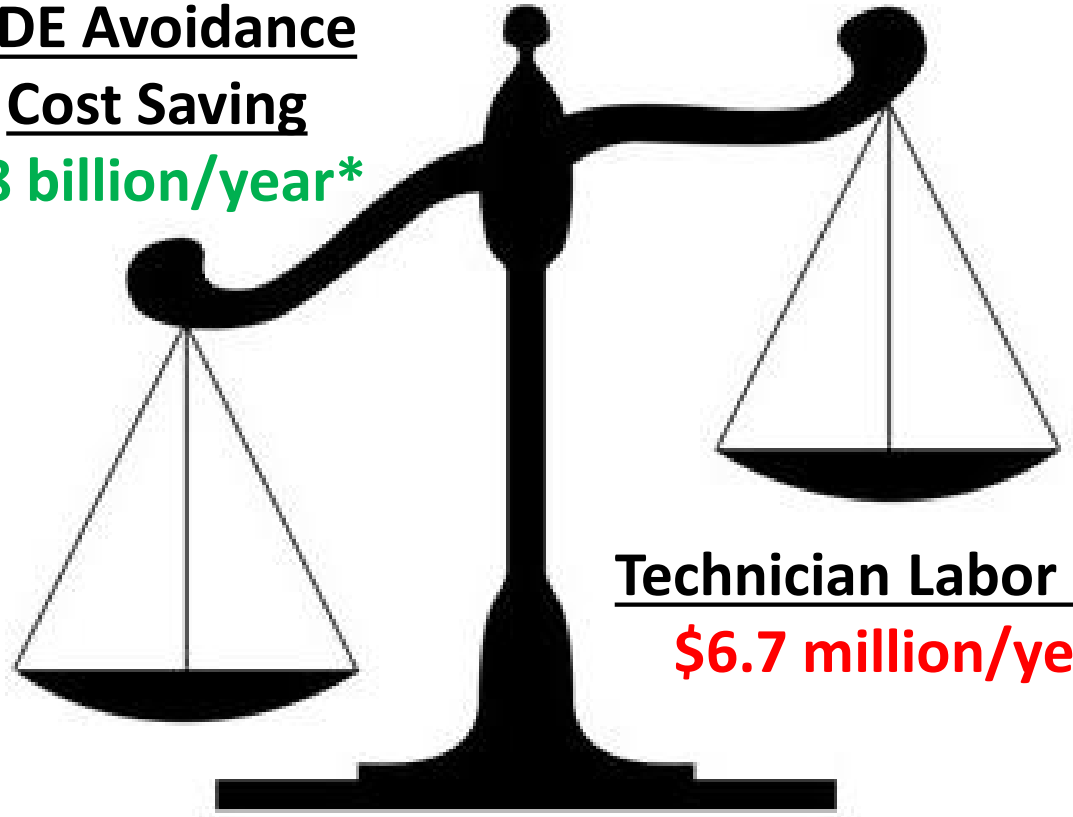
Cost Reduction by Preventing Harm

ADE Avoidance

Cost Saving

$8 billion/year*



Technician Labor Cost

$6.7 million/year

*Based on ~80% reduction in medication history errors when medication histories are completed by pharmacy staff in BMJ Qual Saf. 2018 Jul; 27(7): 512–520

**Calculated as 80% of the cost of ADE for all high-risk admissions minus labor cost
Average Technician salaries taken from indeed.com

SB1254

California Business and Professions Code, 107.1 establishes pharmacist's responsibility in acute care hospitals for obtaining an accurate list of the patient's current medications on admission, or promptly thereafter.

In hospitals, the pharmacist is responsible for obtaining an accurate medication profile for high risk patients upon admission.

- This function can be completed by **technicians and interns** who have successfully completed training and proctoring by pharmacists and where a quality assurance program is used to monitor competency
- Passed into law September 22, 2018
- Enforced January 1, 2019

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB1254 accessed 1/3/2019

NEXT STEPS: DEMONSTRATING IMPACT OF SB1254

- Proposal: Multicenter California Quality Improvement Project
- What: Collect institutional data on drug-related problems and potential harm prevented identified as a result of SB1254
- Who: Pharmacy residents, Class of 2019-20
- Methodology:
  - Document DRPs and severity (low capacity for harm, serious, life-threatening)
  - Physician independent evaluation of severity at each site
  - Duration:6 weeks during Jan-March 2020 timeframe
  - Resources: IRB Quality Improvement Template, Project Toolkit
  - Planning conference calls
- Deliverables:
  - Impact of SB1254 on preventing harm at each site
  - Statewide impact on preventing harm and estimated cost savings based on aggregate project results

