

A close-up, slightly blurred photograph of a field of golden wheat. The stalks are in sharp focus in the foreground, showing their texture and color. The background is a soft-focus expanse of the same field, extending to a bright, clear sky. The overall tone is warm and natural.

# A Successful Tele- Infectious Disease Practice

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# Objectives

- Discuss what problems are amenable to Telemedicine
- Describe our HIV/Infectious Diseases Telemedicine for Tucson residents and the Arizona Department of Corrections
- What I have learned that we apply to Telemedicine




# Bringing Telemedicine to your Practice

Telemedicine is a modality with as many applications as there are people using it:

- 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 going to be trial and error!
- Determine what ancillary data is mandatory to have for the visit and how to retrieve it before the Telemedicine visit
- Consider reducing your time and sharing the encounter with a pharmacist and a clinic manager or nurse: say 8 minutes each
- Just get started! You will rapidly learn by trial and error what works and what needs to be dispensed with
- My Telemedicine clinics are constantly evolving



My Disease  
Specialty is  
HIV

- I saw my first patient 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
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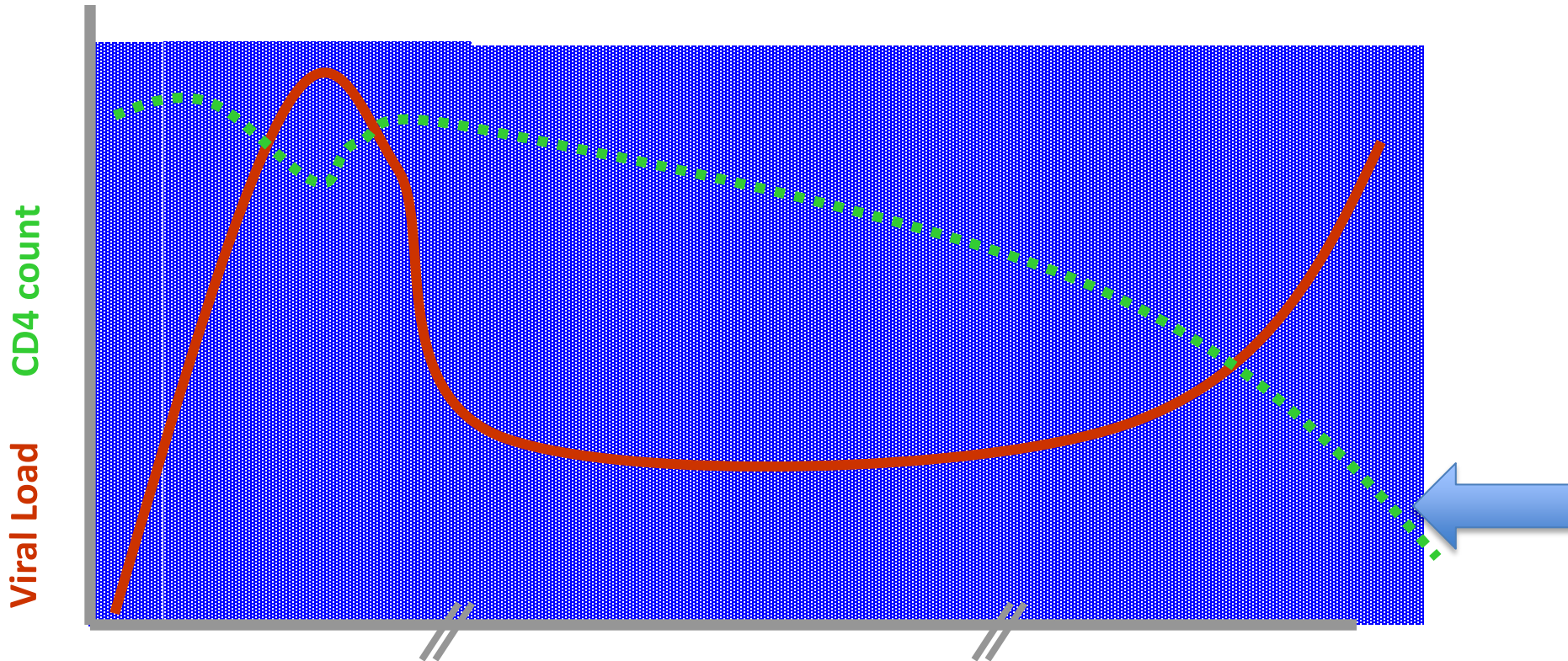


