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Beyond the Hospital Doors - The Future of Transitions of Care

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Objectives

1. Define transitions of care (TOC) and the pharmacist's role during this process

2. Identify challenges present in the process of transitioning patients from secondary to primary care

3. Describe strategies for the optimization of TOC services after hospital discharge

Transitions of Care

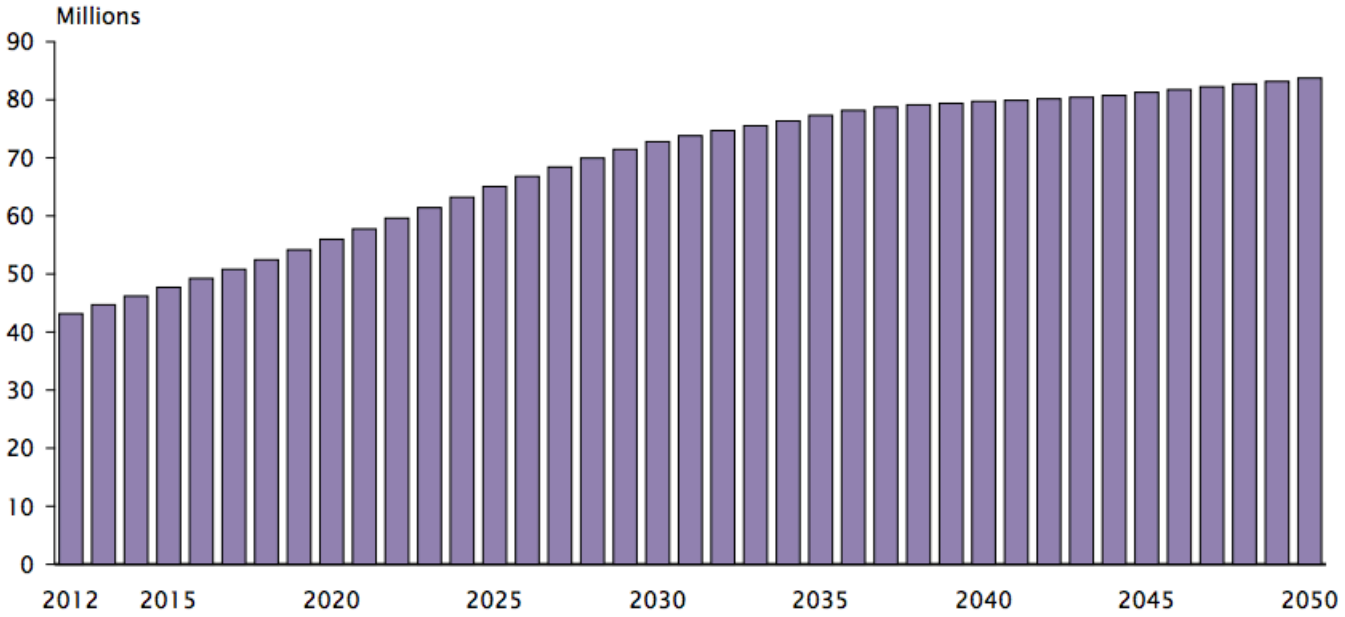
The movement of patients between health care practitioners, settings and home as their condition and care needs change.

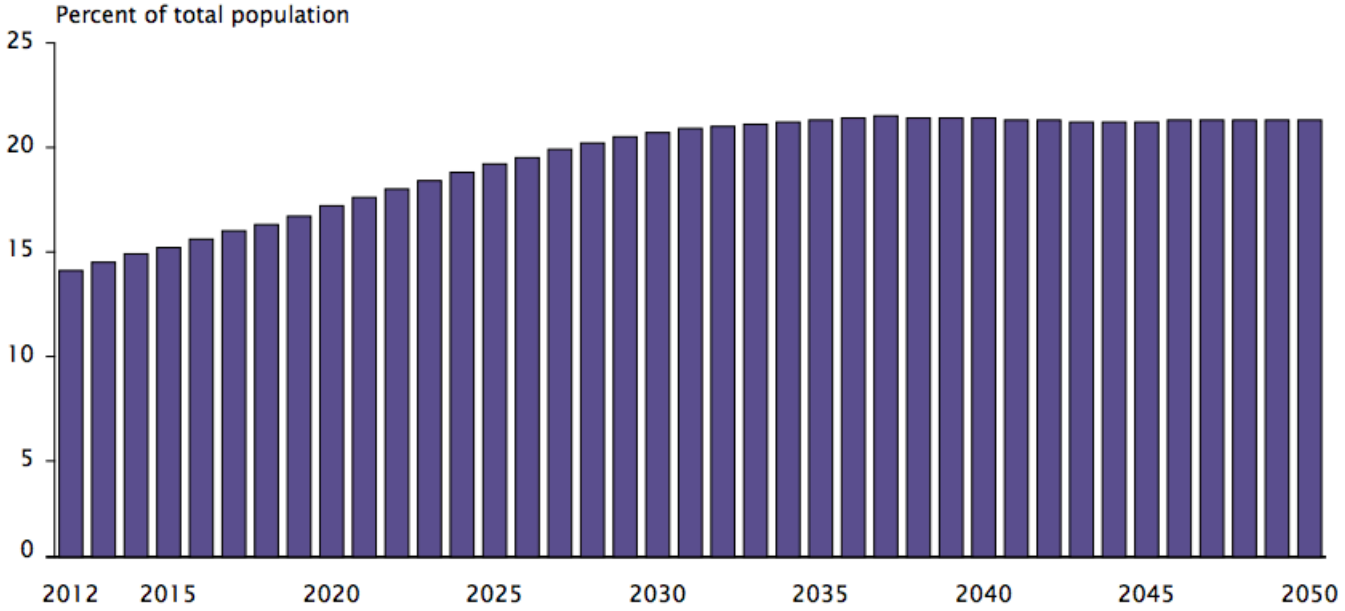
https://www.jointcommission.org/assets/1/18/Hot_Topics_Transitions_of_Care.pdf

Importance

- The need for effective patient discharge from the hospital is increasing because of:
  - Rising number of transitions of elderly and chronically ill patient between various healthcare institutions
  - Shorter hospital stays
  - Growing effort to deliver care in the community

Population Aged 65 and Over for the United States: 2012 to 2050





Source: U.S. Census Bureau, 2012 Population Estimates and 2012 National Projections.