PHARMACY VISION 2020

CSHP SEMINAR 20 • OCTOBER 21-25

Disneyland RESORT

DEMONSTRATING THE IMPACT OF SB1254

MULTICENTER CALIFORNIA QUALITY IMPROVEMENT PROJECT

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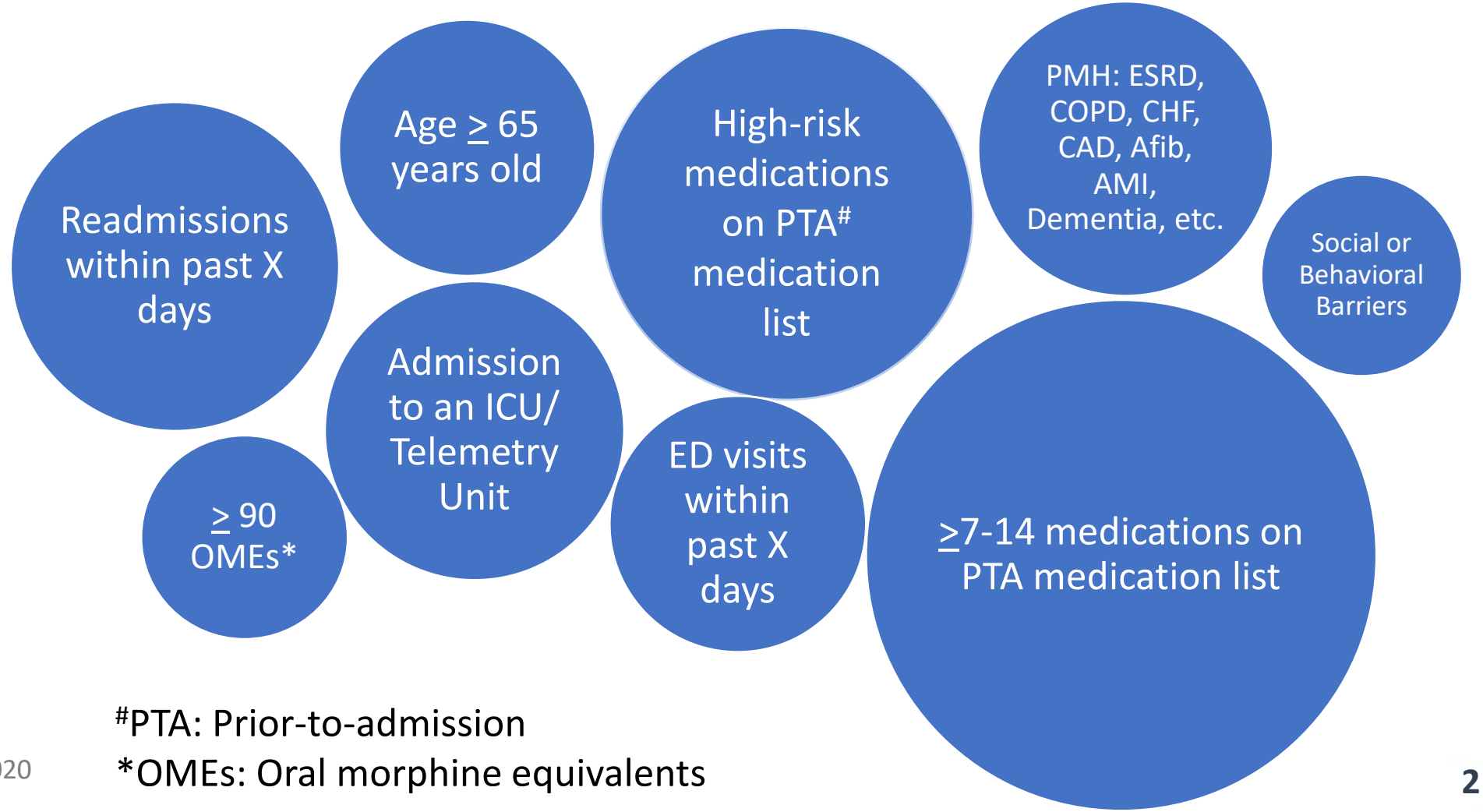
Study Objectives

1. Determine the number of errors identified and the associated potential harm as a result of SB 1254
2. Determine the cost savings associated with preventing harm

Methodology

- Open invitation to all California Hospitals
- Toolkit was provided to all sites:
  - Standardized error type categories
  - Standardized methodology to rate severity of potential harm (NCC MERP*)
  - Standardized medication therapeutic classifications
  - Bi-weekly office hours & severity rating training sessions
- Participating institutions captured errors found on medication lists of **high-risk patients** for 6 consecutive weeks between January – March 2020

High-Risk Criteria



#PTA: Prior-to-admission

*OMEs: Oral morphine equivalents

Error Types

- Allergy
- Drug-Disease Interaction
- Drug-Drug Interaction
- Drug-Lab Interaction
- Duplicate Therapy
- Incomplete Order
- Therapy Omission
- Wrong Concentration
- Wrong Dose/Rate/Frequency
- Wrong Duration
- Wrong Medication
- Wrong Route/Dosage Form
- Wrong Timing
- Wrong Patient
- Not Indicated
- Other
- Adherence - Literacy
- Adherence - Cost
- Adherence - Transportation
- Adherence/Patient - Other

