



# CLINICAL TELE-PHARMACY: An Innovative Approach to Health Care Advancement

Presented by:  
LT Quynh Anh Tran, PharmD, NCPS

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# DISCLOSURE STATEMENT

The views and statements expressed in this presentation are solely those of the author(s) and do not necessarily reflect the opinions of the Department of Justice, Federal Bureau of Prison, Department of Health and Human Services, and U.S. Public Health Service.



# OBJECTIVES

- Understand and describe the concept of tele-pharmacy in the health care settings
- Describe the adoption of tele-pharmacy concept to include clinical pharmacy services
- Understand the basic legal requirements for the use of tele-pharmacy
- Discuss the benefits and challenges with clinical tele-pharmacy
- Understand the impact of clinical tele-pharmacy for pharmacists in the Bureau of Prisons
- Identify concept application in specialty pharmacies and potential future advancement of pharmacy practice

# BACKGROUND

- Definition of tele-pharmacy
  - The utilization of telecommunication technology to oversee pharmacy operations or provide patient care services to patients in locations where they may not have direct contact with pharmacist(s)<sup>1</sup>.
- Current services and operations
  - Drug review/monitoring
  - Medication dispensing
  - Patient assessment and counseling
  - Medication therapy management (MTM)
  - Others (oral and sterile compounding)





# HISTORY

2001

- North Dakota first state to allow implementation of tele-pharmacy<sup>9</sup>
- Community Health Association in Spokane, WA launches program<sup>3</sup>

2002

- North Dakota Tele-pharmacy Project begins<sup>9</sup>

2003

- Alaska Native Medical Center Program<sup>12</sup>

2006

- US Navy piloted tele-pharmacy program in Florida and Washington<sup>1,12</sup>

2011

- California passed a Tele-Health Advancement Act<sup>1,7,12</sup>

2012

- New generation begins in Iowa<sup>1,12</sup>

# LEGAL REQUIREMENTS and REGULATIONS

- Laws and regulations vary by state for licensing, education, and training<sup>6</sup>
- Requires secure, virtual private network or terminal server<sup>10</sup>
  - Audio and video equipment must meet standards set by DHHS & state regulations<sup>10</sup>
- Pharmacist verification of dispensing medication via telecommunication equipment prior to dispensing at remote sites<sup>6</sup>
- Presence of a registered pharmacy technician at the remote site<sup>6,8</sup>
- Ratio of pharmacists and/or pharmacy technicians available to supervise all remote pharmacies<sup>6,8</sup>



# CLINICAL TELE-PHARMACY SERVICES

- Traditional tele-pharmacy services can be enhanced to include clinical pharmacy application
- Must establish Collaborating Practice Agreement (CPA) and Protocols with Primary Care Provider (PCP)
- Certified pharmacist can remotely provide:
  - Assessment and interview with patients
  - Physical exam\*
  - Obtain vitals and laboratory specimen (based on medical condition being treated)\*
  - Therapeutic evaluations and recommendations (based on laboratory data)
  - Provide counseling and patient education
  - Follow-up and/or referral to PCP

\* Must have healthcare staff onsite to direct and assist patient with this exam portion



# BENEFITS

- Enhance patient safety
- Efficient use of pharmacist resources
- Reduce health care personnel shortage
- Improve patient outcomes
- Improve financial outcomes
- Extend services to facilities without clinical pharmacist



# BENEFITS (con't)

- Bureau of Prisons benefits
  - Reduce monitoring/follow-up required by primary care providers (up to 30% reduction)
  - Enhance services of specialty pharmacist consultant at all BOP institutions
  - Supplement/extend clinical services offered by pharmacist-run clinics
  - Assist on-site clinical pharmacist with the clinic work-load or during temporary unavailability of clinical pharmacist
  - Allow for closer monitoring of patient progress and patient consultation
  - Significantly reduce potential ADRs and financial liability in the long-run

# CHALLENGES and LIMITATIONS

- Requires active CPA and protocols between all participating PCPs and clinical pharmacists involved
- Requires thorough emergency plans and detailed protocols addressing the process of referral back to PCPs for follow-up
- Availability of trained healthcare staff present on-site at the remote location
  - Assist and guide patient through physical exam via real-time videoconferencing
  - Obtain lab parameters pertinent to patients' medical conditions (ie. PT/INR, POC glucose reading, BP readings, vitals, spirometry)