10 Common Chronic Conditions for Adults 65+

Quick Facts

80% have have at least 1 chronic condition

68% have 2 or more chronic conditions

Hypertension (High Blood Pressure) 58%

High Cholesterol 47%

Arthritis 31%

Ischemic Heart Disease (or Coronary Heart Disease) 29%

Diabetes 27%

Chronic Kidney Disease 18%

Heart Failure 14%

Depression 14%

Alzheimer's Disease and Dementia 11%

Chronic Obstructive Pulmonary Disease 11%

Source: Centers for Medicare & Medicaid Services, Chronic Conditions Prevalence State/County Table: All Fee-for-Service Beneficiaries, 2015

ncoa National Council on Aging

ncoa.org

Year	Inpatient Admissions in Community Hospitals	Inpatient Admissions per 1,000	Total Inpatient Days in Community Hospitals	Inpatient Days per 1,000	Inpatient Surgeries	Average Length of Stay
1995	30,945,357	117.8	199,876,367	760.7	9,700,613	6.5
1996	31,098,959	117.2	193,747,004	730.4	9,545,612	6.2
1997	31,576,960	118.0	192,504,015	719.3	9,509,081	6.1
1998	31,811,673	117.8	191,430,450	709.0	9,735,705	6.0
1999	32,359,042	118.7	191,884,270	703.7	9,539,593	5.9
2000	33,089,467	117.6	192,420,368	683.7	9,729,336	5.8
2001	33,813,589	118.7	194,106,316	681.6	9,779,583	5.7
2002	34,478,280	119.7	196,690,099	682.7	10,105,010	5.7
2003	34,782,742	119.6	196,649,769	676.2	9,940,922	5.7
2004	35,086,061	119.5	197,564,172	672.8	10,050,346	5.6
2005	35,238,673	119.2	197,073,770	666.4	10,097,271	5.6
2006	35,377,659	118.2	196,366,512	655.9	10,095,683	5.6
2007	35,345,986	117.3	194,549,348	645.7	10,189,630	5.5
2008	35,760,750	117.6	196,078,468	644.9	10,105,156	5.5
2009	35,527,377	115.7	192,656,804	627.5	10,100,980	5.4
2010	35,149,427	113.7	189,593,349	613.5	9,954,821	5.4
2011	34,843,085	111.8	187,072,013	600.4	9,638,467	5.4
2012	34,422,071	109.7	185,423,035	590.7	9,513,598	5.4
2013	33,609,083	106.3	182,370,189	576.9	9,147,264	5.4
2014	33,066,720	103.7	180,456,434	565.9	9,015,467	5.5
2015	33,260,348	103.5	181,555,387	564.9	8,920,775	5.5
2016	33,424,253	103.4	182,291,689	564.1	8,982,309	5.5

Source: Analysis of American Hospital Association Annual Survey data, 2016, for community hospitals. US Census Bureau: National and State Population Estimates, July 1, 2016.
Link: https://www.census.gov/programs-surveys/popest/data/data-sets.2016.html.

Year	Total Outpatient Visits	Outpatient Visits per 1,000	Outpatient Surgeries
1995	413,748,403	1,574.6	13,462,304
1996	439,863,107	1,658.3	14,023,651
1997	450,140,010	1,681.9	14,678,290
1998	474,193,468	1,756.3	15,593,614
1999	495,346,286	1,816.5	15,845,492
2000	521,404,976	1,852.8	16,383,374
2001	538,480,378	1,890.8	16,684,726
2002	556,404,212	1,931.1	17,361,176
2003	563,186,046	1,936.7	17,165,616
2004	571,569,334	1,946.4	17,351,490
2005	584,428,736	1,976.1	17,445,587
2006	599,553,025	2,002.5	17,235,141
2007	603,300,374	2,002.4	17,146,334
2008	624,098,296	2,052.6	17,354,282
2009	641,953,442	2,091.0	17,357,534
2010	651,423,717	2,107.8	17,357,177
2011	656,078,942	2,105.6	17,269,245
2012	674,971,331	2,150.2	17,297,633
2013	677,951,120	2,144.5	17,418,773
2014	693,106,685	2,173.7	17,386,061
2015	722,121,388	2,246.7	17,588,335
2016	747,089,013	2,312.1	18,224,816

Source: Analysis of American Hospital Association Annual Survey data, 2016, for community hospitals. US Census Bureau: National and State Population Estimates, July 1, 2016.
Link: https://www.census.gov/programs-surveys/popest/data/data-sets.2016.html.