Schnipper JL et al. BMJ Qual Saf. 2018
Pevnick JM et al. BMJ Qual Saf. 2017
Markovic M et al. PT. 2017
Gardella JE et al. TJC Qual Saf. 2012
Kaboli PJ et al. AM J Manag Care. 2004
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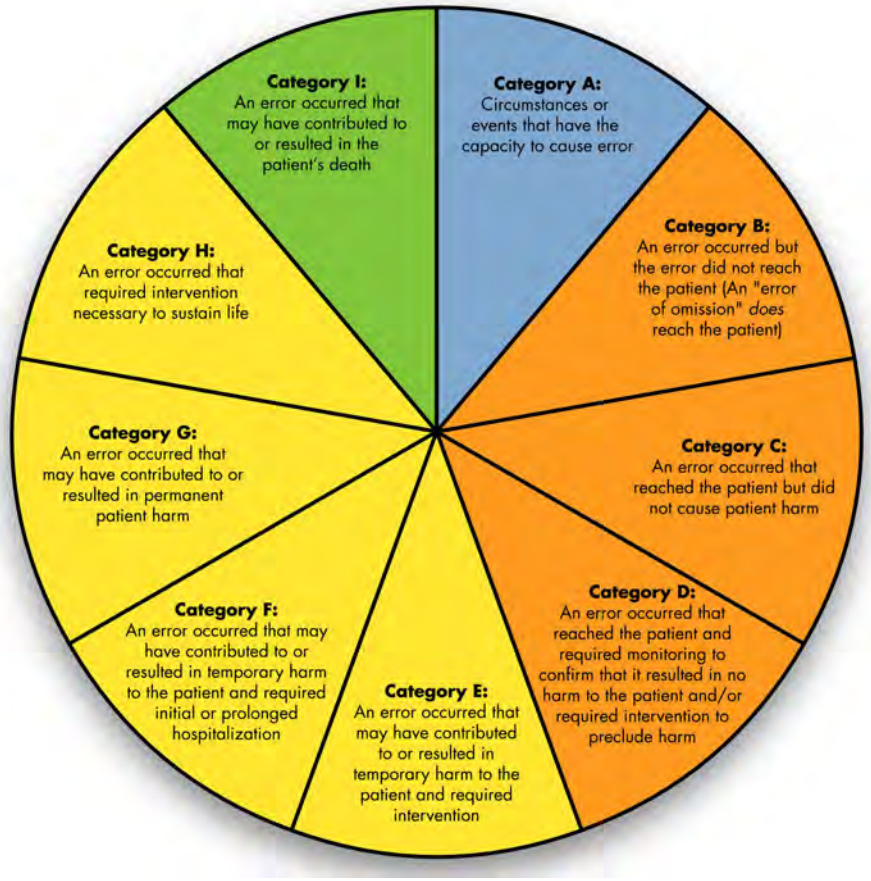
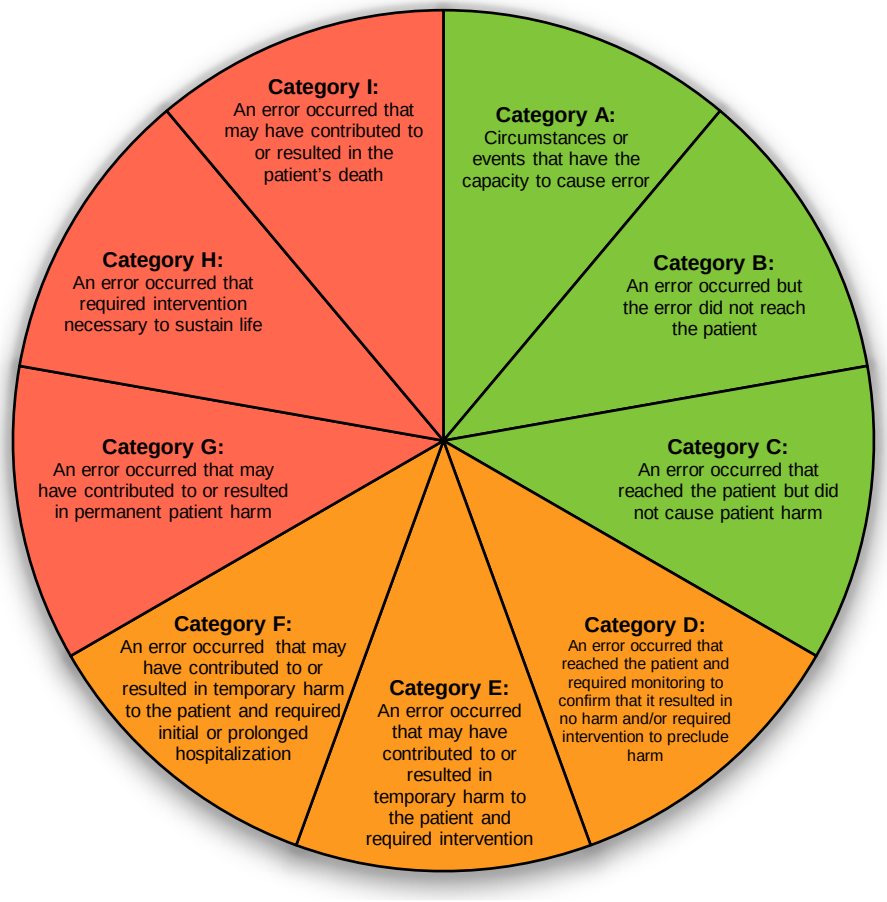
NCC MERP Error Severity



Category A	Circumstances or events that have the capacity to cause error
Category B	An error occurred but the error did not reach the patient
Category C	An error occurred that reached the patient but did not cause patient harm
Category D	An error occurred that reached the patient and required monitoring to confirm that it resulted in no harm and/or required intervention to preclude harm
Category E	An error occurred that may have contributed to or resulted in temporary harm to the patient and required intervention
Category F	An error occurred that may have contributed to or resulted in temporary harm to the patient and required initial or prolonged hospitalization
Category G	An error occurred that may have contributed to or resulted in permanent patient harm
Category H	An error occurred that required intervention necessary to sustain life
Category I	An error occurred that may have contributed to or resulted in the patient's death

*NCC MERP: National Coordinating Council for Medication Error Reporting and Prevention

Potential Error Severity
*Adapted from NCC MERP**



Low Capacity for Harm	**Category A**	Circumstances or events that have the capacity to cause error
	Category B	An error **could have** occurred but the error would not reach the patient
	Category C	An error **could have** occurred but would not cause patient harm
Serious	**Category D**	The identified and intercepted error that **could have** reached the patient would require monitoring to confirm that it resulted in no harm and/or require intervention to preclude harm
	Category E	The identified and intercepted error **could have** contributed to or resulted in temporary harm to the patient and required intervention
	Category F	The identified and intercepted error **could have** contributed to or resulted in temporary harm to the patient and required initial or prolonged hospitalization
Life-Threatening	**Category G**	The identified and intercepted error **could have** contributed to or resulted in permanent patient harm
	Category H	The identified and intercepted error **could have** required intervention necessary to sustain life
	Category I	The identified and intercepted error **could have** contributed to or resulted in the patient's death

Palmer K, Shane R. *PPMI.* 2018

*NCC MERP: National Coordinating Council for Medication Error Reporting and Prevention

Inter-rater Methodology

- **Two** pharmacists independently categorized severity rating
- Followed by **independent physician validation**
  - All life-threatening errors and a sample of the serious errors

RESULTS

Demographics

	Hospital										
	A	B	C	D	E	F	G	H	I	J	K
# of Licensed Beds	890	342	370	420	581	462	399	627	417	377	889
Daily Census (average)	800	180	263	319	465	305	275	568	344	300	750
Number of High-Risk Admissions per Month (average per day)	1800 (60)	60 (2)	220 (7)	270 (7)	540 (18)	800 (26)	150 (5)	200 (7)	224 (7)	100 (3)	30 (1)

Electronic Health Record	N
Cerner	5
Epic	6

Type of Hospital	N
Community	6
Academic	5

	Total
Number of medication histories	2,723
Male	52%
Preadmission Location	
Home	67%
SNF/Rehab	23%
Clinic	4%
Other (OSH, Homeless)	4%
Location Medication History completed	
ED	44%
Med-Surg	43%
ICU	11%
Other	2%

