Pharmacist Objectives:
1. Describe the impact of past pharmacy innovations on the advancement of the practice of pharmacy
2. Evaluate the ways in which new innovations can be implemented in your practice to provide better patient outcomes.
3. Address common misconceptions surrounding the innovations in pharmacy, and discuss how they can be impactful in practice today.

Pharmacy Technician Objectives:
1. Describe the role of a pharmacy technician as pharmacy continues to evolve with new innovations
2. Examine the viability of technicians performing their duties safely and accurately without the pharmacist supervision associated with traditional pharmacy methods
Agenda

1. What is innovation?
2. Why do we need to innovate?
3. How do we innovate?
4. Pharmacy innovations of today
What is innovation?
What is innovation?

Definition

Translating an idea into something that creates value
Everyday examples

Twitch - Livestreaming

Uber/Lyft - Ridesharing

Square - Payments

Milk substitutes - Oat Milk

Meatless meat - impossible burger, beyond burger
Why do we need to innovate?
Pharmacies struggle to be profitable

Why do we need to innovate?

Average Net Operating Income


Source: https://www.ncpanet.org/home/ncpa-digest
<table>
<thead>
<tr>
<th>Industry Pressures</th>
<th>Industry Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mail order pharmacies</td>
<td>Technological advancements</td>
</tr>
<tr>
<td>Practitioner dispensing</td>
<td>Patient-centered care</td>
</tr>
<tr>
<td>Reduced reimbursement fees</td>
<td>Demand from MUA’s</td>
</tr>
<tr>
<td>Increased competition</td>
<td>Proven safety and efficiency of existing technologies</td>
</tr>
</tbody>
</table>
Why do we need to innovate?

Advances in pharmacy increase safety & efficiency

- Vaccines
- Inventory Management (auto re-order)
- Automation
- Time Release Medications
- Fax Machines
- Direct Billing
Slow adoption of past pharmacy innovations

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated dispensing</td>
<td>15</td>
</tr>
<tr>
<td>Pharmacy computerization</td>
<td>25</td>
</tr>
<tr>
<td>Unit dose drug distribution</td>
<td>35</td>
</tr>
<tr>
<td>IV Admixture programs</td>
<td>35</td>
</tr>
<tr>
<td>Pharmacist on patient care team</td>
<td>40</td>
</tr>
</tbody>
</table>

Data from ASHP National Survey
Why do we need to innovate?

Slow adoption of past pharmacy innovations

Data from ASHP National Survey
Innovation adoption lifecycle

Why do we need to innovate?
What happens when we don’t innovate?

Why do we need to innovate?
How do we innovate?
Pharmacists need to find ways to:

- Increase revenue by adding value
- Practice at top of their license
- Reduce or better optimize costs
- Implement innovative practices
How do we innovate?

Role of the pharmacist has changed

- **1900**: Apothecary as middleman between science & health
- **1950s**: RPhs integration with healthcare team
- **1990’s-2000’s**: Technology driven efficiencies and innovations
- **Today**: Outcomes-focused approaches gain momentum

1900

- Large-scale manufacturing turns Rph towards patient care

1950s

- 1980’s

1990’s-2000’s

- Technology driven efficiencies and innovations

Today
Pharmacy innovations of today
Learning Objectives

- High
- Medium
- Low

Pharmacy Innovations of today
Low hanging fruit

- Creative delivery solutions
- Digital Pharmacy
- MTM
Creative Delivery Solutions
The demand [for delivery] is huge and it’s only growing...two years from now, if a pharmacy doesn’t have prescription delivery as a base offering that they actively market, then competing for patients will prove insurmountable.

Nick Potts, Founder and CEO of ScriptDrop

https://www.pbahealth.com/pharmacy-delivery-service
What started with the foods industry service has spread to almost every other sector of retail.

Food delivery service is predicted to be worth $76 billion by 2022.
Examples

Storage Lockers
- Systems that **store and deliver** completed prescriptions for convenient pickup (sometimes 24/7)

Kiosks
- Systems that **dispense** prescriptions in high pharmacy traffic areas
- After hours pharmacy access
Examples

**Drone**
- Prescription is filled at the pharmacy
- Drone delivery to patient’s location or home

**Driver-based delivery**
- Delivery becomes part of workflow with real-time tracking
- Prescription filled at closed or open-door pharmacy
- Delivered by a courier service or by the company
- Patient can request counseling from via phone
Creative Delivery Solutions