Regulatory and Financial Impact on Hospitals

The Patient Protection and Affordable Care Act

- Penalties enacted on hospitals with high readmission rates:
  - 2012: Heart failure, myocardial infarction, and pneumonia
  - 2015: Total hip and knee replacements and chronic obstructive pulmonary disease (COPD) exacerbations
  - 2017: Coronary artery bypass graft (CABG)
- For 2019, penalties based on a hospital's performance relative to other hospitals treating a similar proportion of Medicare patients

https://catalyst.nejm.org/hospital-readmissions-reduction-program-hrrp/
http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html

Regulatory and Financial Impact on Hospitals

Centers for Medicare and Medicaid Services (CMS)

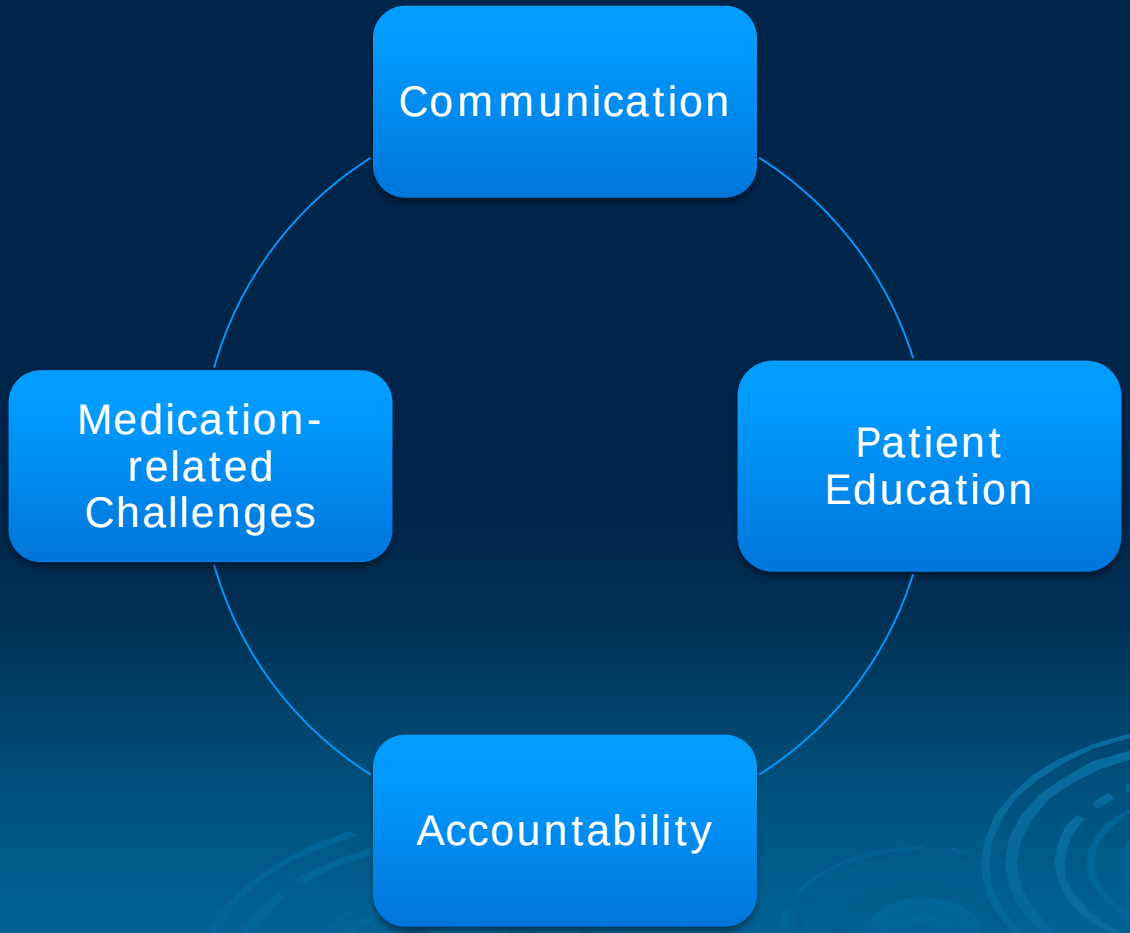
- 2013: 1% penalization for hospital readmission
- 2015: Increased penalties to 3%

The Joint Commission

- National Patient Safety Goal 03.06.01
  - Maintain and communicate accurate patient medication information

http://www.jointcommission.org/core_measure_sets.aspx
https://catalyst.nejm.org/hospital-readmissions-reduction-program-hrrp/
http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html

Challenges in TOC



https://www.jointcommission.org/assets/1/18/Hot_Topics_Transitions_of_Care.pdf

Communication Breakdowns

- Expectations differ between senders and receivers of patients in transition
- Culture does not promote successful hand-off
- Lack of standardized procedures
- Inadequate amount of time provided for successful hand-off

https://www.jointcommission.org/assets/1/18/Hot_Topics_Transitions_of_Care.pdf

Patient Education Breakdowns

- Lack of understanding of the medical condition or the plan of care
- Exclusion of patients/caregivers from the planning of transition process
- Conflicting recommendations and unclear instructions

https://www.jointcommission.org/assets/1/18/Hot_Topics_Transitions_of_Care.pdf

Accountability Breakdowns

- No provider or clinical entity takes responsibility of coordinating care across settings
- Multiple providers involved in patient's care
  - Every year, the average elderly patient sees 7 physicians

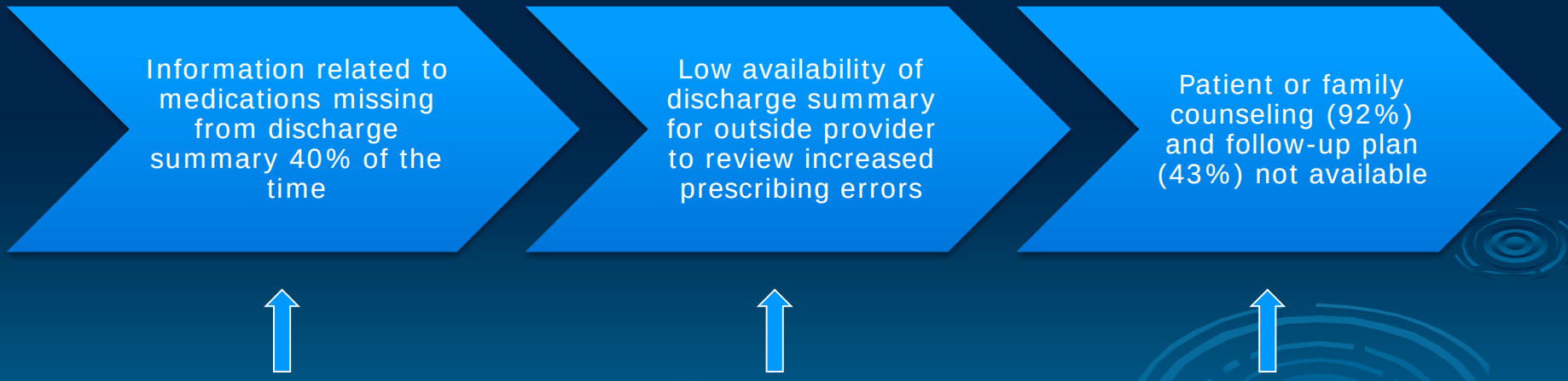
https://www.jointcommission.org/assets/1/18/Hot_Topics_Transitions_of_Care.pdf