OSH – outside hospital

	Hospital											Total
	A	B	C	D	E	F	G	H	I	J	K	
Number of medication histories	523	94	152	107	235	784	207	264	241	61	55	2,723
Number of Errors Captured	4189	312	1497	468	1187	4582	1059	818	1082	331	325	15,850
Average # of Errors per History	8	3	10	4	5	6	5	3	5	5	6	6 (3-10)
Average time per History (min)	43	34	54	23	45	44	13	50	42	48	39	40 (13-54)

- Total of **2,273** medication histories were documented
- Total of **15,850** errors were captured
- Average of **6** errors per history

Medication List Changes

Interventions	Median (IQR)
Medications on List Prior	**14 (10-20)**
Medications on List After	**13 (9-19)**
Medications Omitted	**2 (0-5)**
Medications Removed	**3 (1-6)**
Medications with Dose/Rate/Frequency Changes	**2 (1-4)**
Total Changes to List	**9 (5-14)**

Potential Severity Ranking

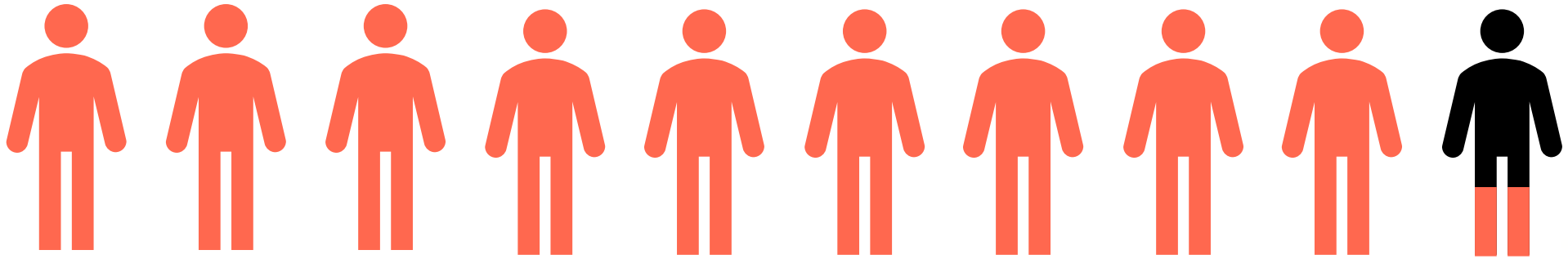
Potential Severity	Total
Low capacity for harm	**11874**
Serious harm	**3817**
Life-threatening harm	**145**

- **25%** (3962/15,850) of errors have potential for serious or life-threatening harm

*Potentially serious and life-threatening errors have high likelihood of an ADE if they reach the patient

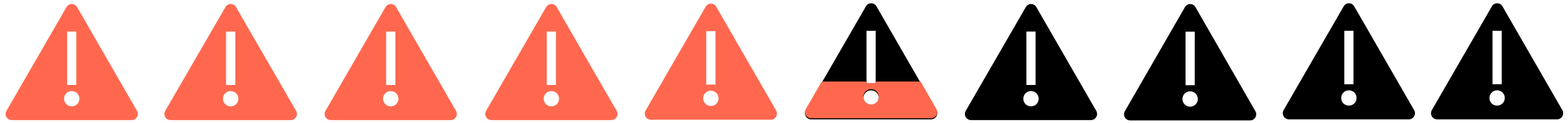
	Hospital											Total
	A	B	C	D	E	F	G	H	I	J	K	
% (n) of histories with ≥ 1 error	98 (511)	100 (94)	100 (152)	99 (106)	97 (228)	90 (705)	100 (207)	87 (230)	88 (212)	95 (58)	95 (52)	**94% (2555)**

- **94%** of medication histories have at least 1 error
  - No hospital recorded less than 87%



	Hospital											Total
	A	B	C	D	E	F	G	H	I	J	K	
% (n) of histories with ≥ 1 serious OR life-threatening error	78 (397)	22 (21)	33 (50)	73 (78)	30 (71)	53 (422)	74 (154)	66 (174)	19 (46)	80 (49)	35 (19)	**54% (1480)**
% (n) of histories with ≥ 1 life threatening error	12 (64)	0	0	0	2 (4)	6 (50)	7 (14)	2 (4)	0.4 (1)	13 (8)	0	5% (145)

- 1480/2723 **(54%)** patients who had medication histories completed had a serious or life-threatening error



*Potentially serious and life-Threatening errors have high likelihood of an ADE if they reach the patient

Sample Errors

Patient Information	Error Identified and Resolved	Error Type & Severity	Harm Avoided
60 yo w/ PMH of Afib, CKD III, CAD, and HFrEF	Amiodarone 200mg listed on PTA med list and patient takes 400mg once daily	Wrong Dose/Rate/Frequency - Serious	Ineffective therapy
50 yo w/ stage III melanoma s/p resection, and h/o pulmonary embolism	Patient was taking aspirin 325mg daily for 2.5 months instead of Eliquis 5mg q12h due to lack of coverage	Adherence – Life Threatening	VTE recurrence
50 yo w/ ESRD s/p DDRT	Tacrolimus 4 mg BID listed on PTA med list. Patient has been taking of 2mg qAM/1mg qPM due to high sensitivity to tacrolimus	Wrong Dose/Rate/Frequency - Life Threatening	Drug Toxicity

