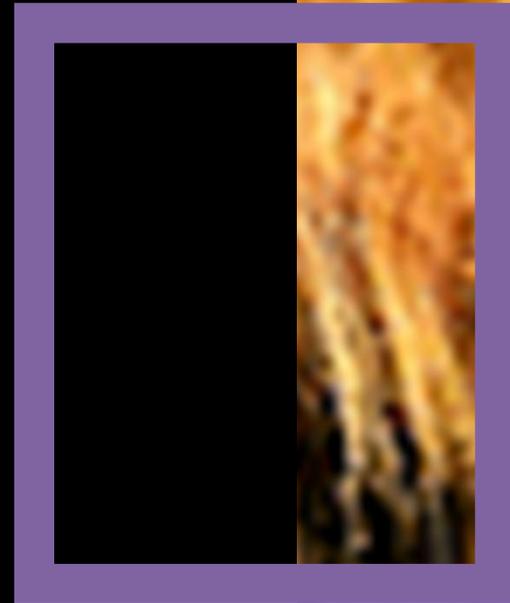


A Successful Tele- Infectious Disease Practice

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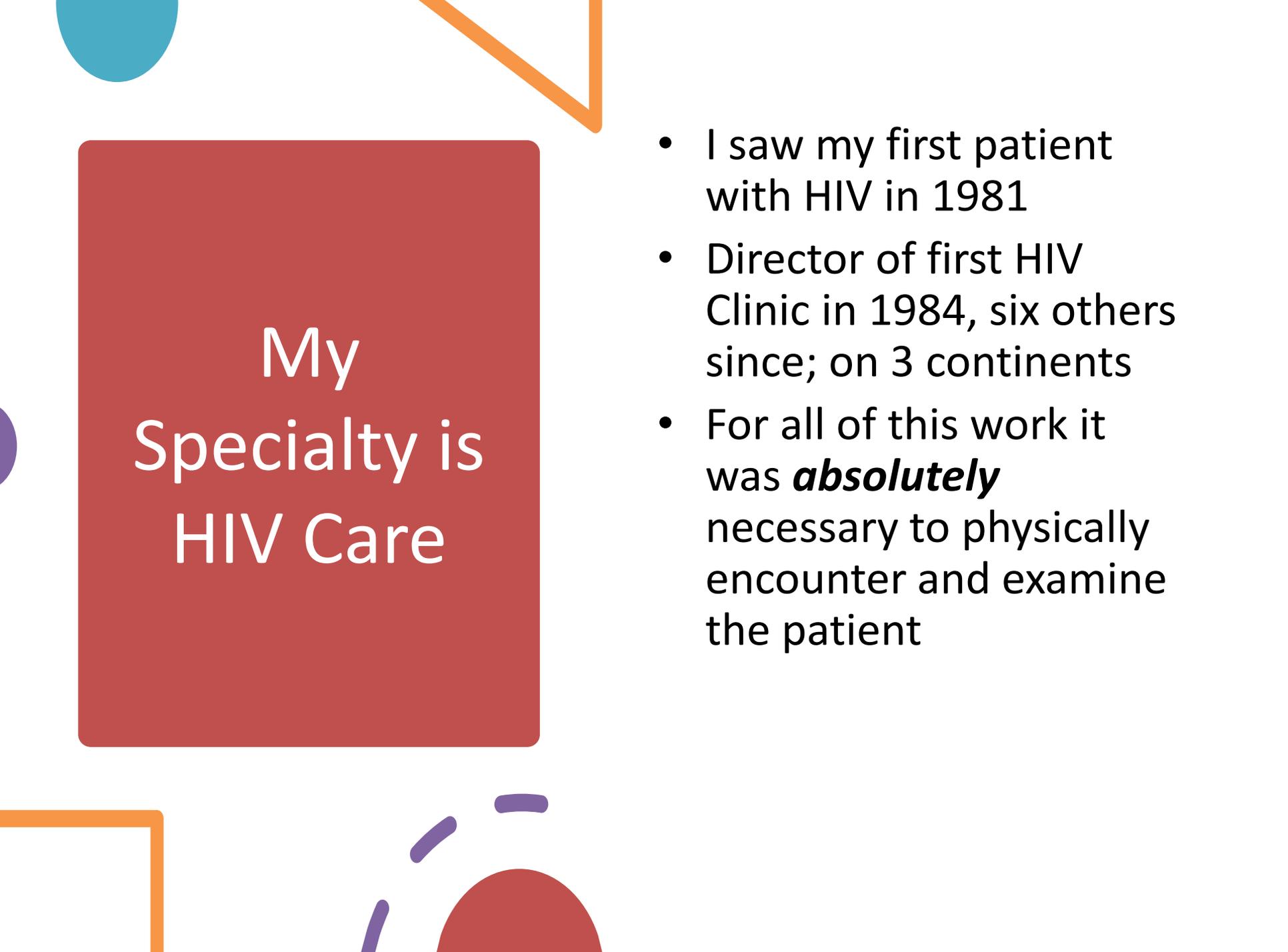
Objectives