Medication-Related Challenges

- Inaccurate documentation during hospital stay
- Prescribing errors
- Inaccurate medication profile at discharge
- Polypharmacy
- Inadequate patient education on discharge medications
- Failure to provide patient follow-up

Deficits in Communication and Information Transfer Between Hospital-Based and Primary Care Physicians: Implications for Patient Safety and Continuity of Care

- Evaluate the prevalence of deficits in communication and information transfer



Kripalani S, LeFevre F, Phillips CO, et. al. Deficits in communication and information transfer between hospital-based and 7primary care physicians: implications for patient safety and continuity of care. J Amer Med Assoc. 2007;297(8):831-841.

Implications to Patient Outcomes

- One in 5 patients has an adverse event after hospital discharge
- Approximately 62% of these adverse events are preventable
- More than 60% of hospital readmissions occur as a result of medication-related problems that are unresolved at hospital discharge

https://catalyst.nejm.org/hospital-readmissions-reduction-program-hrrp/

Pharmacist's Role

- During discharge:
  - Medication reconciliation
  - Patient education and communication
  - Meds to beds
- Immediately post-discharge:
  - Follow-up phone calls
  - Post-discharge clinics
- In clinics:
  - MTM visits
  - Provider collaboration

Patient Case

- 63 year old female with a past medical history of Chronic Obstructive Pulmonary Disease admitted to the hospital due to an exacerbation
- Smokes 1 pack per day and states she does not use the inhalers prescribed by her doctors
- During her hospital stay she was educated on the importance of smoking cessation and medication adherence to prevent further exacerbations
- After 5 days in the hospital, she is ready to go home

Medication Reconciliation

- The comprehensive evaluation of a patient's medication regimen any time there is a change in therapy in an effort to avoid medication errors such as:
  - Omissions
  - Duplications
  - Dosing errors
  - Drug interactions
- Observe a patient's compliance and adherence patterns

https://www.pharmacist.com/sites/default/files/files/2012_improving_care_transitions.pdf

Medication Reconciliation

Medication Reconciliation at Hospital Discharge: Evaluating Discrepancies

Objective

- To identify, characterize, and assess the clinical impact of unintentional medication discrepancies at hospital discharge.

Methods

- Assessment of medication discrepancies through comparison of a best possible medication discharge list with the actual discharge prescriptions.

Results

- From the 150 patients included in the study, 106 (70.7%) had at least one unintentional discrepancy.

Conclusion

- Structured medication reconciliation may help to prevent discharge medication discrepancies.

Wong JD, et. al. Ann Pharmacother. 2008; 42:1373-1379.

Discharge Counseling

Discharge Counseling

Role of Pharmacist Counseling in Preventing Adverse Drug Events After Hospitalization

Objective

- To identify drug related problems during and after hospitalization and to determine the effect of patient counseling and follow-up by pharmacist on preventable ADEs.

Methods

- Patients were randomized into the control group (n=84) who received usual care or the intervention group (n=92) who received discharge counseling by a pharmacist.

Results

- At 30 days after discharge, preventable ADEs were detected in 11% of patients in the control group and 1% of patients in the intervention group (p=0.01)

Conclusion

- Discharge counseling by a pharmacist was associated with a lower rate of preventable ADEs 30 days after hospital discharge.

Schnipper JL, et al. Arch Intern Med. 2006;166:565-571.

Meds to Beds

- Hand-delivery of prescriptions to hospital patients at bedside before discharge
- Identification and resolution of potential barriers to compliance prior to hospital discharge
  - Medications not covered by insurance
  - High co-pays
  - Coordination of prior authorizations
  - Transportation

https://www.pharmacist.com/article/meds-beds-programs-prevent-rehospitalization

Meds to Beds

The average time to fill these prescriptions is 20 minutes

Has been shown to decrease readmission rates

65%

Potential for the pharmacy providing the service to retain the customer

https://www.cardinalhealth.com/content/dam/corp/web/documents/brochure/Cardinal-Health-CaseStudy-Hackensack-Bedside.pdf
https://www.mckesson.com/blog/pharmacists-partnering-with-hospitals-to-improve-outcomes/

Patient Case

- Patient was discharged on Spiriva and Symbicort
- She had been using nicotine patches during her hospital stay and stated she was ready to quit smoking and the patches had helped her
- During **medication reconciliation**, the discharge pharmacist noticed there were no nicotine patches in the patient's medication list
- After talking to the doctor and getting a prescription for nicotine patches, the discharge pharmacist went to the patient's room and provided **counseling** regarding inhaler technique and proper patch use.

Beyond the hospital doors!

Bridging the gap in care...

Follow-up Phone Calls

- The pharmacist calls the patient usually 72 hours after discharge
  - Concerns related to medications
  - Problems accessing medications
  - Patient education reinforcement
  - Follow-up reminder

Follow-up Phone Calls

A Reengineered Hospital Discharge Program to Decrease Rehospitalization: A Randomized Trial

Objective

- To test the effects of an intervention designed to minimize hospital utilization after discharge.