PTA: Prior to Admission
DDRT: deceased donor renal transplant

Sample Errors

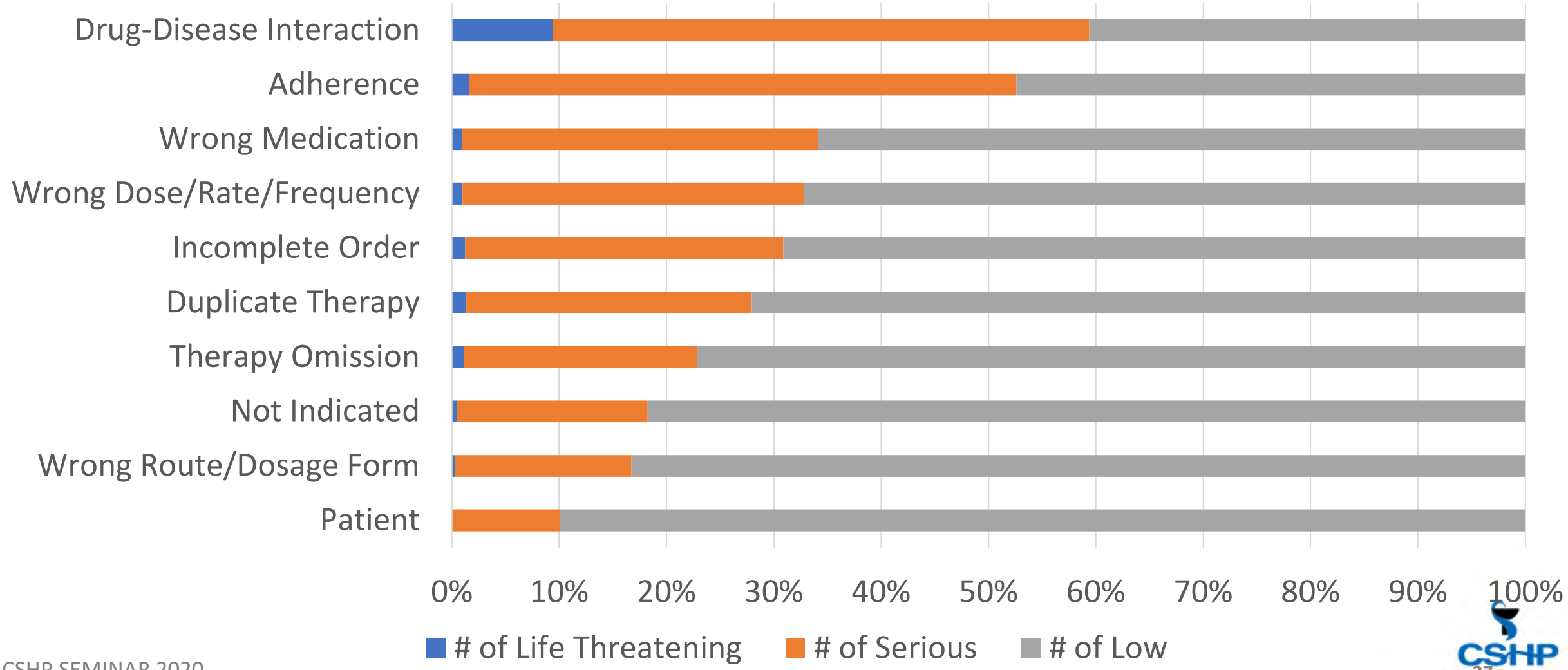
Patient Information	Details of Error Identified and Resolved	Error Type & Severity Ranking	Harm Avoided
40 yo w/ no significant PMH	Flecainide 100mg q12hr on PTA med list. Patient on no meds PTA. Flecainide entered on wrong patient.	Wrong Patient (Life Threatening)	Risk of arrhythmias
90 yo w/ severe symptomatic hypoglycemia on D10 infusion. h/o DM, GIB, NSTEMI s/p stent	Insulin U-500 dose 0-45 units TID before meals with sliding scale. Confirmed with patient that they only uses up to 15 units when BS>200	Wrong Dose/Rate/Frequency (Life Threatening)	Hypoglycemia, coma, death
70 yo w/ CKD on HD, CAD, Afib, HFpEF and HTN	Isosorbide mononitrate 60mg daily was omitted from PTA med list	Therapy Omission (Serious)	Significant co-morbidity burden

PTA: Prior to Admission

Top 10 Error Types

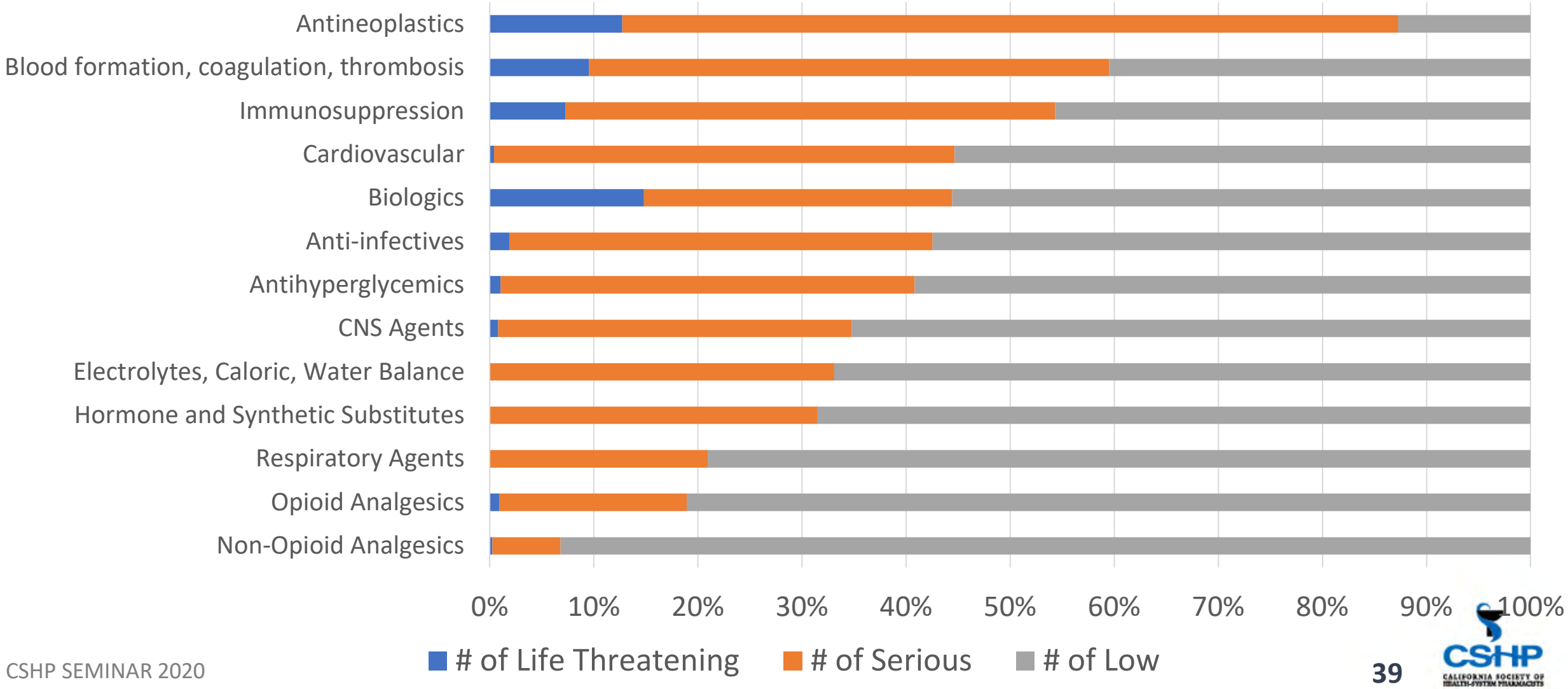
Error Type	# of Life Threatening	# of Serious	# of Low
Therapy Omission	56	1095	3878
Wrong Dose/Rate/Frequency	29	921	1946
Not Indicated	22	796	3669
Adherence	9	283	263
Incomplete Order	8	190	443
Duplicate Therapy	9	177	480
Wrong Medication	5	175	347
Wrong Route/Dosage Form	1	66	333
Patient	0	42	375
Drug-Disease Interaction	3	16	13