- Describe our HIV/Infectious Diseases Telemedicine for Arizona residents and the Arizona Department of Corrections
- What I have learned that applies to Telemedicine
- Discuss what medical problems could be amenable to Telemedicine



Bringing Telemedicine to your Practice

- If you are just beginning on Telemedicine, I would suggest you think about common patient problems that you encounter in your practice and limit the scope to what problems you think can be handled successfully on Telemedicine—this is a trial and error process!
- Determine what ancillary data is mandatory for the visit and how to retrieve it
- Consider reducing your time and sharing encounters with a pharmacist and/or clinic manager or nurse: say 8 minutes each
- Just get started! You will rapidly learn what works and what needs to be dispensed with
- My Telemedicine clinics are constantly evolving because the patients are “evolving”



My
Specialty is
HIV Care

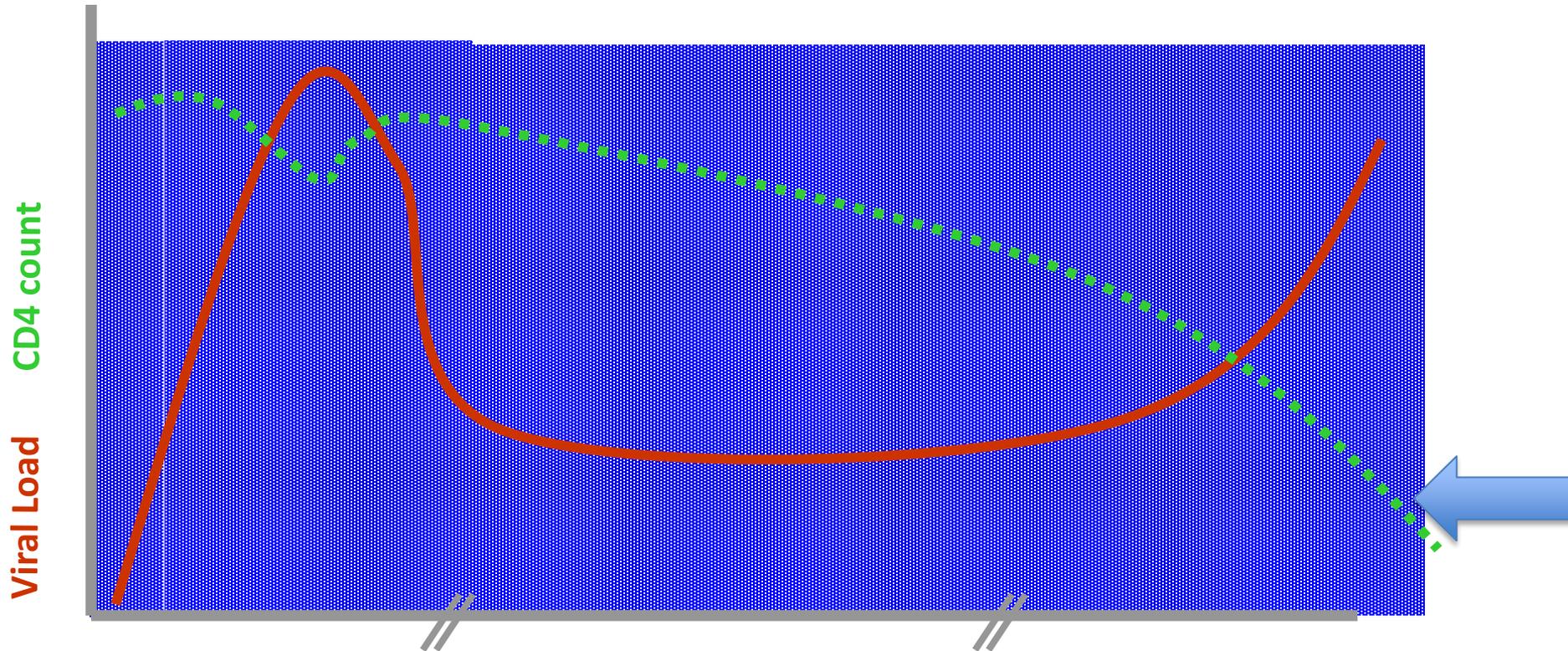
- I saw my first patient with HIV in 1981
- Director of first HIV Clinic in 1984, six others since; on 3 continents
- For all of this work it was ***absolutely*** necessary to physically encounter and examine the patient