Methods

- Patients were randomly assigned to the intervention group where they received a follow-up phone call by a clinical pharmacist 2-4 days after discharge or to the control group where they received usual care.

Results

- Participants in the intervention group had a lower rate of hospital utilization than those receiving usual care (0.314 vs 0.451 visits/person/month; p=0.009).

Conclusion

- Follow-up phone calls by a clinical pharmacist minimize hospital utilization after discharge.

Jack BW, et. al. Ann Intern Med. 2009;150(3):178-187.

Follow-up Phone Calls

Post-discharge Pharmacist Medication Reconciliation: Impact on Readmission Rates and Financial Savings

Objective

- To assess the impact of ambulatory clinical pharmacist medication therapy assessment and reconciliation for patients post-discharge in terms of hospital readmission rates, financial savings, and medication discrepancies.

Methods

- Patients in the intervention group received a phone call from a pharmacist 3-7 days post-discharge and patients in the comparison group did not receive clinical pharmacist intervention.

Results

- Patients in the intervention group had decreased readmission rates at 7 (0.8% vs. 0.4%; p=0.01), 14 (5% vs 9%; p=0.04), and 30 (12% vs 14%; p=0.29) days post-discharge
- Financial savings for patients in the intervention group was estimated to be more than $1,500,000 annually

Conclusion

- Medication assessment and reconciliation by pharmacist 3-7 days post-discharge can decrease readmissions and provide cost-savings

Kilcup M, et. al. J Am Pharm Assoc. 2013;53:78-84.

Post-Discharge Clinics

Post-Discharge Clinics

Pharmacist-Coordinated Multidisciplinary Hospital Follow-up Visits Improve Patient Outcomes

Objective
- To compare hospital readmission rates and interventions in a multidisciplinary team visit coordinated by a clinical pharmacist practitioner with those conducted by a physician-only team within an internal medicine hospital follow-up program.

Methods
- Retrospective review of follow-up visits within 7 days of discharge performed by a multidisciplinary team (physician and pharmacist) vs a physician-only team.

Results
- Patients seen by the multidisciplinary team had a 30-day readmission rate of 14.3% compared with 34.3% by the physician-only team (p=0.010).
- Interventions were higher in the multidisciplinary team

Conclusion
- Hospital follow-up visits coordinated by the multidisciplinary team decreased 30-day hospital readmission rates compared with follow-up visits by a physician-only team.

Cavanaugh JJ, et. al. J Manag Care Spec Pharm. 2015;21(3):256-260.

Post-Discharge Clinics

Evaluation of Pharmacist Involvement in Outpatient Transitions of Care

Objective

- To assess the impact of pharmacist involvement on the identification and resolution of medication discrepancies during post-discharge follow-up appointments.

Methods

- Retrospective: patients discharged from the hospital who already had a follow-up visit without a pharmacist
- Prospective: patients discharged from the hospital who had a follow-up visit scheduled with a pharmacist

Results

- An increase of 6.2 discrepancies addressed per patient (3.4 in the retrospective analysis vs 9.6 in the prospective population; p=0.0003)

Conclusion

- Pharmacist involvement in outpatient-based transitions of care process significantly increased medication discrepancies addressed by the patient's PCP following discharge from the hospital to home.

Whalley AS, et. al. J Gen Intern Med. 2018;33(8):1227-1228.

Patient Case

- 72 hours after discharge, the **pharmacist called** the patient to reinforce what they had talked about during discharge counseling and to make sure the patient was not experiencing any problems

- The patient stated that she was not able to get one of the inhalers because her insurance did not cover it. After looking into it, the pharmacist noticed a prior authorization was needed.

- Prior authorization process was initiated and follow-up appointment was confirmed with the patient

MTM Visits

Medication Therapy Management (MTM)

- A range of services provided to individual patients to optimize therapeutic outcomes and detect and prevent costly medication problems
  - Review of all medications prescribed by all prescribers providing care to the patient
  - Medication-related education
  - Collaboration with healthcare providers to develop and achieve optimal goals

https://www.accp.com/docs/govt/advocacy/Leadership%20for%20Medication%20Management%20-%20MTM%20101.pdf

Pharmacist-led MTM Clinics

The Effect of Clinical Pharmacist-Led Comprehensive Medication Management on Chronic Disease State Goal Attainment in a Patient-Centered Medical Home

Objective

- To assess the effect of pharmacist-led comprehensive medication management (CMM) on therapeutic goal attainment rates for glycemic, blood pressure, and dyslipidemia outcomes.

Methods

- Patients managed within the primary care network who had diabetes were included in the intervention group that was compared to a control group made up of patients who didn't have access to a primary care network pharmacist.

Results

- Patients in the intervention group had significantly higher rates of goal attainment for the 3 endpoints ($p<0.001$)

Conclusion

- Addition of CMM services provided by a clinical pharmacist had a positive effect on therapeutic goal attainment rates for patient with diabetes.

Prudencio J, et al. J Manag Care Spec Pharm. 2018;24(5):423-429.

Community Pharmacist and MTM

Community Pharmacist

- Often the first member of the health care team that interacts with the patient post-discharge
- Evidence supports that community pharmacists can:
  - Identify and resolve medication-related problems
  - Reduce 30-day readmission rates
  - Reduce ED utilization

Melody KT, McCartney E, Sen S, et. al. Optimizing care transition: the role of the community pharmacist. Integ Pharm Research and Prac. 2016;5:43-51.

Community Pharmacist

TransitionRx: Impact of community pharmacy post-discharge medication therapy management on hospital readmission rate

Objective

- To determine if a community pharmacy-based TOC program that includes the full scope of MTM services decreases hospital readmissions, resolves medication-related problems, and increased patient satisfaction.