Error Types and Potential Severity for Harm



Therapeutic Class	# of Life Threatening	# of Serious	# of Low
Blood formation, coagulation, thrombosis	69	362	293
CNS Agents	13	552	1061
Anti-infectives	12	256	362
Immunosuppression	11	71	69
Cardiovascular	10	1078	1349
Antihyperglycemics	10	387	576
Antineoplastics	7	41	7
Opioid Analgesics	6	117	527
Biologics	4	8	15
Non-Opioid Analgesics	2	54	766

Therapeutic Class and Potential Severity for Harm



	N # of Patients	# of Errors	# of Low Capacity Errors Per Patient	# of Serious or Life-Threatening Errors per Patient	% of pts w/ ≥ 1 serious or LT error	% of errors that translated into IP orders	% errors that Reached the Patient (Overall)
Timing of Medication History							
Before Admission	813	5459	5	2	60	0	0
After Admission	1908	10390	4	1	52	19	14
Admitting Prescriber Specialty							
IM	2048	12496	5	1	56	13	9
Surgery	223	729	3	1	52	20	14
Specialty	334	1596	4	1	45	11	9
Pediatrics	3	3	0	1	33	0	0
Critical Care	114	729	5	1	55	8	6

	N # of Patients	# of Errors	# of Low Capacity Errors Per Patient	# of Serious or Life-Threatening Errors per Patient	% of pts w/ ≥ 1 serious or LT error	% of errors that translated into IP orders	% errors that Reached the Patient (overall)
Preadmission Location							
Home	1918	10457	4	1	55	13	9
Clinic	127	581	3	1	56	14	9
SNF/Rehab	339	3045	7	2	65	9	6
OSH	87	481	3	2	59	18	15
Homeless	12	63	2	3	67	10	8
Unidentified	4	22	2	3	50	5	0
Location of Medication History							
ED	939	6114	5	1	52	6	3
Med-Surg	1541	8378	4	1	55	17	13
ICU	210	1197	4	2	60	12	11
Periprocedural	2	22	11	1	50	9	5
Rehab	30	138	4	1	23	5	4

IMPACT ON MEDICATION HISTORY PROGRAMS

Pre-study Survey

	Hospital										
	A	B	C	D	F	G	H	I	J	K	L
# of medication histories by pharmacy staff per month	2400	60	40	350	200	1070	-	225	-	25	80

BEFORE SB 1254

2 Hospitals relied solely on nursing and physicians to collect medication histories

Pre-study Survey

	Hospital										
	A	B	C	D	F	G	H	I	J	K	L
# of medication histories by pharmacy staff per month	2400	60	40	350	200	1070	-	225	-	25	80
AFTER SB 1254			↓		↓		↓	↓	↓	↓	
# of medication histories by pharmacy staff per month	2400	60	420	350	490	733	300	1000	200	100	80

- **6** hospitals EXPANDED their medication history programs
- **Increased #** of medication histories by **3-10x**

PARTICIPATING SITES - HOW WILL THE DATA BE USED?

- Provide feedback to institutional quality, senior leadership, and system-level medication reconciliation teams
- Re-define high risk criteria
- Expansion of medication history programs

PARTICIPATING SITES - LESSONS LEARNED

- Medication histories conducted by pharmacy staff had a significant impact on positive patient outcomes and reducing adverse drug events
- Identified gaps in medication history workflows that could contribute to medication errors
- Significant variability in how institutions define high-risk criteria

LIMITATIONS

- Data may under-represent full impact due to constraints of data collection period
- Pilot units may not be representative of the whole institution
- Variability in medication history collection and error documentation
- Optimization of truly “high-risk” patient criteria

CONCLUSIONS

94% of histories have at least 1 significant error

54% of histories have at least 1 serious/life threatening error

Average of **6** errors per medication history

1 in 4 errors is potentially serious/life-threatening

Accurate medication histories conducted by pharmacy staff can reduce cost burden and prevent adverse drug events

