

Pharmacy Informatics

Getting Into Pharmacy Informatics: What to Know

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About Me

- Over a decade of leadership in pharmacy informatics
- Contributed to 27 hospital EHR conversions
- Oversee retail pharmacy information system
 - Integrated 70+ stores into the EHR in 2017
- Pharmacy informatics residency program director for 8 years



What is Pharmacy Informatics?

- Per AMIA: Informatics is the science of how to use data, information and knowledge to improve human health and the delivery of health care services.¹
- Pharmacy informatics is the result of integrating the medication use process using informatics (as above) for the purposes of better patient outcomes
- Elements
 - Medical and prescription records
 - Clinical decision support/drug warnings
 - Drug information/references/education
 - Data transactions/interfaces/communication
 - Automation/robotics/other third party technologies
 - Data analytics
 - Information sharing and transparency
 - Finance and billing
 - Printouts/labels
 - Enhancing safety and workflows (e.g. barcoding, recalls, medication rec)

1) <https://amia.org/about-amia/why-informatics/informatics-research-and-practice#:~:text=Informatics%20is%20the%20science%20of,delivery%20of%20health%20care%20services.>

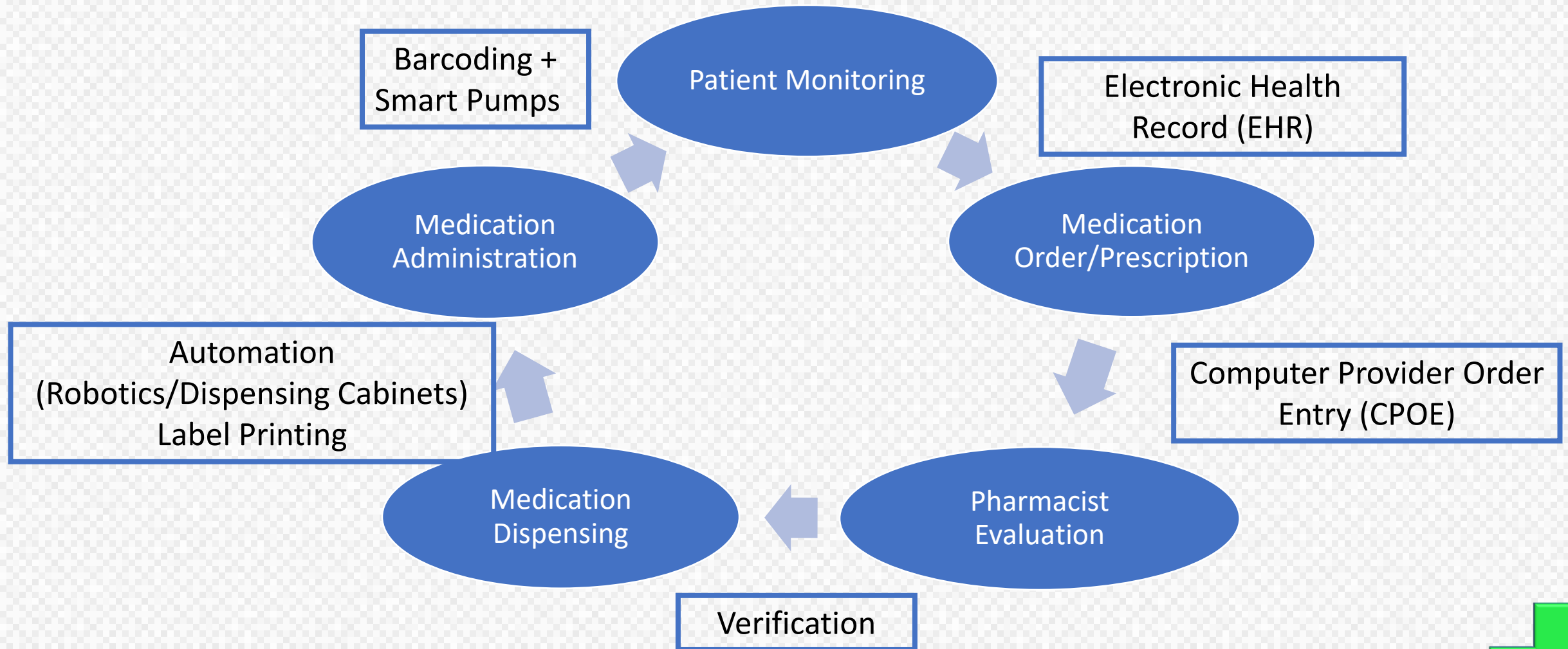


Goals

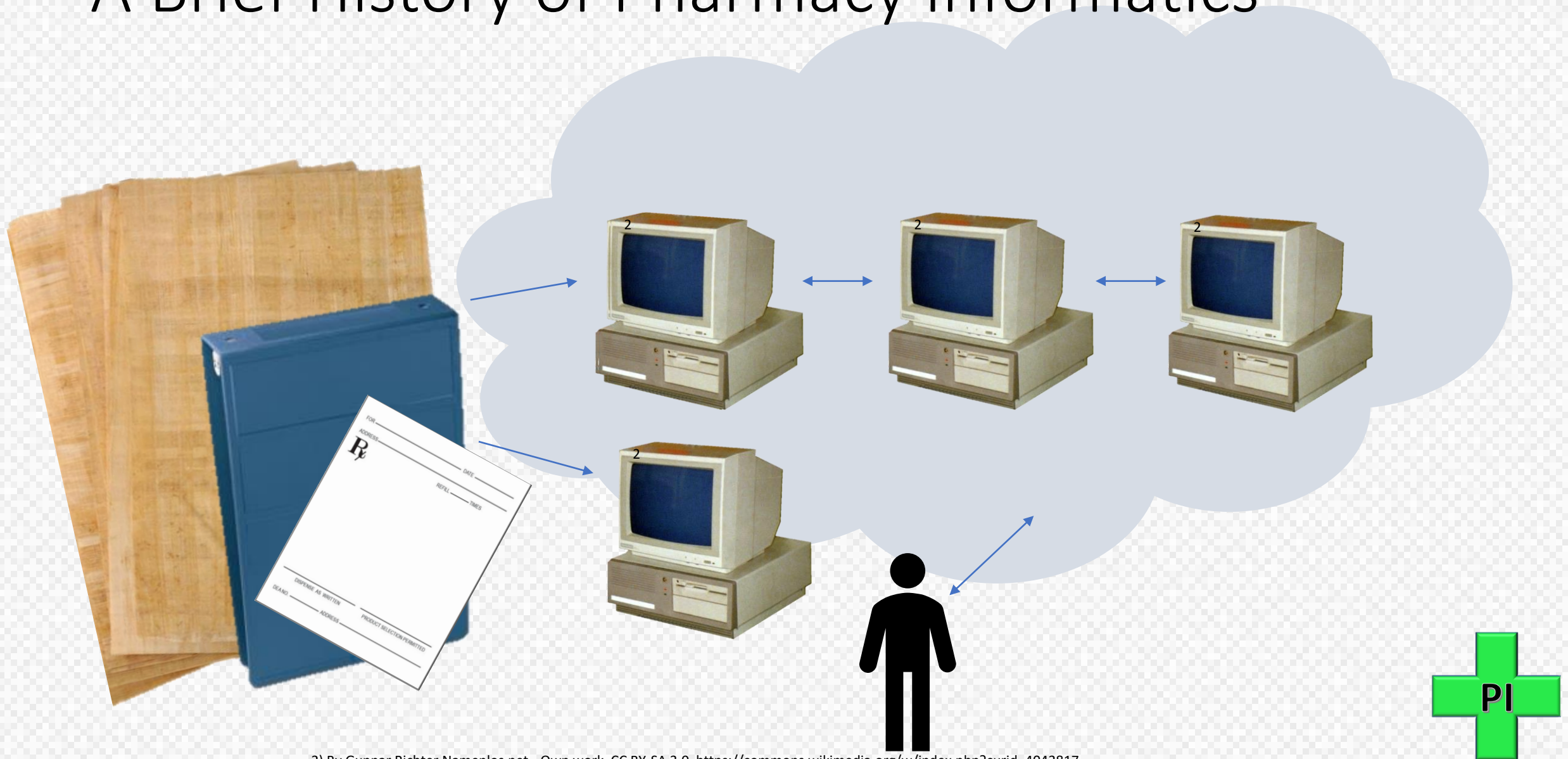
- Using technology to...
- Provide world class pharmacy service any time, anywhere, to any person/living thing
- Optimize the medication use process
 - By making it more efficient, safer, and cost effective