Binh Thanh Outpatient Clinic, Saigon

Average CD4 count of
the first 200 patients
was ~50
cells/microliter



Natural History of HIV-1 Infection, Untreated



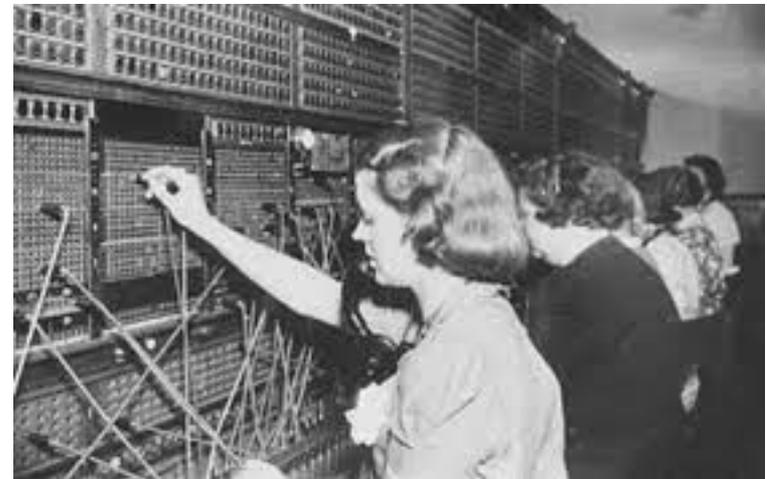
HIV Treatment Today

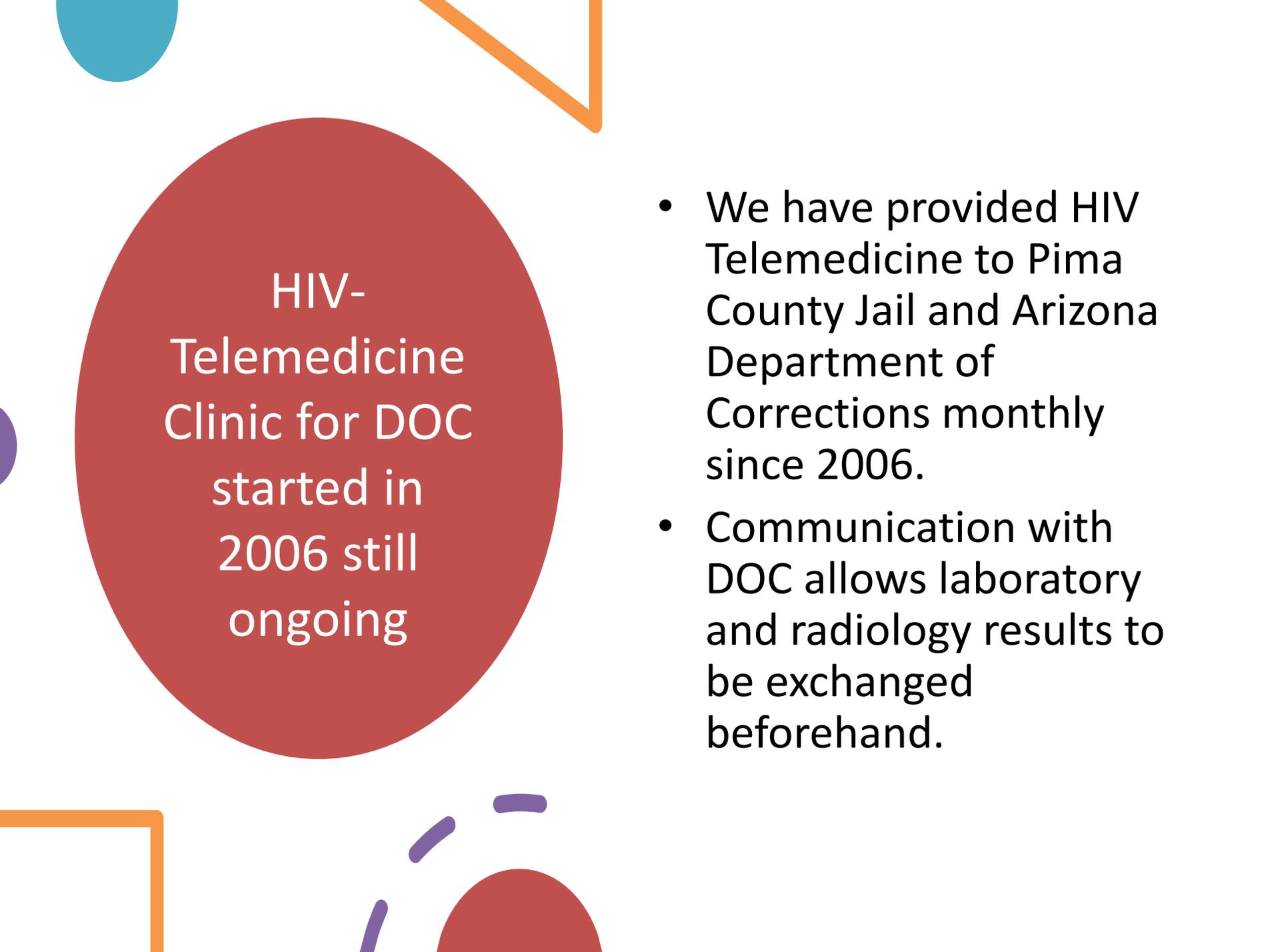
- Now, everyone with HIV is immediately placed on anti-retroviral drugs
- With new drugs every patient is generally undetectable for HIV RNA within 1 month– disease is controlled
- This preserves (or restores) immune cells and prevents transmission of HIV

- Antiretroviral therapy (begin early and daily)
- See HIV patient once a year; all patients are required to have a PCP
- Two laboratory tests once a year
- Having told you the above, you can envision how useful Telemedicine would be in taking care of these patients