Cost Analysis of Medication History

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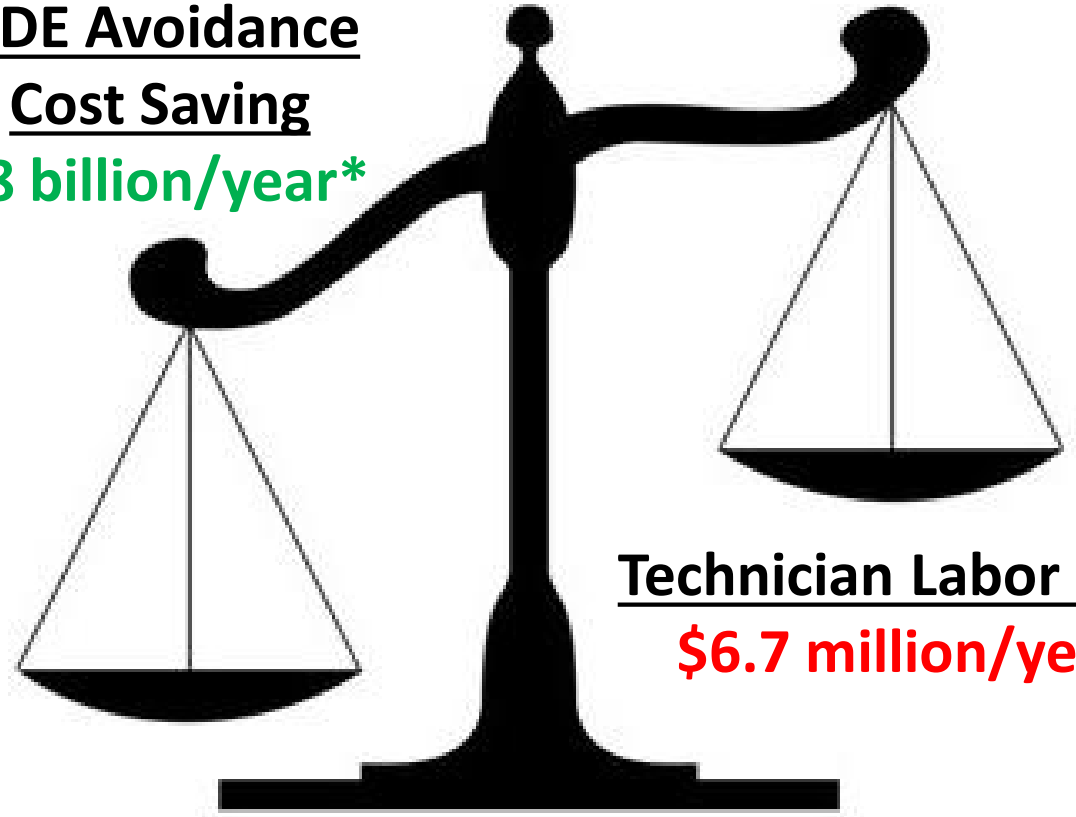
Cost Saving

$8 billion/year*



Technician Labor Cost

$6.7 million/year

*Based on ~80% reduction in medication history errors when medication histories are completed by pharmacy staff in BMJ Qual Saf. 2018 Jul; 27(7): 512–520

**Calculated as 80% of the cost of ADE for all high-risk admissions minus labor cost
Average Technician salaries taken from indeed.com

UC Davis Health Experience

Sarah A. Bajorek, PharmD, BCACP

Pharmacy Supervisor – Transitions of Care and Medication Reconciliation

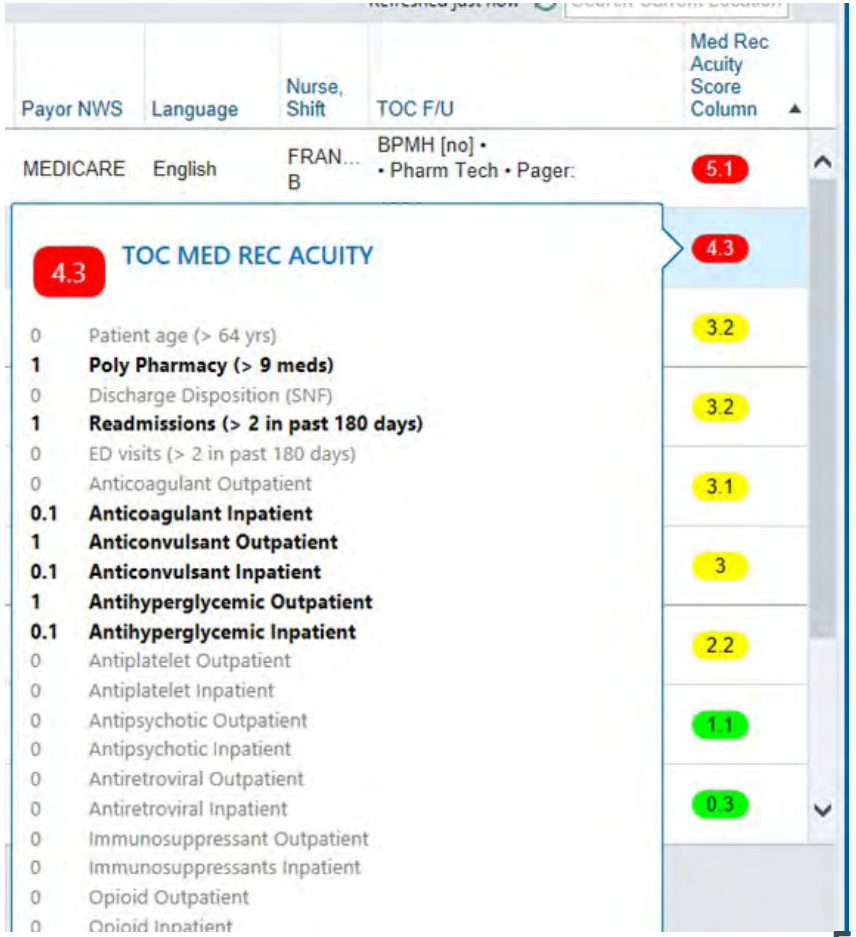
UC Davis Medical Center

- 627-bed academic medical center
- Level 1 trauma center
- Magnet recognized
- MARQUIS 2 site
- Nationally ranked in 10 specialties by U.S. News & World Report (2019)

High Risk Criteria – Med Rec Acuity Score

- Quick way to identify if patient meets high-risk criteria
- Assigns points based on discrete data from EMR
- Legend

Color	Score	"Risk"
Green	0-1.9	Low
Yellow	2-3.9	Moderate
Red	≥4	High



Pharmacy Resources for Medication Histories

High-risk Patients

- Seven Transitions of Care (TOC) pharmacy technicians
- Three pharmacists
- Available 7 days a week from 0730-1630

Low and Moderate-risk Patients

- Services with rounding pharmacist (layer learning model)
  - Interns
  - Residents
  - Pharmacists
- Non-rounding services: TOC pharmacy technicians