Methods

- Patients discharged from the hospital with a diagnosis of CHF, COPD, or pneumonia were recruited and referred to the community pharmacy for MTM services with the pharmacist within 1 week of discharge

Results

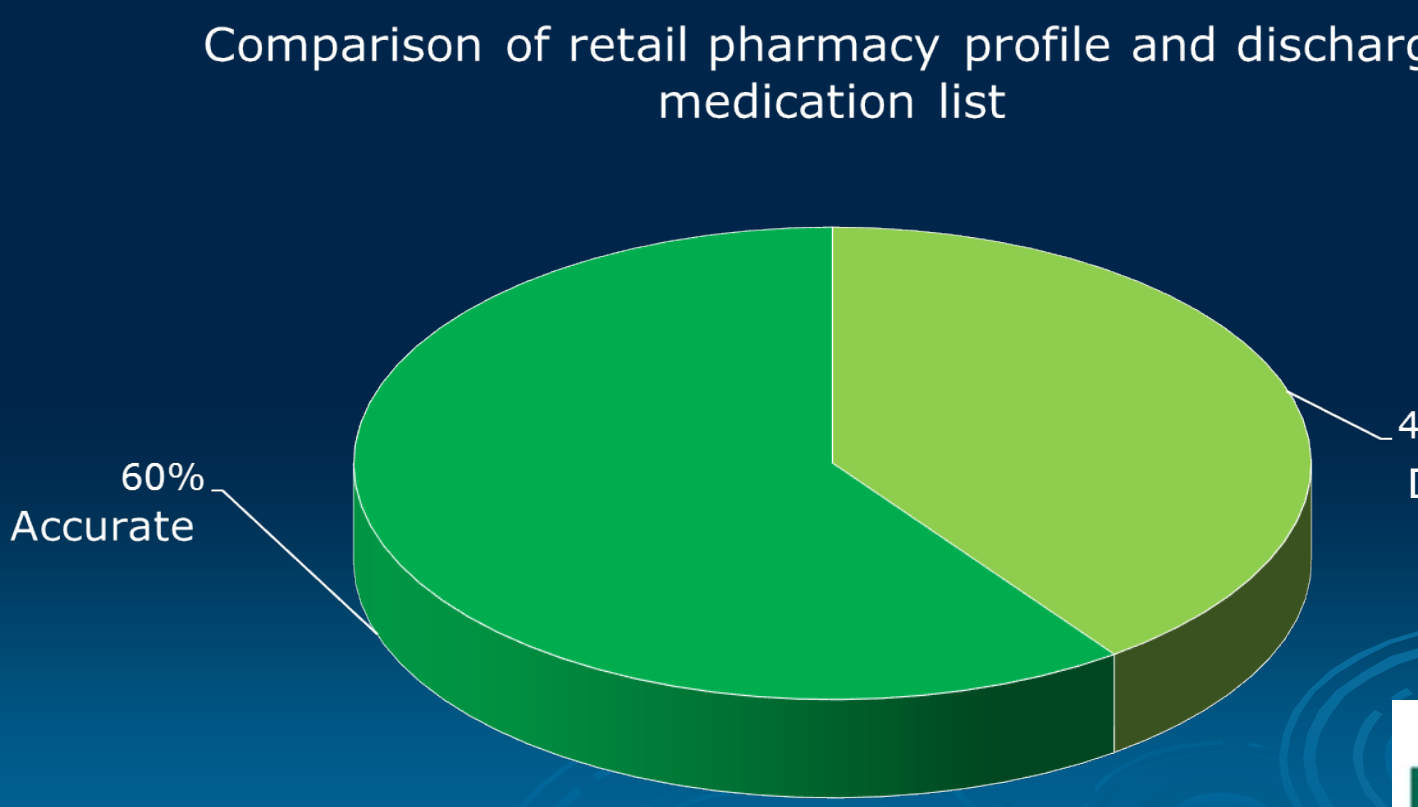
- 20% of patients in the usual care group were admitted to the hospital within 30 days compared with 6.9% of patients in the intervention group (p=0.019)

Conclusion

- Community pharmacies successfully collaborate with hospitals to develop a referral process for TOC interventions

Luder HR, et. al. J Am Pharm Assoc. 2015;55(5):246-254.

Community Pharmacist can have impact beyond MTM



West Kendall Baptist Hospital
BAPTIST HEALTH SOUTH FLORIDA

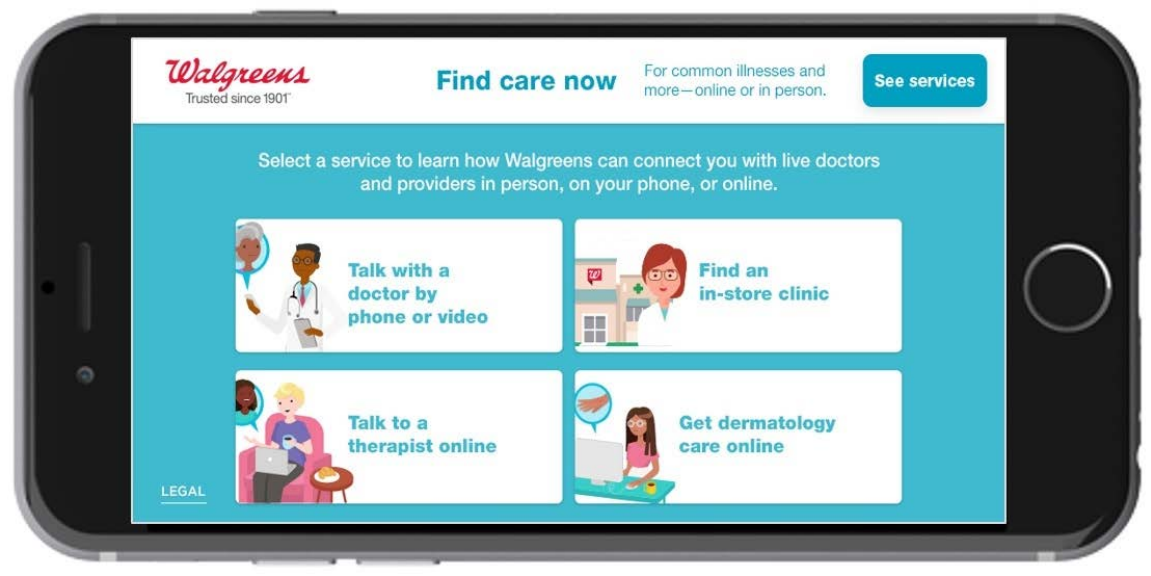
Barriers to Implementing TOC in the Community