Our “Local” Telemedicine HIV Clinics

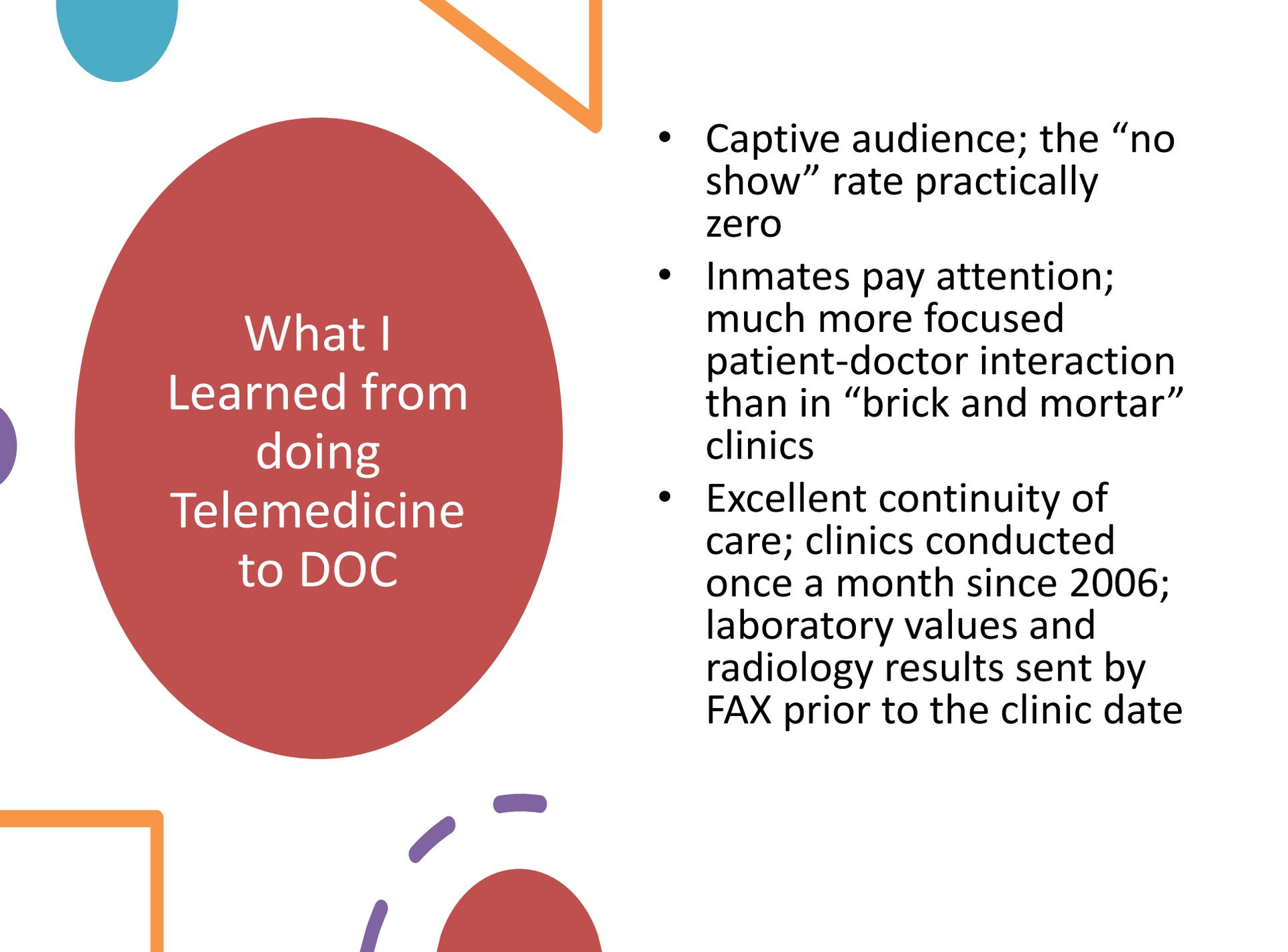
- 1 half day clinic/week
- Personnel needed: **physician, pharmacist, clinic manager**
- EMR: Cerner





HIV-
Telemedicine
Clinic for DOC
started in
2006 still
ongoing

- We have provided HIV Telemedicine to Pima County Jail and Arizona Department of Corrections monthly since 2006.
- Communication with DOC allows laboratory and radiology results to be exchanged beforehand.