CLINICAL MODEL DURING SB1254 DATA COLLECTION

TOC Pharmacy Technician	TOC Pharmacist	Service-based Pharmacist
• Identifies **high risk patients** using Med Rec Acuity Score • Collects and enters **best possible medication history** (BPMH) for high risk patients within **48 hours of admission** • Informs primary team of medication discrepancies	• **Reviews medication lists** on admission and discharge for patients identified as high risk • Assists with resolving medication access issues for high risk patients at discharge	• Completes admission medication history for **low and moderate** patients • Reviews medication lists on admission for low and moderate patients

COVID19 Impact to Program

- Initial drop in census
- Expanded TOC pharmacy technician workflow for all patients
- Successfully completed admission medication histories within 48 hours for > 80% of patients admitted

METRICS TO MEASURE SUCCESS

UCDAVIS HEALTH

Acuity Score Summary

Risk Type Monthly Chart

Risk Type Monthly Crosstab

Risk Type		2019 January	February	March	April	May	June	July	August	September	October	November	December	2020 January	February	March	April	May	June	Jul
HIGH	Compliance..	43	238	268	254	302	273	287	294	283	295	260	285	282	275	269	250	291	296	26
	Pat Count	44	275	285	272	311	275	298	302	290	310	269	315	304	290	280	254	296	309	28
	Compliance..	97.7%	86.5%	94.0%	93.4%	97.1%	99.3%	96.3%	97.4%	97.6%	95.2%	96.7%	90.5%	92.8%	94.8%	96.1%	98.4%	98.3%	95.8%	95.7%
Grand Total	Compliance..	43	238	268	254	302	273	287	294	283	295	260	285	282	275	269	250	291	296	26
	Pat Count	44	275	285	272	311	275	298	302	290	310	269	315	304	290	280	254	296	309	28
	Compliance..	97.7%	86.5%	94.0%	93.4%	97.1%	99.3%	96.3%	97.4%	97.6%	95.2%	96.7%	90.5%	92.8%	94.8%	96.1%	98.4%	98.3%	95.8%	95.7%

Next Steps

- Expansion of medication history program to the ED
- Goal – complete medication histories for
  - Emergency Severity Index (ESI) 1-3 patients
  - All admissions
  - All ED Observations
- Coverage: 24/7

Multisite Study Pearls –What We Learned

- Align interventions with institutional goals
- Develop metric tracking dashboard and use it to your advantage
- Engage department staff
  - Build in accountability by defining roles and responsibilities
  - Ongoing education on best practices

Kaweah Delta Health Care District Experience

Sarah Stephens, PharmD, BCPS, CPPS
Honor Health
System Medication Safety Officer

Nicole Gann, PharmD, BCPS
Kaweah Delta Health Care District
Clinical Coordinator

KAWEAH DELTA HEALTH CARE DISTRICT

- 581-bed academic regional medical center (448 acute care beds)
- Level 3 trauma center
- Serving over 465,000 in Tulare County

CLINICAL MODEL DURING SB1254 DATA COLLECTION

Discharge Advocates

- Determine which patients are **high risk for readmission** using approved tool
- Assist with **discharge planning**
- **Perform follow-up** phone calls after discharge

Patient Care Pharmacy Technician

- Collects and enters highly accurate **home medication** lists on **high risk patients** identified by the Discharge Advocates
- Enrolls patients in KD Outpatient **Pharmacy Meds to Bed service**

Transitions of Care (TOC) Clinical Pharmacist

- **Reviews medication lists** on admission and discharge for patients identified as high risk by discharge advocates
- Daily chart review for optimal inpatient treatment to **shorten hospitalizations**
- Direct patient education on ***high risk**** discharge medications

COVID19 Impact to Program

- Justification of resources required (leveraged SB1254 regs!)
- FTE allocation approved, but reduced from prior program
- Expanded medication history collection to ED
- Re-defined high risk criteria
  - Simplified process (currently manual)
  - Ensured SB1254 requirements are met until program further expanded

Summary of New Model

Patient Care Technician – ED (2 FTE)	Patient Care Technician – Follow Up (1 FTE)
Collects and enters highly accurate **home medication** lists on **as many admitted patients as possible** Available in the ED - **10 AM to 10 PM – Monday to Friday** Depending on Resources **– Estimate 50 % of patients** would receive Medication History Review (30 pts per day)	**Reviews high risk patient report** daily to ensure all high risk patients received a medication history review within 72 hours **Targets any missed patients** and completes review after patient admission; Cover PTO/Sick Call

New High Risk Patient Criteria

Patients taking **10 or more home medications**

OR

Patients on **3 or more high risk medications**

Metrics to Measure Success

- Percentage capture of medication histories in ED and admitted high risk patients
- Total Discrepancies and Discrepancies per patient
- Total time (pharmacy technician and pharmacist)

Multisite Study Pearls –What We Learned

- C-Suite may not be persuaded by SB alone
- Cost-avoidance dollars may not be enough
- Significance of events and specific examples are powerful
  - Ongoing metrics should include modified NCC-MERP utilized in study
  - Possible evaluation of drug class involvement for serious/life-threatening errors
- Monthly report out of metrics to Medication Safety Committee (with examples!) is key for awareness and expansion of program

THANK YOU TO THE SB1254 MULTICENTER INSTITUTIONAL PARTICIPANTS

Cedars Sinai

UCDAVIS HEALTH

Kaweah Delta
MORE THAN MEDICINE. LIFE.

Dignity Health
Mercy San Juan Medical Center

JOHN MUIR HEALTH

MemorialCare
Long Beach Medical Center

Dignity Health
Mercy General Hospital

POMONA VALLEY HOSPITAL
MEDICAL CENTER

UCI Health

Olive View-UCLA
MEDICAL CENTER

UCSF Health

SPECIAL THANKS TO:

- Ryan Hays, PharmD, BCPS
- Thanh Tu, PharmD

TEST QUESTIONS

1) Medication histories collected by pharmacy staff members significantly reduce the risk of medication errors (true/false)

2) The majority of errors identified by pharmacy staff on admission have low capacity to cause harm (true/false)

3) SB1254 requires allows the following health care providers to collect medication histories

   a) Pharmacy technicians b) nurses c) physicians e) intake nurse assistant

4) SB1254 multicenter study demonstrates that 1 in 10 errors are potentially serious or life threatening (true/false)

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Q&A

Session Code: