



## Improving access to prescription-based care through patient-centered smart pharmacy ecosystems

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*"Effective prescribing requires an understanding of the patient's individual needs, preferences and values"* .Corrigan (2005),

Patients are expecting a pharmacy experience that is convenient, multichannel, and places home delivery at the center\*



Credit: idambeer - stock.adobe.com

**How can a transformation in the pharmacy service improve access to prescription-based care while promoting a patient centered pharmacy service ecosystem?**

**Smart Pharmacies!?**

\*<https://www.pharmacytimes.com/view/five-trends-transforming-pharmacies-into-wellness-centers-of-the-future>

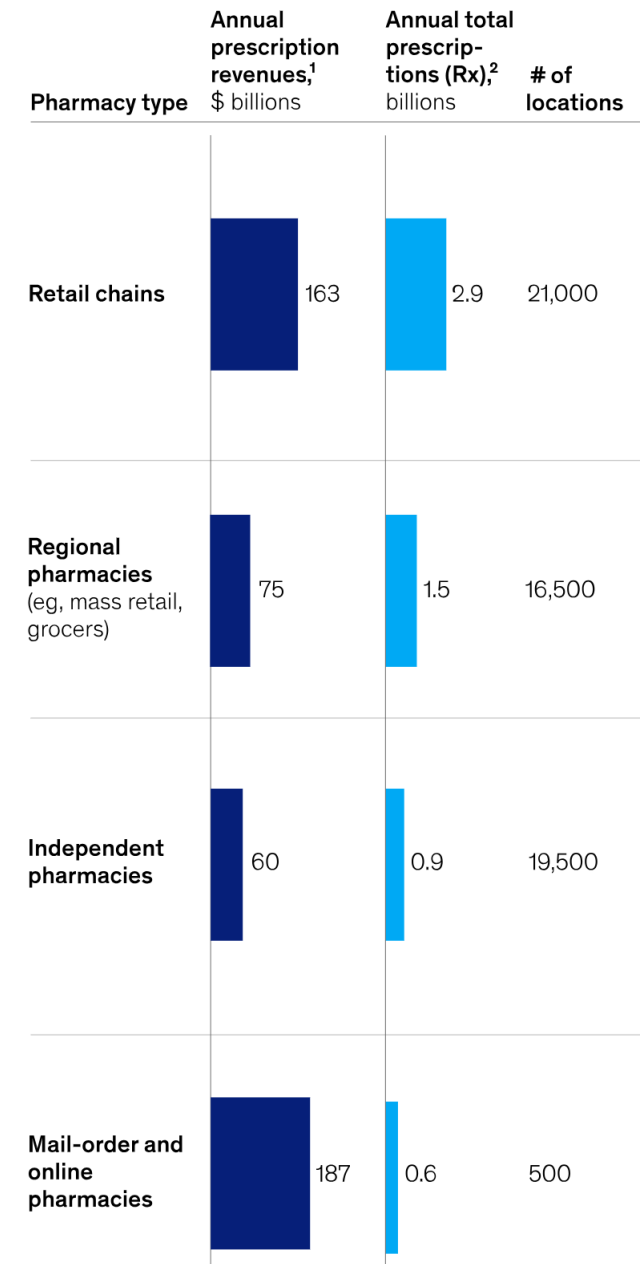


# Prescription-based Care (US Example)

5.9B prescriptions filled in the US in 2022

10% filled by Mail Order

15% filled by independent community pharmacies



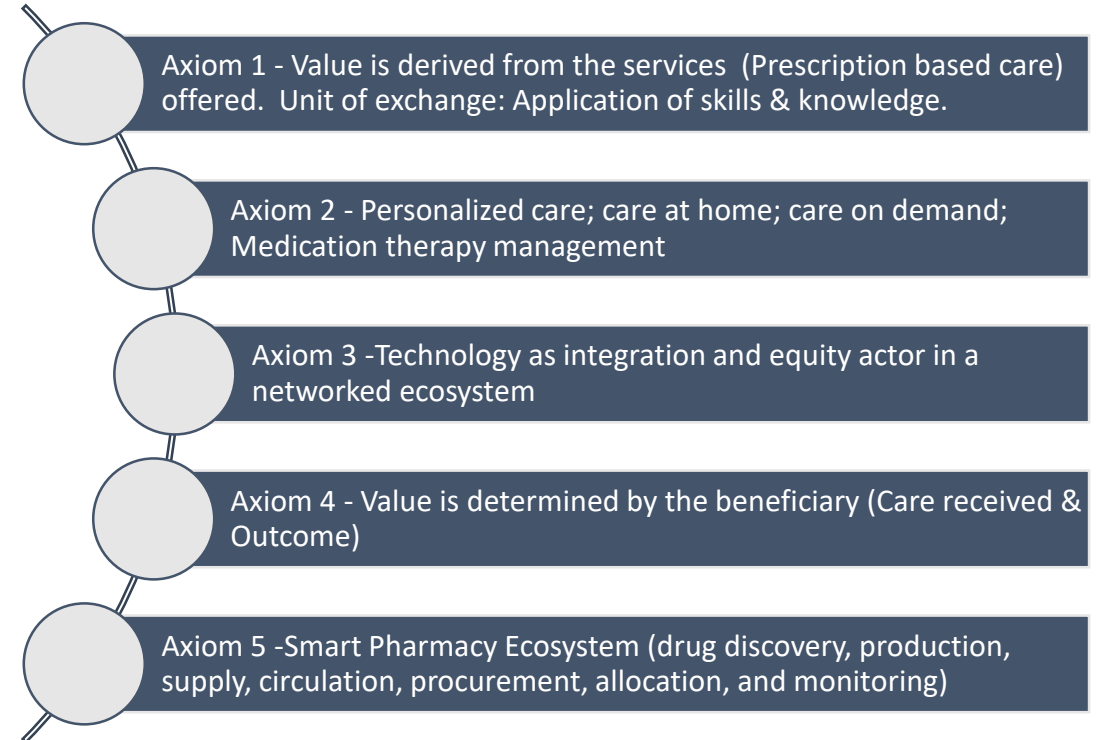
# Improving access to prescription-based care through patient-centered smart pharmacy ecosystems

## A Conceptual paper

- **State of the art - Literature Review**
- **Author' s practice**
- **Service science principles**

**> Advance key concepts for a patient centered pharmacy service ecosystem**

## Foundational premises of SDL



# Smartness in Pharma?

Smartness is connectedness

Personalized experience – Patient Centered

**Technology Integration:** Big data, cloud computing, block chain, robotics dispensing, temperature sensing and tracking (IoT); Medication Therapy Management and patient safety guidelines (AI); Patient engagement Portals

**Services:** New drug development, drug molecular design, and hospital drug management, clinical drug decision support, Dispensing and consulting, drug regulation, etc.

**Value Chain:** provision, store, and track, dispense and deliver Drugs

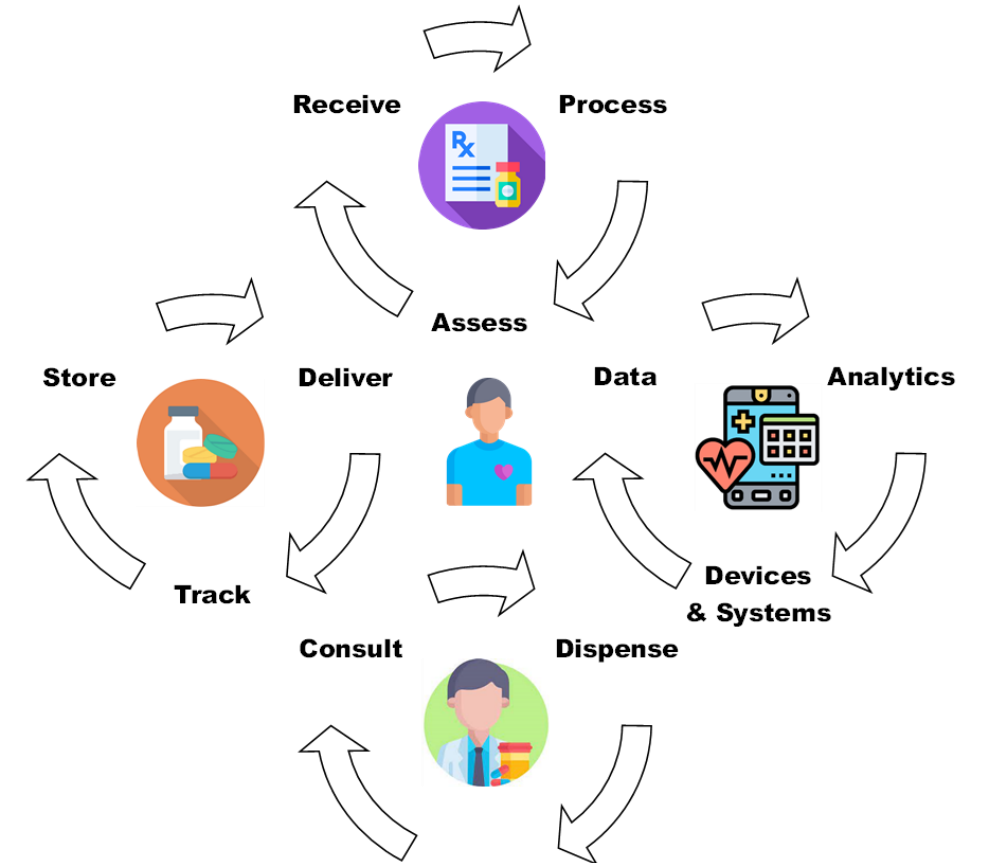


Fig. 1. Patient Centered Smart Pharmacy Ecosystem



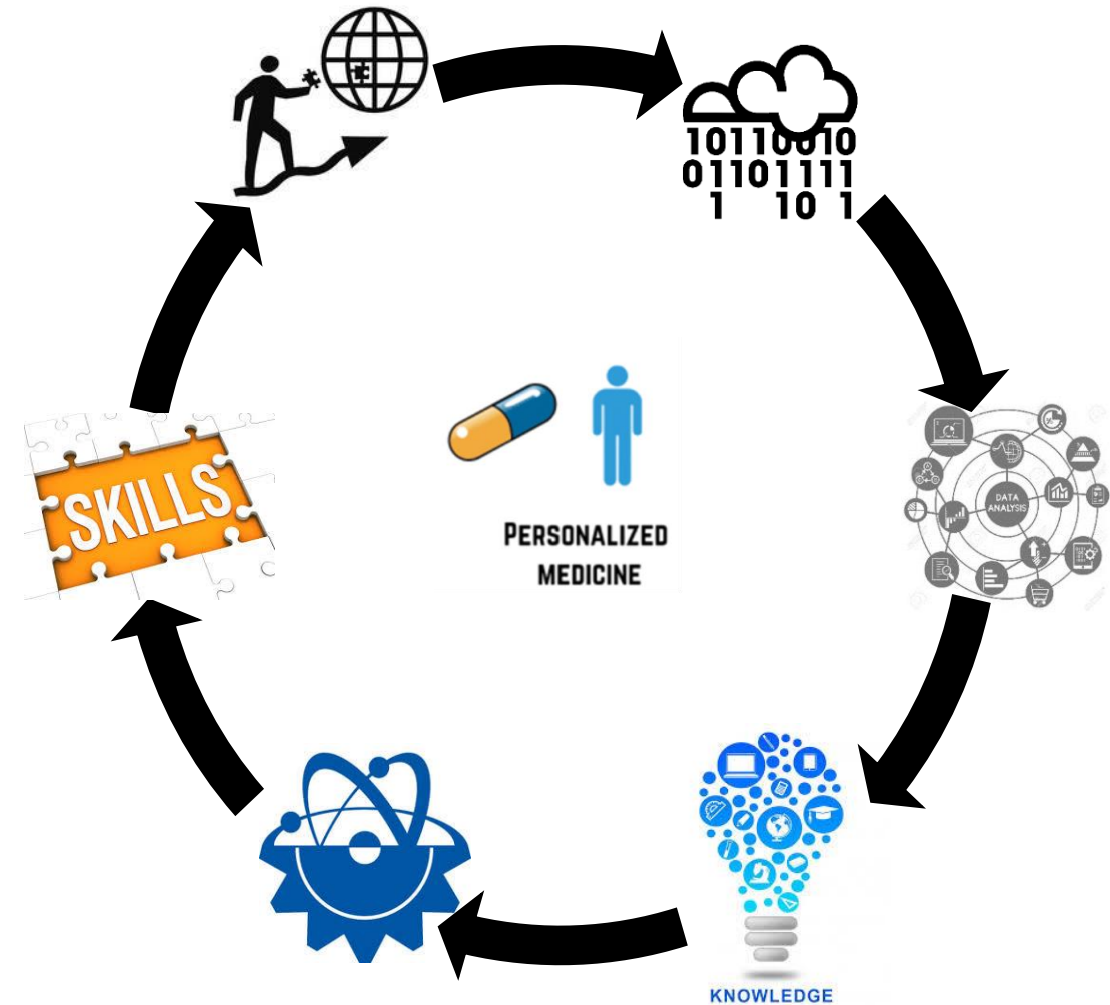
## A smart "learning" pharmacy practice <Illustration>