Why

76% of independent pharmacies offer delivery services

32% boost in adherence amongst statin users

88% vs 56%
Home delivery In store pick-up

Source: 2019 NCPA digest
https://www.pcmanet.org/researchers-find-home-delivery-of-medications-improves-adherence-for-stroke-patients/
How

College campus

Employer campus

OR

Rx delivery with remote counseling
Digital Pharmacy
Mobile and web platforms that connect patients with pharmacies, health care providers, or health care systems can help patients increase adherence, compliance, understanding, and overall improve outcomes.
Digital Pharmacy

- **Location awareness:**
  - Tools used to pinpoint location
  - Geofencing, WiFi locator, GPRS data

- **Texting/app services**
  - Messaging used at appropriate times to remind patient to return to pharmacy
    - Refill reminders
    - Immunizations
    - Clinical service offerings

1. Patients sign up for text message reminders at the pharmacy
2. Patients are reminded to refill their prescriptions
3. Patients are notified as soon as prescriptions are ready
Examples

Mscripts, Digital Pharmacist etc

- Encourages self-service processes
- Enables pharmacists to do more clinical tasks
- Helps staff do less management of patient profiles and the day-to-day reminders
- Drives other clinical services while patient is actively in pharmacy
Digital Pharmacy

Why

- Shortens gap between fills
  - Adds 3 or more fills per year

- Higher patient retention
  - 99% Retention Rate on platform

- Quick refill response
  - 50% of pts refill within 2hrs of text

Source: https://www.mscripts.com/
How
Medication Therapy Management
Independent community pharmacies offer a variety of services

MTM Services:
- TIPs
- CMRs
- Adherence programs
- Med reconciliations

● Utilize shifting role of the pharmacist
● Holistic health outcomes approach
● Pharmacy techs and Interns to assist with MTM delivery
Examples

OutcomesMTM, Equipp, APCI, Star Rating system

New Service Offerings
- Lab and Health Test Monitoring
- Well child exam
- Preconception care
- Social Determinants of Health
- Disease state education
When pharmacy techs and interns assist with MTM delivery pharmacies:
- Earn more MTM revenue
- Have higher CMR completion and TIP success rates

Revenue earned at participating MTM locations in 2018:
- $100 M

Source: https://www.outcomesmtm.com/pharmacy/
How
Medium hanging fruit

- Point of care testing
- Telepharmacy
Point of Care Testing
● Pharmacists are the most visited healthcare professionals
● Number of clinical services provided is increasing

Examples

- Rapid, reliable diagnostic testing performed outside of a laboratory to identify or manage chronic diseases and acute infections

Point of Care Testing

Why

- Predicted shortage of up to 55,000 PCPs by 2032
- Pharmacist is the most accessible health care professional
- Boosts patient outcomes and satisfaction
- POCT is predicted to exceed immunizations as a driver of revenue
How

- Determine which services to provide
- Obtain CLIA waivers
- Applicable staff training and credentialing
- Setup site and equipment
- Market your new service offerings
Pharmacy innovations of today

Telepharmacy
Independent Rural Pharmacies 2003-2018

7,624

2007-2009
7.2% decrease

6,393

16.1% decrease

1,231
independent rural pharmacies closed

630
rural communities lost their only pharmacy

Source: Update: Independently Owned Pharmacy Closures in Rural America, 2003-2018; RUPRI Center for Rural Health Policy Analysis, Rural Policy Brief July 2018; Abiodun Salako, MPH; Fred Ullrich, BA; Keith J. Mueller, PhD
4 types of telepharmacy:

**INPATIENT**
- Remote order entry review
- IV admixture

**OUTPATIENT**
- Retail telepharmacy
- Remote counseling
Retail telepharmacy

1. New prescription arrives at Pharmacy A
2. Technician A fills, taking images of the process
3. Pharmacist B reviews images to verify fill is accurate
4. Patient picks up Rx at Pharmacy A and Pharmacist B counsels
Improve medication adherence rates
Expand access to new patient populations
Increase clinical interventions
How

Retail Telepharmacy Use Cases

- Community pharmacy (rural or urban)
- Outpatient hospitals & health system pharmacies
- CHC & FQHC
- Specialty pharmacy
- Mental health centers
- Employer campuses & schools
- Physician’s offices
- Emergency preparedness
- After hours care
- Sick/vacation coverage
- And more...
High hanging fruit

- Genetic testing and pharmacogenomics
- Compounding
Genetic Testing & Pharmacogenomics
Increasing interest in genetics