A Little Intro to the Medication Use Process



A Brief History of Pharmacy Informatics



A Little Dose of Typical Activities

- Application deployments and redeployments
- Medication records, order sets, protocols and order Groups
- Alerts, warnings, and other types of decision support
- Creating reports/data analytics
- Interface activities: e-prescribing, printing, dispensing systems
- Support: Reviewing tickets, troubleshooting, break/fixes, training
- Maintenance: Imports, upgrades, release notes



What Pharmacy Informatics Shouldn't Be?

- The entire IT department
- A complaint line
 - Introducing additional stress and/or anger to an already intense situation is never helpful
 - Need a two way street between project team and the business



The Big Question

- Number 1 Question I get from pharmacy students/interested professionals about getting into PI... “What can I be doing to get into the field?”
 - What coding languages, experiences, skills, opportunities should I be focusing on?
- Pharmacist/healthcare first mentality
 - Everyday I turn my computer, I remind myself why I do my job
 - Improving patient care



What Skills do you Need?

- Art or science?
 - There are a significant range of skills necessary to “bring innovation to life” in healthcare and medication use
 - Many good candidates begin with very little technical backgrounds
- Who do I hire
 - Passionate and hard-working professionals



Customer Service and Attitude

- Pharmacology
- Pharmacotherapy
- Sterile prep
- Surgery
- VPN tunnels
- Java
- HL7
- ...All learnable
 - Good customer service
 - Positive attitude
- ...Not always so natural



Back to the Original Question

- So still, what can I be doing right now to get into this field???
- Practical experience
- This is project work...not shift work. Big difference. Get your hands dirty doing projects! Make sure you like that type of structure.
- Always be looking for opportunities. If you are in a health care environment and you are looking, you will find them.
- Talk to folks in the field. Shadow. Network!
- Vendors. Pharmacy informatics is in a lot of places. Not just in places with pharmacies.
- There are technical skills that are helpful



The Technical

- Really get to know your standard MS applications (excel, access, visio, etc), and more enhanced apps if you have access (power bi, sharepoint, flow, power apps, etc)
- SQL (and other powerful reporting platforms like web intelligence snowflake, etc)
 - Just even knowing how to query information will only benefit you
- HTML, CSS, JS/jQuery
 - Will provide an appreciation for how a browser reads and formats webpages based on these files. If you are looking to develop simple tools like calculators or electronic forms, JS/jQuery can help accomplish that
- Programming languages
 - From all the options, I usually recommend starting with python. Is more accessible and usable versus C#, Java, etc



What the Specialty Needs More than Anything Else

- Professionals with enough practical experience and technical skills that can translate the needs for successful project implementations
- Can do attitudes
 - Even if you don't accomplish anything, good customer service goes a long way
- Overall great leaders!



Why I Believe in Pharmacy Residency Training

- Is a bolus of clinical and informatics experience
- Direct flight
- Hands-on experience
- Good graduates are sought after



Further Observations/Realities

Expectation setting

- You will likely never become competent in everything it takes to fully design, engineer, implement, project manage, deploy, train, educate, sell, contract, maintain, support, interface, invest, etc an innovative software product on your own



Bigger than US

- Early managing
 - Realized pretty quickly we are one pharmacy IS team
- Later leading
 - Realized multi-disciplinary...we are one team
- Bigger perspective
 - Realized across the globe...we are one team



Healthcare is a very challenging environment

- It takes a lot of:
 - Coordination and planning
 - Grit/thick skin
 - Dealing with set-backs
 - Dealing with limitations
 - Change
 - Care!



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Good Luck!

Contact

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