Each interaction produces data that teams of data scientists and pharmacists combine with already-existing data to analyze.

The newly acquired information is then applied to all upcoming contacts in the form of predictions and practical advice.

Information Common Goods are produced by the cycle of knowledge transformation, helping to democratize information and make it accessible for long-term societal growth [34].

This leads to the non-optional transformation of the care ecosystem into a self-learning system using technology, data and analytics to maximize the value and equity of care [15].



# Key concepts for a patient centered pharmacy service ecosystem

## Technology driven specialized skills

A smart "learning" pharmacy practice, powered by technology

The application of specialized skill(s) and knowledge as the fundamental unit of exchange

SDL Axiom 1

## Patient Centricity

Customized and tailored care practices place patients at the center of the pharmacy practice.

AI powered decision systems for improved medication adherence and better coordination of care.

Access, convenience and safety - home deliveries

SDL Axiom 2

## Resource integration

Information integration: ability to cross-reference dispensed medication against patients' health records (e.g.).

Practice integration: Key process improvement methods to add contextual intelligence and continuous feedback into improving a sustained value delivery of care.

SDL Axiom 3

## Patient Involvement

Patient engagement: Portals and EHR platform applications

Direct patient communication

Actively involving patients in the development and evaluation of pharmacy services

SDL Axiom 4

## Ecosystems of Institutions

Collaborative ventures between pharmacies, healthcare providers, administrators, and technology, etc.

Pathway to personalized pharmacy care, through heightened organization, precision, efficiency, and efficacy.

SDL Axiom 5



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## Contribution

- Grounded in SD logic, we present this topical paper to set the context of smartness in today' s pharmacy ecosystem
- We pave the way for more focused research on value co-creation in a patient centered service ecosystem of pharma.
- We therefore invite researchers to springboard from this study into further research.

## Smart Pharmacy Ecosystem imperatives...

- Technology driving specialized skills
- Patient Centricity
- Resource integration exploiting information assets and practice approaches
- Patient Involvement in the development of smart tools
- Patient engagement in their care
- Collaborative ventures between pharmacies, healthcare providers, administrators, and technology.







**Thank You!**