26 million consumers have taken at home ancestry tests

Source: https://www.technologyreview.com/2019/02/11/103446/more-than-26-million-people-have-taken-an-at-home-ancestry-test/
Genetic testing & pharmacogenomics

260+ medications have information on how genes affect them in their drug labeling

### Genetics impact on medications

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage of Patients Ineffective, on Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-depressants (SSRIs)</td>
<td>38%</td>
</tr>
<tr>
<td>Asthma drugs</td>
<td>40%</td>
</tr>
<tr>
<td>Diabetes drugs</td>
<td>43%</td>
</tr>
<tr>
<td>Arthritis drugs</td>
<td>50%</td>
</tr>
<tr>
<td>Alzheimer's drugs</td>
<td>70%</td>
</tr>
<tr>
<td>Cancer drugs</td>
<td>75%</td>
</tr>
</tbody>
</table>

Genetic Testing & Pharmacogenomics

Examples

**Ancestry, 23andMe***
- DNA and ancestry data

**FDA in-vitro diagnostic tests**
- HIV & Cancer drugs are already using these services
- Other drug classes:
  - Antidepressants
  - Anticoagulants
  - Asthma, etc...

[Genetic Testing & Pharmacogenomics logo]

[Ancestry DNA logo]

[23andMe logo]
Why

- Pharmacists are perfectly placed to own the pharmacogenomics space
- Further strengthens pharmacist patient relationship
- No other healthcare providers have entered the space on this level
How Genetic Testing & Pharmacogenomics
Compounding
● Originally medicine started off as a “one size fits all”
● All patients may not be able to tolerate the commercially available drug
● Results in low adherence and/or complications
Examples

**Traditional compounding**
- Customizable strength or form
- Add flavoring
- Reformulate to exclude unwanted, non-essential ingredients

**PolyPill**
- Multiple medications into one pill
- Statins, blood pressure and ASA combo studies showed reduced risk vs placebo
Examples

3D drug printing
- Polypills, including vitamins, that are customized for each patient

IntelliMedicine Printer
- 16 different silos each containing a micromed
- Dosing can be smartly adapted

Source: https://www.intellimedicine.com/solution
How

patient labs → 3D printer → personalized capsule
What’s Next?
Examples
"The American icon (Kodak) had the talent, the money, and even the foresight to make the transition. Instead it ended up the victim of the aftershocks of a disruptive change. Learn the right lessons, and you can avoid its fate."

HBR.org
Innovate or Not
Innovate or Not

HI THERE PHARMACY

1/1

Rx ready!

Current state: 10 days later, no immunizations

Get needed shots at pharmacy
We received a new prescription, click here to select delivery or pick up.
We’re experiencing a delay in processing your prescription, but noticed you are due for some immunizations.

Click here to schedule an appointment for your immunizations. You will be notified once your rx is ready!

Your prescription is ready! See you soon!
See you next week for your appointment and remember to fill out this form for your immunizations.
Questions?

Mitch Larson
mitch.larson@telepharm.com
CE Question #1

What was the initial intended use for bubble wrap?

A. Insulation
B. Textured wallpaper
C. Cushioning for packages
D. Skydiving landing pads
CE Question #2

The average net income in pharmacies has steadily decreased over the last several years.

A. True
B. False
CE Question #3

Which of these are examples of creative deliver solutions you can implement for your pharmacy?

A. Storage lockers
B. Kiosks
C. Drone delivery
D. All of the above
CE Question #4

Which of the following is a free and effective way to communicate with your local community?

A. Social Media
B. Local TV commercials
C. Graffiti in public restrooms
D. Bus bench ads
CE Question #5

What is the retention rate for digital pharmacy platforms?

A. 12%
B. 82%
C. 79%
D. 99%
According to the NIH, what percentage of a pharmacist’s time is spent doing non-clinical tasks?

A. 20%
B. 40%
C. 60%
D. 80%
CE Question #7

Point-of-care testing is predicted to exceed immunizations as a driver of revenue.

A. True
B. False
CE Question #8

Telepharmacy allows:

A. Pharmacists to provide pharmacy services to underserved patient populations.

B. Pharmacies to operate low-volume pharmacies where the traditional model isn’t feasible.

C. Workload balancing between multiple pharmacies to free up pharmacist time for clinical activities.

D. All of the above.
CE Question #9

Genetic testing allows for more specific formulation of medications based on an individual’s genetic makeup.

A. True
B. False
CE Question #10

Blockbuster, Kodak, and the taxi industry are all good examples of innovating to meet the demands of the market.

A. True
B. False