# CHALLENGES and LIMITATIONS

- Must have a secured telecommunications network of video and audio to maintain confidentiality<sup>10</sup>
- Pharmacist from central site must be able to build provider-patient relationship through the telecommunications technology without being present on site with the patient
- Appropriate certification of staff to utilize certain devices/equipment for testing or accurate retrieval of lab specimen

# TELE-PHARMACY IN THE BUREAU OF PRISONS (BOP)

- Based on the framework of existing tele-psych process
- Clinical pharmacists can provide specialized clinical services via telecommunication
  - Videoconferencing or other established network/server
  - Physical exam can be done remotely and/or with the assistance of an onsite provider
  - Face-to-face interview and counseling with patient
  - Labwork and progress data can be reviewed remotely via the Bureau Electronic Medical Records (BEMR) System
  - Adjustments of medications/treatments can be discussed with PCP on site



# TELE-PHARMACY IN THE BOP (con't)

- BOP Institutions' data and statistics
  - Nationwide the BOP has 122 institutions in 98 complexes that houses inmates<sup>4</sup>
  - Currently ALL institutions are with health services department<sup>4\*</sup>
    - Of those 18 institutions are without a practicing pharmacist onsite (~**14.8%**)<sup>4</sup>
    - Data does not include institutions with pharmacist but without extended clinical services

\*Data also contributed by CDR Tami Rodriguez and CAPT Martin Johnston

# FINANCIAL EXPENDITURES FOR THE BOP

- Overhead costs
  - Setting up secured, private virtual network to perform face-to-face interaction with patients
  - Cost of establishing new technology to support real-time, secured network
  - Utilization of existing network currently in place for tele-psych
  - Basic health monitoring equipment requirement (vitals signs monitoring, diabetic supplies, etc.)
- Human Resources
  - Extend existing pharmacist-run clinical services to provide coverage for institutions without a practicing pharmacist onsite
  - Required the availability of an onsite healthcare provider available to assist patients during the encounter (preferably a nurse)
  - Onsite laboratory technicians for data collections and input into BEMR





# FINANCIAL BENEFITS FOR THE BOP

- Improved clinical services provided by clinical pharmacists from tele-pharmacy averages up to **more than \$2 million**\* in savings<sup>11</sup>.
- Extended benefits
  - Improved quality of care for patients
  - Expand pharmacist-run clinical services through CPA
  - Decrease the need for primary care providers monitoring and follow-up, allowing more time for sick calls and chronic care evaluations
  - Significant reduction in ADRs due to closer monitoring

\*Calculations based on average annual pharmacist salary reported by Bureau of Labor Statistics May 2015

# CLINICAL TELE-PHARMACY PROCESS

- Clinical encounters and exams
  - Review of FMH and PMH
  - Physical exams
  - Obtain pertinent vital signs and lab specimen
- Monitoring of clinical parameters
  - Laboratory results
- Recommendation of treatment and/or changes
- Documentation and follow-up/referral





# SPECIALTY PHARMACIES

- Potential application of tele-pharmacy in a variety of clinical pharmacy services
  - Anticoagulation
  - Diabetes
  - Dyslipidemia/hypercholesterolemia
  - HIV therapy
  - Smoking cessation
  - Tuberculosis (TB)
  - Others (Hepatitis B and C, high risk drug monitoring, etc.)

# SPECIALTY PHARMACIES IMPLEMENTATION

	Clinical encounter	Monitoring	Recommendation	Follow-up
Anticoagulation	PE/consult, PT/INR by POC device	Lab PT/INR (PRN), liver fx, CMP, UA ADRs	Therapeutic/lifestyle compliance, tx plans	Labs review, exam as needed
Diabetes	PE/consult, glucose readings by POC glucometer	A1c, renal fx, liver fx, CMP, mono-filament, optic exam, ADRs	Therapeutic/lifestyle changes (ADA guidelines), tx plans	Labs review, exam every 3/6/12 months or refer to PCP
Dyslipidemia	PE/consult via tele-network	Lipid panels, liver fx, renal fx, ADRs	Therapeutic/lifestyle changes, tx plans	Labs review, exam every 3/6/12 months
HIV therapy	PE/consult via tele-network	CD4 count, renal/liver fx, CMP, lipids, ADRs	Therapeutic/lifestyle changes, tx plans	Labs review, exam every 3/6/12 months or refer to PCP
Smoking Cessation	PE/counsel session via tele-network	Relapse/slip, compliance, liver/renal fx, ADRs	Therapeutic/lifestyle changes, tx plans	Labs review, exam every month/as needed
Tuberculosis	PE/consult via tele-network	Tx compliance, chest X-ray, ADRs, liver fx	Therapeutic/lifestyle changes, tx plans	Labs review, monthly exam or refer to PCP