# Binh Thanh Outpatient Clinic, Saigon

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



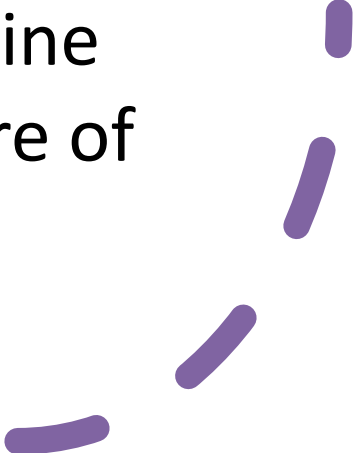
# Natural History of HIV-1 Infection, Untreated



# 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

# Current HIV Therapy

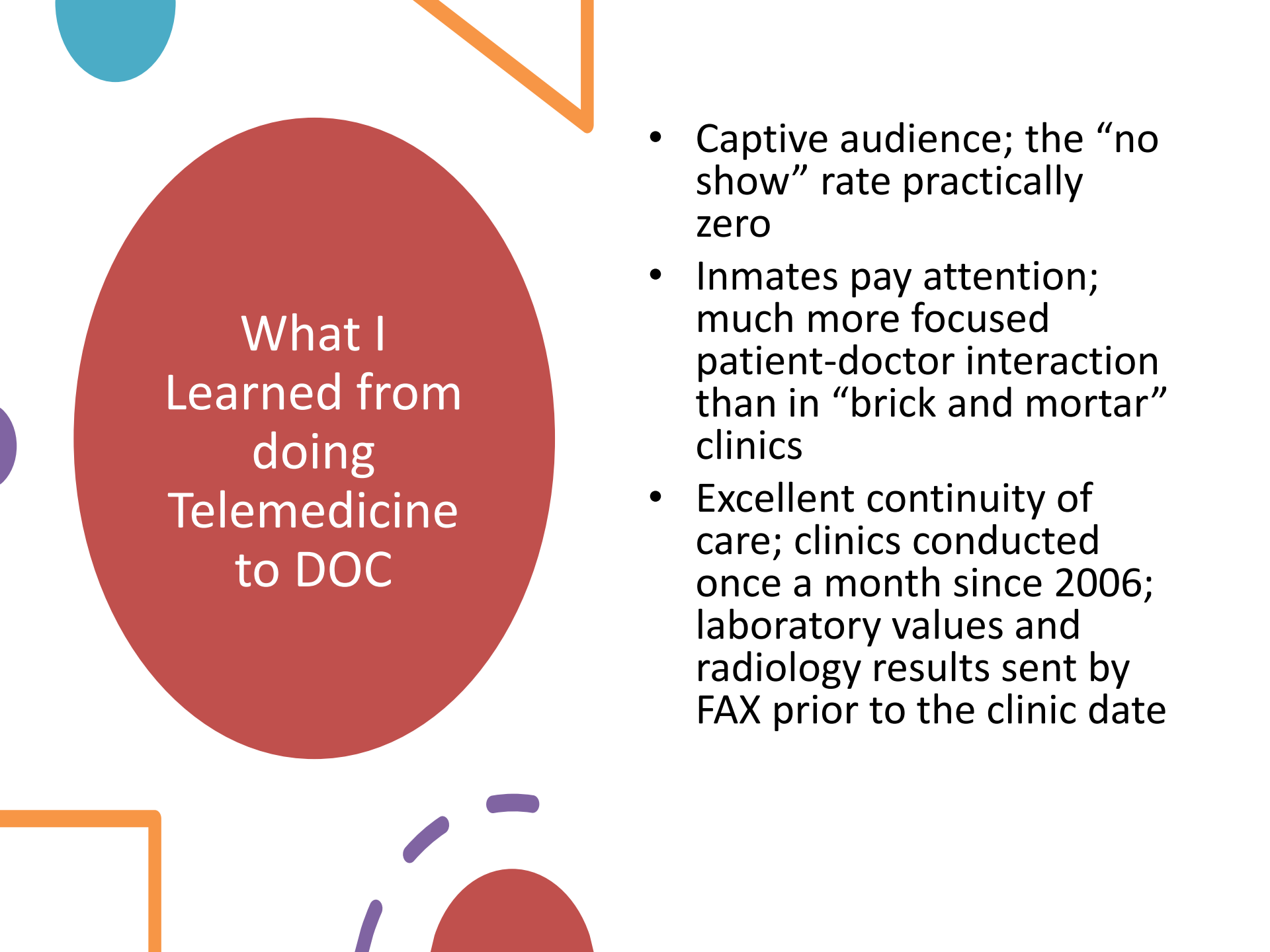
- Antiretroviral therapy (begin early and daily)
  - See HIV patient once a year; all patients are required to have a PCP
  - Laboratory tests twice a year
  - Having told you the above, you can perhaps envision how useful Telemedicine would be in taking care of these patients
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HIV-  
Telemedicine  
Clinic for DOC  
started in  
2006

