

Advancing Inpatient Pharmacy Services

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The speaker has no conflict to disclose.

All patients should have a right to the care of a pharmacist

What is care?

Current State

- Medication reconciliation
- Medication order review
 - First dose
 - Daily patient-specific
- Medication preparation and distribution
- Monitoring patient response to drug therapy
 - Dose adjustment: response, PK, genetics, antimicrobial stewardship
 - Adverse drug events
- Patient and family education

Future State

- Drug therapy management should be provided by a pharmacist for **each** hospital inpatient
- Pharmacist-provided drug therapy management should be prioritized using a patient **medication complexity index**
- Hospital and health system pharmacists must be responsible and **accountable** for patients' medication-related outcomes.
- Privileges to write medication orders/**prescribe** as part of a collaborative team

Medication Complexity Index

- Severity of Illness
- # of medications
- Co-morbidities

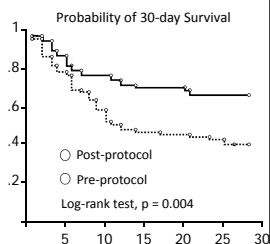
Barnes-Jewish Hospital Pharmacy Intensity Scale – DRG

1. Bone marrow transplant
2. Heart transplant or implant of heart assist system
3. Septicemia with mechanical ventilation
4. Burns with skin grafting
5. Liver Transplant
6. Kidney Transplant
7. Intracranial hemorrhage with vascular procedure
8. Coronary bypass with PTCA
9. Cardiac valve procedure
10. HIV with extensive OR procedure

Steve Pickette, PharmD
 Director, Pharmacy Clinical Services, Providence Health & Services

Pharmacist-Led Septic Shock Protocol

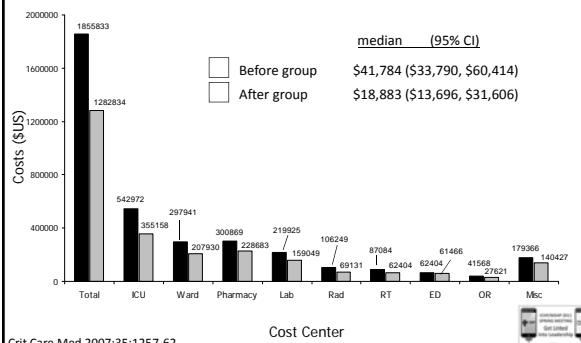
Variable	Pre N = 64	Post N = 54	p value
Abx before shock	20%	41%	0.016
Time to Abx > 4.5 hours	44%	15%	0.001
Appropriate Abx	30%	67%	<0.001
VP duration, d	3.8	1.4	<0.001
IMV duration, d	9.1	2.7	<0.001
ICU LOS, d	12.3	4.9	<0.001
Adequate fluids	31%	72%	<0.001



Abx = antibiotics, VP = vasopressor, d = days
 MV = mechanical ventilation

Gurnani PK et al. Clin Ther 2010;32:1285-93

Septic Shock QI – Cost Reduction



Value = $\frac{\text{Quality}}{\text{Cost}}$

Laurence Wilkerson, MD
CEO, Society of Hospital Medicine

Optimizing Treatment of Co-morbidities

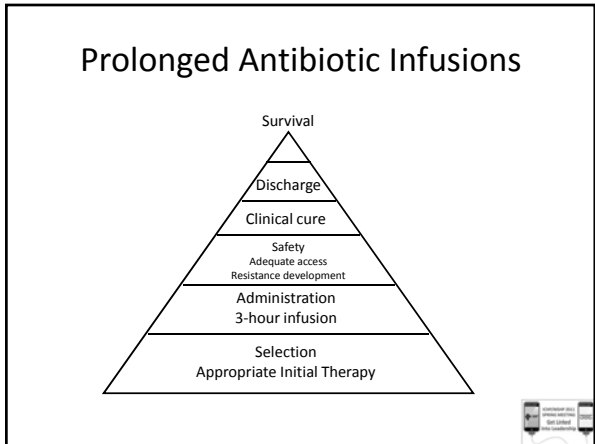
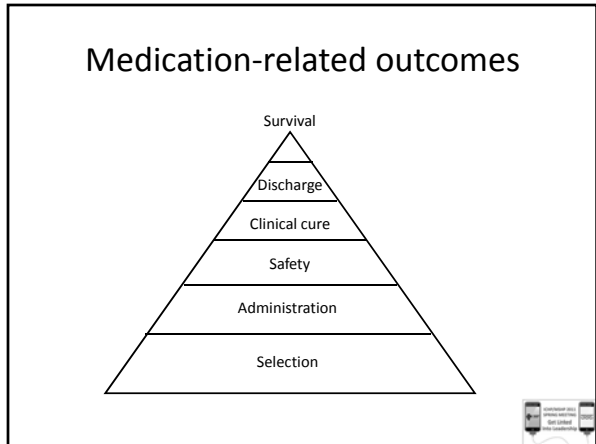
Bone Marrow Transplant	Heart Transplant	Burn injury
Hypertension	Hypertension	Hypertension
Acute Respiratory Failure	Acute Respiratory Failure	Atrial fibrillation
Diabetes mellitus	Diabetes mellitus	Coronary artery disease
Coronary artery disease	Atrial fibrillation	Anemia
Post-op infection	Acute renal failure	Septicemia
	Septicemia	Pneumonia
	Pneumonia	

Full vs. Shared ACCOUNTABILITY for patient outcomes

Responsible to someone or for some action

Billy Woodward, B.S. Pharm
President, Innovative Pharmacy Services, Ltd.

- ### Semi-Current
- Accountability for the development and documentation of medication-related components of the patient care plan
- ### Future
- Hospital and health system pharmacists must be responsible and accountable for patients' medication-related outcomes.



Accountability for Patient Outcomes

- Allowed to document recommendations and follow-up notes in the patient's medical records.
- Required to sign documented recommendations and follow-up notes in the patient's medical records.



Prescribing Privileges as part of the collaborative practice team

State laws limit pharmacists' scopes of practice

1. Curricular changes are required in colleges of pharmacy to prepare students for a significantly larger role in drug-therapy management in hospitals and health systems.
2. Pharmacist completion of ASHP-accredited residency training or achievement of equivalent experience is essential.
3. Clinical specialist positions are necessary to advance practice..
4. Pharmacists should be certified through the most appropriate Board of Pharmacy Specialties board-certification process.
5. Hospital- or health-system-level credentialing and privileging processes.
6. Implementation of collaborative practice agreements
7. Establishment of pharmacist provider status under Medicare



Moving forward!

- Provide drug therapy management for all patients.
- Create innovative systems to triage patient medication complexity to facilitate prioritization of drug therapy management services.
- Establish measurable patient outcomes as it relates to pharmacist-provided drug therapy management.
- Documentation of services and prescribing privileges in a collaborative practice.



ICHP/MSHP 2011 Spring Meeting
Pharmacy Practice Model Initiative – The Results are in!
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Post Test Questions:

1. Drug therapy management should be provided by a pharmacist for each hospital inpatient?

True or False

2. A patient medication complexity index includes which of the following?

- A. Severity of illness
- B. Number of medications
- C. Co-morbidities
- D. Drug Cost
- E. All of the above