Digital Technologies: The Solutions to Poor Medication Adherence?

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Disclosures

• The views and opinions expressed in the following presentation are those of the individual presenter and should not be attributed to any organization with which the presenter is employed or affiliated.

• This presentation is intended to provide an overview of our perspective of high-level trends and regulatory activity related to compounding pharmacies and not intended to provide legal advice.
CPE Information

• Target Audience: Pharmacists
• ACPE#: 0202-0000-19-095-L03-P
• Activity Type: Knowledge-based
At the completion of this knowledge-based activity, participants will be able to:

1. Describe how poor medication adherence impacts drug costs in the United States.
2. List available digital technology solutions in pharmacy.
3. Outline how digital technology can improve medication adherence.
4. Define regulatory considerations related to digital technology in healthcare.
1. Adherence
   A. is lowest among patients with acute illness
   B. is lowest among patients with chronic illness
   C. has little to no impact on medication related hospital admissions
   D. cannot be addressed my pharmacists
Assessment Questions

2. Which of the following are **not** digital technologies available in pharmacy:
   A. Smart Caps
   B. Telepharmacy
   C. Mobile Apps
   D. Mortar & Pestle
Assessment Questions

3. Digital technology can improve medication adherence through all of the following except:
   A. Increased access to pharmacy services
   B. Ingestible technology solutions
   C. Delivery solutions
   D. Restrictive regulatory environments
Assessment Questions

4. All of the following are regulatory considerations related to digital technology, except:
   A. DEA
   B. State Boards of Pharmacy
   C. North Carolina Dental Board
   D. FDA
Can digital technologies solve our $300 billion medication adherence problem?
1. The challenge of medication adherence
2. Digital solutions to the non-adherence problem
Medication non-adherence

$290 billion
Annually in mostly avoidable costs to treat adverse events from inappropriate medication use

$100 billion
Medication non-adherence alone results in each year in excess hospitalizations.

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

In the United States the estimated direct and indirect cost of non-adherence is around $337 billion -> costs $2,000/patient in additional physician visits (6)

Poor medication adherence is responsible for 33-69 percent of all medication related hospital admissions, at a cost of about $100 billion per year (4)

125,000 Americans die annually due to poor adherence (3)

Adherence is lowest among patients with chronic illness (5)

Medication non-adherence

ORAL ONCOLOGY
- Adherence may be as low as 15% in patients taking oral oncolytics (3)

BREAST CANCER
- Estimated 10-year survival rate in one study for non-adherent patients was 77.9% vs. 81.7% for those who were (3)

TRANSPLANT
- 15-20% of liver transplant patients are non-adherent to immunosuppressants (2)

“The Leaky Bucket”

Out of every 100 new prescriptions

50-70 arrive at a pharmacy

48-66 are picked up by the patient

25-30 are taken properly

15-20 are refilled as prescribed

Source: IMS Health Data, March 2011
Agenda

1. The challenge of medication adherence
2. *Digital solutions to the non-adherence problem*
types of adherence systems

Reminder systems/APPs/Avatars

Therapeutic/Regulated APPs

PACKAGING SOLUTIONS

Smart pill bottles/caps

Smart injectors/inhalers

In-home dispensers

Pharmacist services

DIGITAL PILLS
mobile smartphone based monitors

• “Visually” confirms medication ingestion.

• Uses phone to “see” when you’re taking meds

• Uses facial recognition to ensure correct patient is ingesting medication.

• Due to this can detect duplicate patient enrollment and also fraud

• Can ID meds similar to how a bar code works
The FDA just approved the first app for treating substance abuse

- Pear Therapeutics’s app was just approved by the Food and Drug Administration to help treat substance use disorders.
- It’s the first time that a mobile app has been approved to treat this category of disease.
smart pill bottles

packaging solutions

in-home dispensers
smart injectors / inhalers

Global Smart Inhalers Market is Poised to Grow at a CAGR of Around of 64.5% to Reach $854 Million by 2025

31/01/2017

Research and Markets has announced the addition of the "Global Smart Inhalers Market Analysis & Trends - Industry Forecast to 2025" report to their of...
digital medications
ID cap
Using AI to Improve the Patient Experience

DEC 6, 2018

Artificial intelligence allows Express Scripts to improve the member experience in real time.

Think about everything that influences your health: your job, where you live, how you eat, etc. You and your health are unique and special. Now imagine the challenge of caring for 85 million unique people, each with their own set of expectations, perceptions, and circumstances. That’s the challenge that we handed our enterprise data science team two years ago.

Aspen RxHealth gets $9M to create a gig economy for pharmacists

By Jonah Comstock
December 12, 2018

Aspen RxHealth, a Tampa-based company using a gig economy model to connect patients with pharmacists, has raised $9 million in Series A funding led by Flare Capital Partners. An additional investor was an undisclosed strategic partner, a health plan in the United States.
Walgreens to tackle health-care costs with Alphabet's Verily
Christine Wang
Christina Farr
Published 6:51 PM ET Wed, 19 Dec 2018
Updated 8:39 PM ET Wed, 19 Dec 2018
CNBC.com

Walgreens Boots Alliance is teaming with Verily, Alphabet’s life sciences unit, on improving outcomes for patients with

CVS, Sharecare launch digital pharmacy savings card; Eli Lilly, Evidation expand data platform partnership; and more digital health deals
Also: Case Western Reserve University's rowing team will now wear VivaLNK's wearable patches and Memorial Sloan Kettering Cancer Center inks a deal with MyHealthDirect.

By Dave Muoio
December 17, 2018
Pharmacists take on medical cannabis dispensing role in three states

Idaho Pharmacists Able to Prescribe Meds for Several Conditions on July 1
Assessment Questions

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