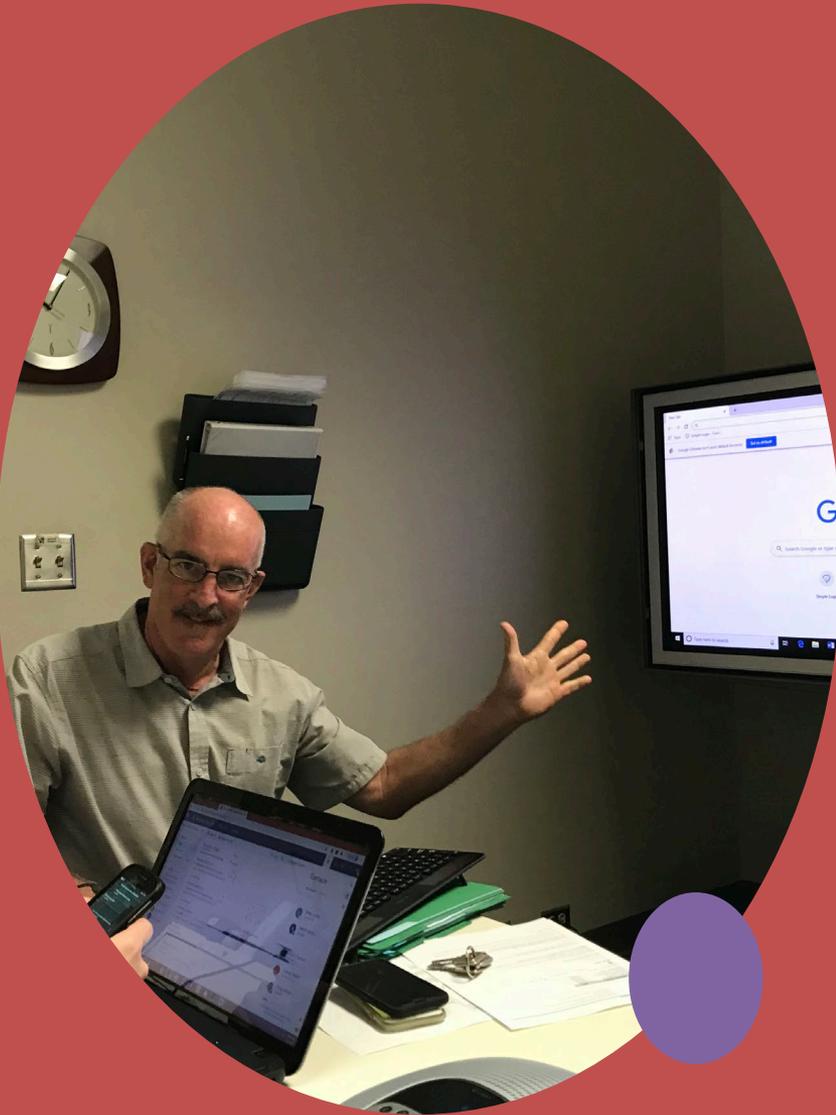
What I
Learned from
doing
Telemedicine
to DOC

- Captive audience; the “no show” rate practically zero
- Inmates pay attention; much more focused patient-doctor interaction than in “brick and mortar” clinics
- Excellent continuity of care; clinics conducted once a month since 2006; laboratory values and radiology results sent by FAX prior to the clinic date