# SPECIALTY PHARMACIES (con't)

- Other clinical services
  - A remote on-site healthcare staff must set up a real-time network of video and audio for videoconferencing for remote pharmacist and patient
  - Other possibilities include Hepatitis B, Hepatitis C, and high risk drug monitoring
  - Hepatitis B and Hepatitis C clinics requires extensive monitoring and frequent communication with patients for compliance assessment
  - High risk drug monitoring primarily rely on frequent monitoring of drug levels
  - These clinics have minimal to no staff requirement available on-site
  - All processes for operations are similar to other clinics previously discussed

# FUTURE APPLICATIONS AND IMPLEMENTATION

- Department of Veterans Affairs is currently utilizing this concept by allowing nurses to obtain clinical data from patients after videoconferencing via real-time technology with clinical pharmacist<sup>2</sup>.

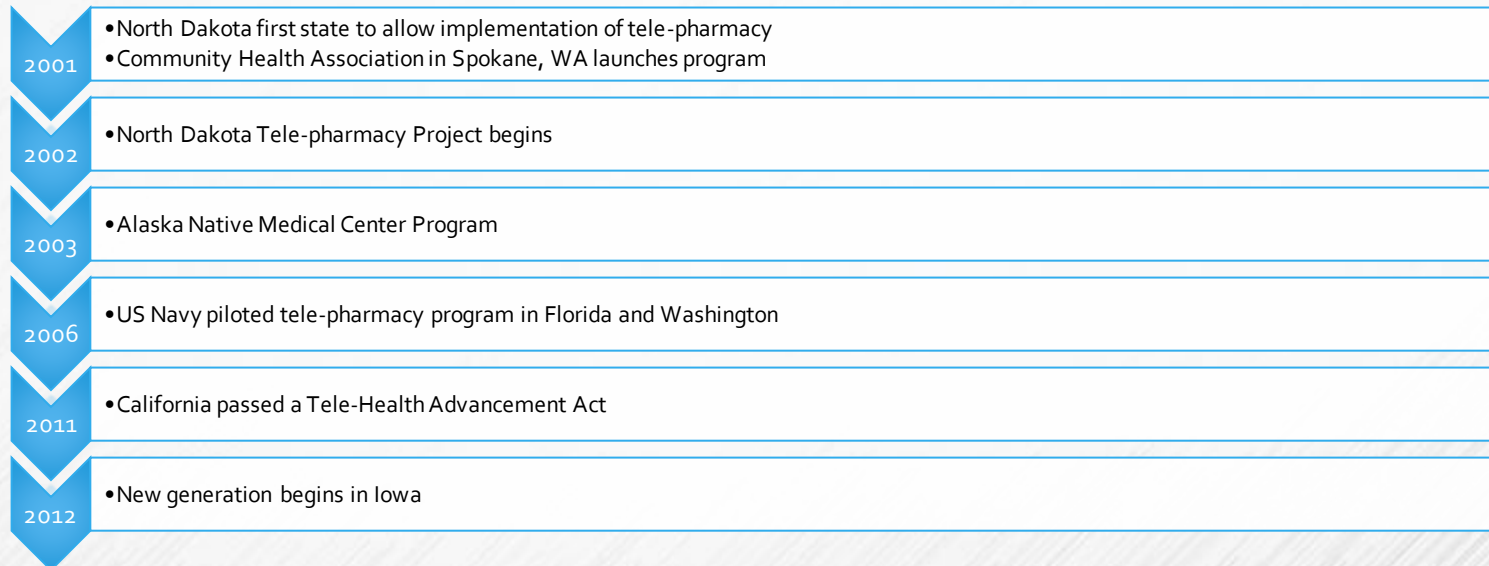




# BOP ROADMAP TO CLINICAL EXPANSION

- How many institutions currently have pharmacist-run clinical services?
- How many institutions do not have a pharmacist on site?
- To-how many patients or institutions can one pharmacist provide services?

# BOP FUTURE OF TELE-PHARMACY



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- BOP expansion of clinical tele-pharmacy
  - Tele-diabetes (initiated by LCDR Juliet Jordan-Joseph)
  - Tele-psychiatry



# RESOURCES

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