- The biggest concern for community pharmacists is the time required to provide TOC services
  - Workflow changes
  - Delegation of task to appropriate personnel

Melody KT, McCartney E, Sen S, et. al. Optimizing care transition: the role of the community pharmacist. Integ Pharm Research and Prac. 2016;5:43-51.

Telepharmacy

- Has been shown to overcome barriers to health services caused by access to care
- Technology already available



Lee AC, et al. Inform Prim Care. 2012;20(4):263-260.

Provider Collaboration

Collaborative Practice Agreements

- Create a formal practice relationship between a pharmacist and other health care providers
- Specify what patient care services can be provided
- Allow physician and pharmacists to share responsibility for patient outcomes
- State laws and regulations authorizing CPAs are highly variable

Joseph T, et. al. J Manag Care Spec Pharm. 2017;23(5):541-548.

Provider Collaboration

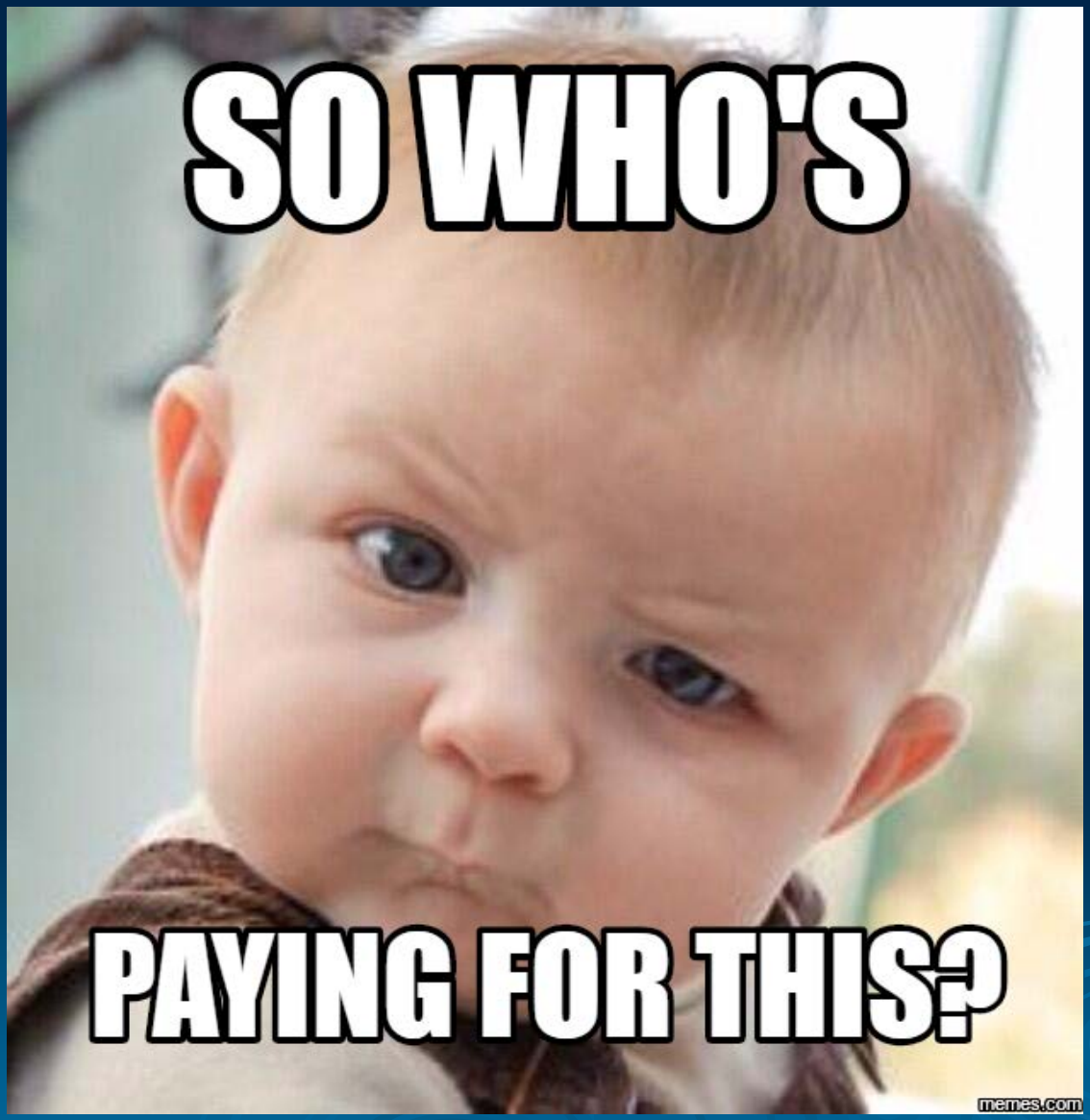
A Review of Advances in Collaborative Pharmacy Practice to Improve Adherence to Standards of Care in Diabetes Management

- Settings with collaborative practice agreement between pharmacists and physicians achieve better HbA1C control
  - **HbA1C reduction ≥1%:** 79% (n=28)
  - **HbA1C reduction ≥2%:** 100% (n=9)
- Improvement in adherence to ADA recommendations of screenings for:
  - Retinopathy
  - Neuropathy
  - Microalbuminuria

Conley MP, et. al. Curr Diab Rep. 2014;14:470-477.