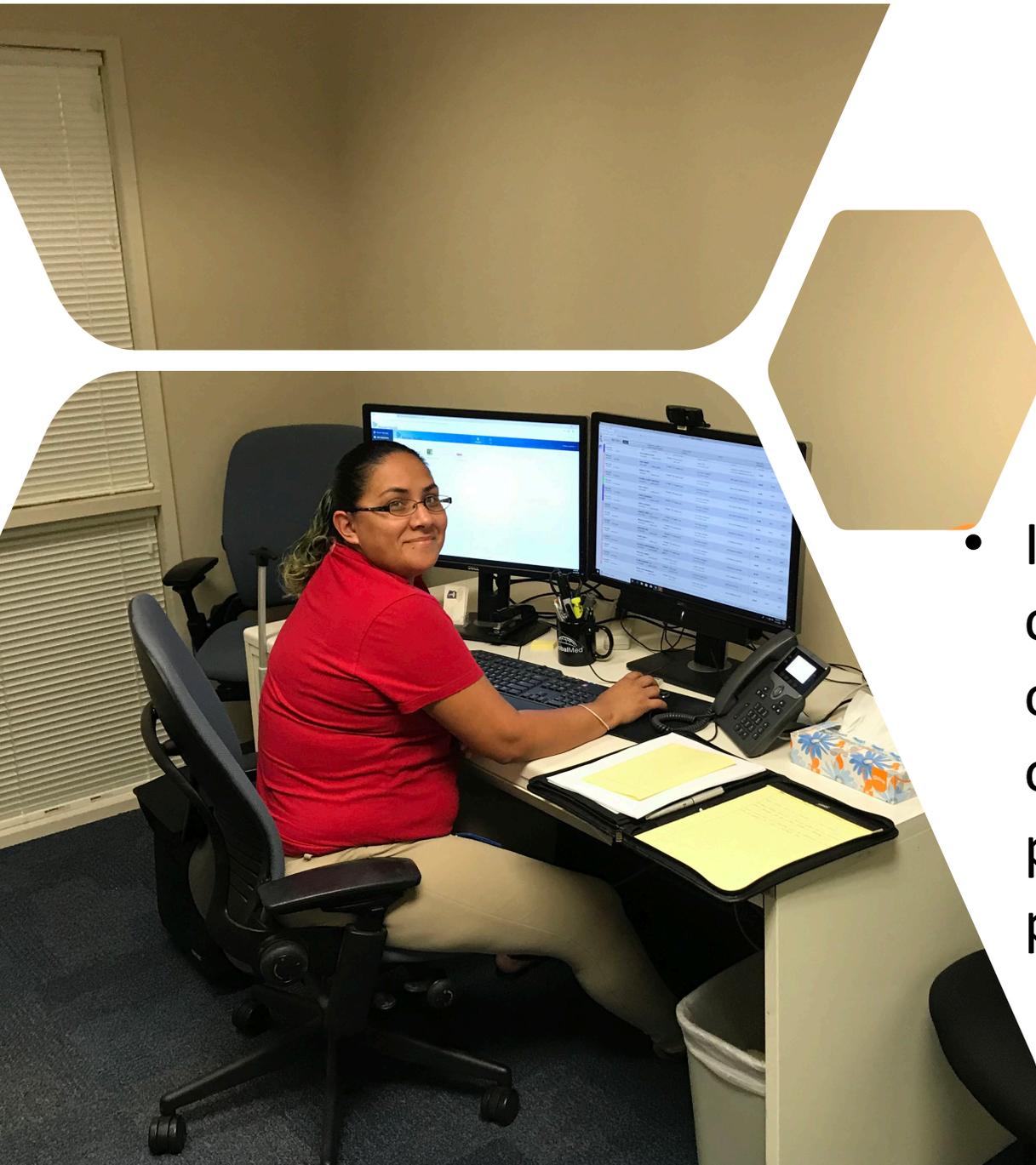


How We Do It: Day Before Clinic

- We use a DOC database to retrieve the names and records of the patients and enter clinic slots into a Cerner EMR
 - Krystal (the clinic coordinator) makes up the clinic list and enters the names and MRN into the database
- 



Clinic Day: Connect to the DOC



The DOC database is accessed and list of clinic patients pulled up

- It is important that the clinic coordinator stay online for the duration of clinic to address patient-centered problems

Our video room

- Pharmacist Larry specializes in HIV drugs and attends every clinic
- He enters separate notes in the computer which are sent to the DOC
- I use a clinic note specific to HIV; a copy is FAXED to the DOC. The note has orders for drugs and laboratory monitoring as well as a suggested time for the next clinic visit



Actual Clinic visit

- There is a health care worker arranging the camera at the DOC site and controlling patient flow
- Each clinic visit lasts from 10-15 minutes
- We can zoom in to visualize lesions

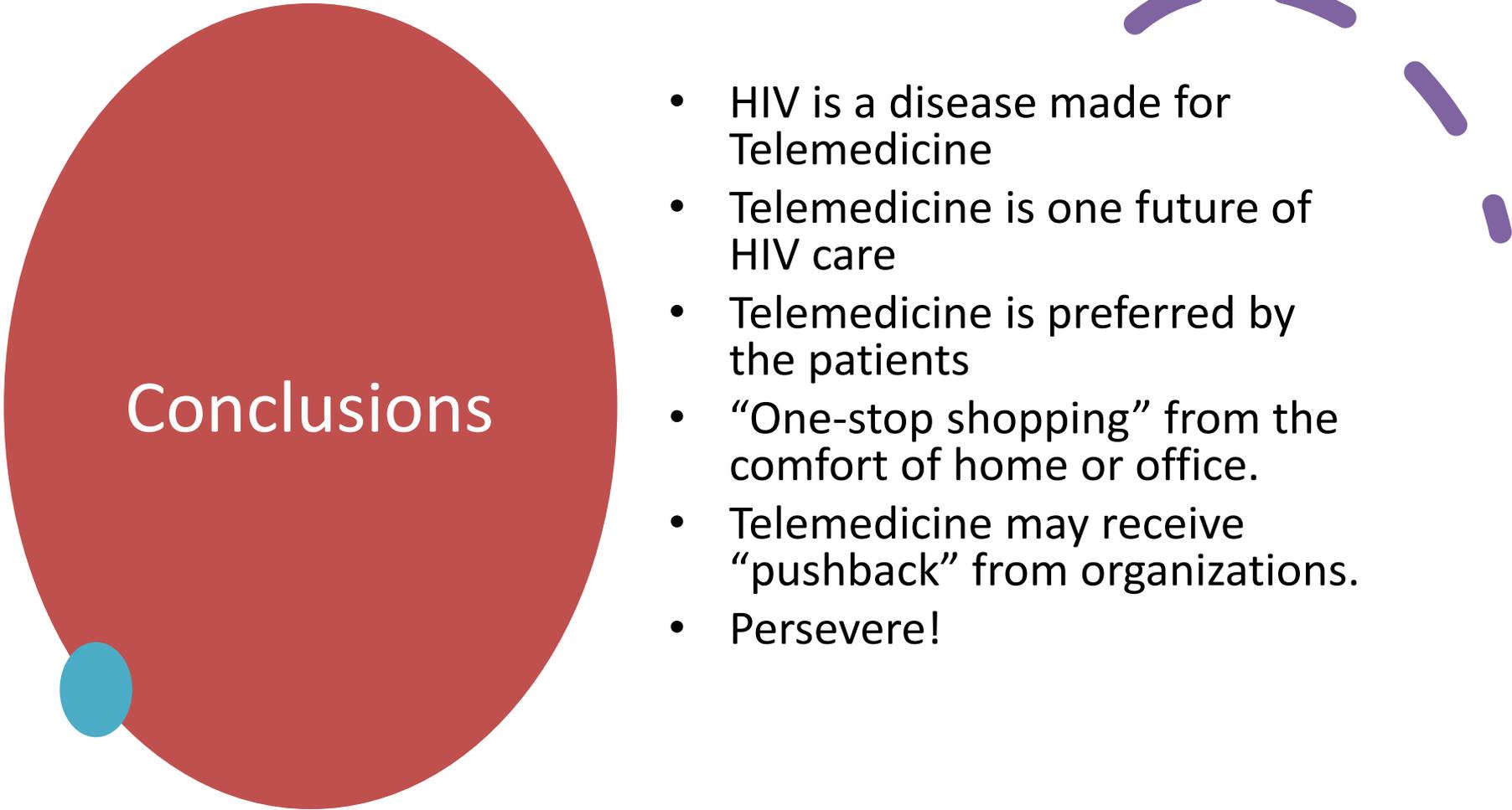
Problems to Solve with Telemedicine Clinics

- The Linking is not as good or as easy as Zoom
- Some patients are still struggling with the technology and so we have one "brick and mortar" clinic per month for these individuals
- We have to work efficiently in order to accommodate 3 individuals asking questions (the physician, the pharmacist and the clinic coordinator)



Plans for new Programs

- Our direct care to HIV patients (~2000 patients in our Ryan White Clinic) is already ongoing along with the DOC Telemedicine.
 - HIV TelePharmacy: twice per year
 - HIV TelePrEP statewide will grow to weekly clinics
- 



Conclusions

- HIV is a disease made for Telemedicine
- Telemedicine is one future of HIV care
- Telemedicine is preferred by the patients
- “One-stop shopping” from the comfort of home or office.
- Telemedicine may receive “pushback” from organizations.
- Persevere!

Recent Articles by Us

- Klotz SA, Jernberg JB, Robbins RA. Turn Healthcare Workers Loose with Outpatient Telemedicine-Let Them Decide Its Fate; No Top-Down Decisions on What It Can and Cannot Do. *Am J Med.* 2023 May 23:S0002-9343(23)00341-8. doi: 10.1016/j.amjmed.2023.05.005. Epub ahead of print. PMID: 37230402; PMCID: PMC10202893.
- Klotz SA, Chan CB, Bianchi S, Egurrola C, York LD. The Genie Is Out of the Bottle: Telemedicine Is More Effective Than Brick-and-Mortar Clinics in the Care of HIV-Infected Outpatients. *Am J Med.* 2023 Apr;136(4):360-364. doi: 10.1016/j.amjmed.2022.11.012. Epub 2022 Dec 8. PMID: 36495936; PMCID: PMC9910587.