Patient Case

- Patient went to her follow-up visit one week after being discharged and was able to get her inhaler
- She stated she had been able to reduce the number of cigarettes she smokes to ½ pack per day, but needs more than nicotine patches to help her entirely quit
- Her PCP referred her to a **pharmacist-led smoking cessation clinic**


SO WHO'S
PAYING FOR THIS?
memes.com

Financial Support

- Cost-avoidance
- Reimbursement
  - MTM
  - TOC*
  - Chronic Disease Management*
  - Incidence to (hospital-based clinic)

*Requires a collaborative agreement with a physician

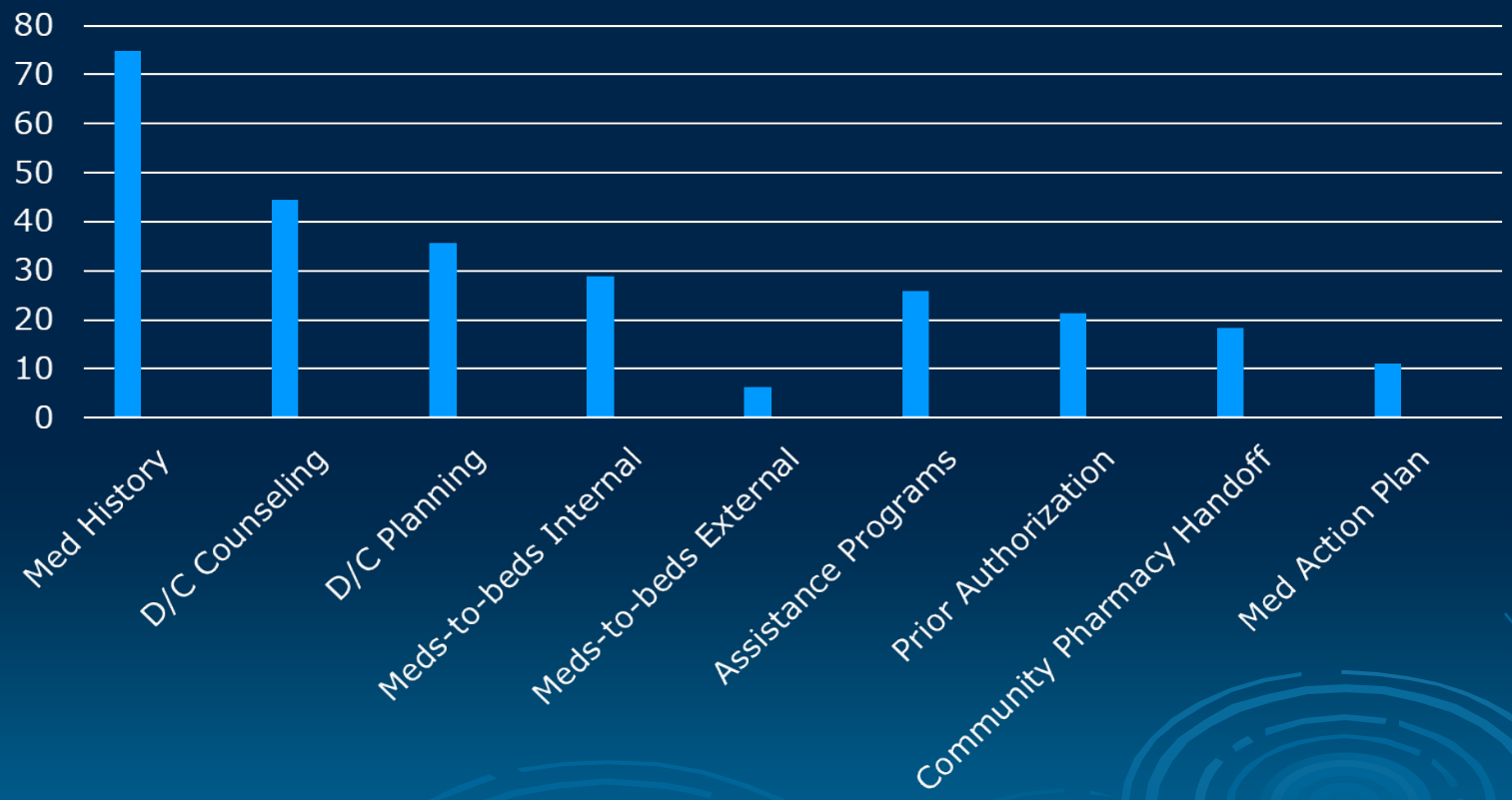
Provider Status

- Will allow pharmacist to bill for their services independently
- Will improve patient access to pharmacist provided services
- Will help overcome barriers in incorporating pharmacists as integral members of interdisciplinary teams in the ambulatory setting

https://www.pharmacist.com/provider-status-what-pharmacists-need-know-now

Closing Thoughts

Pharmacist engagement in transitions of care progress…



…BUT there is more to do!

Pedersen CA, et al. AM J Health-Syst Pharm. 2017;74(17):1336-52.

Closing Thoughts

- Elements for effective transitions of care:
  - Multidisciplinary support and collaboration
  - Effective integration of the pharmacy team
  - Data available to justify resources
  - Electronic patient information and data transfer
  - Strong partnership network

Self-assessment

True or False

1. Pharmacists' role in TOC is limited to the inpatient setting.

2. Harm from prescribed or omitted medications is higher after patients have been discharged from the hospital, mainly as a result of lack of communication between providers.

3. Implementation of TOC is well established in the inpatient setting. However, there is room for improvement in the TOC process once patients move to the outpatient setting.

Thank You!