- We have provided HIV Telemedicine to Pima County Jail and Arizona Department of Corrections since 2006.
- Monthly communication with DOC allows laboratory and radiology results to be followed.




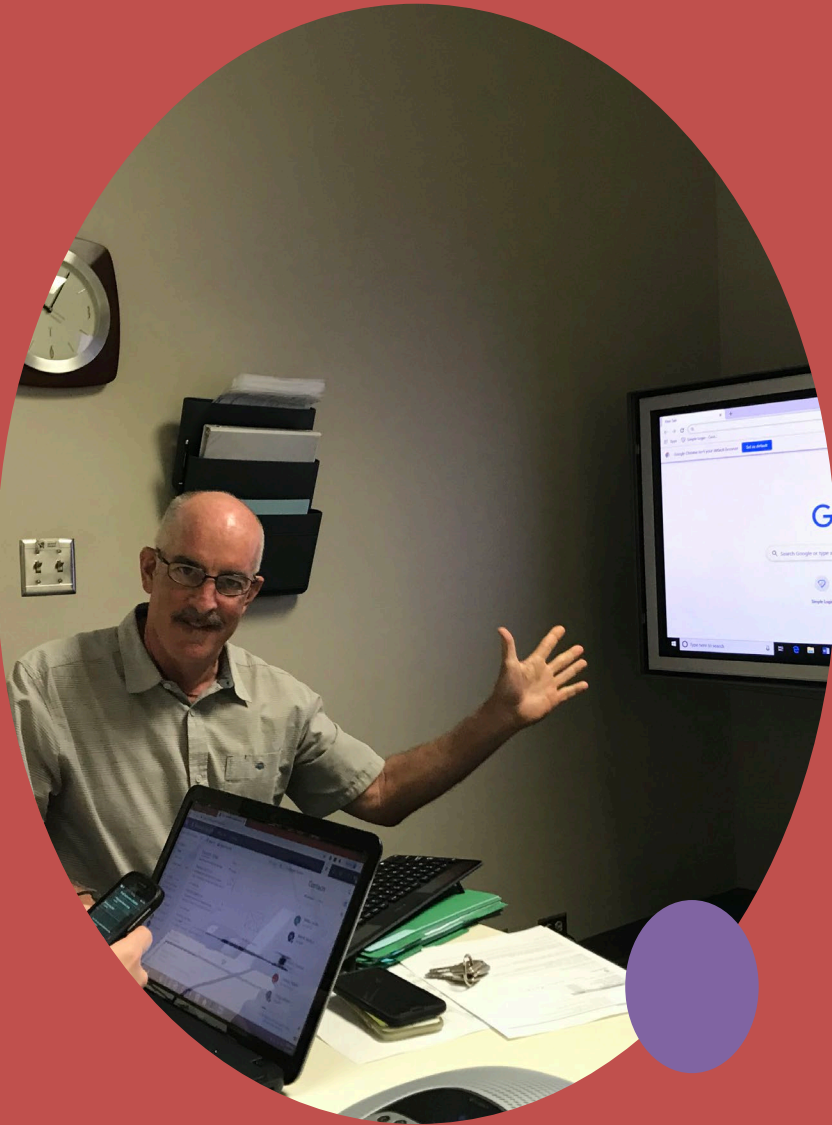
What I  
Learned from  
doing  
Telemedicine  
to DOC

- 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

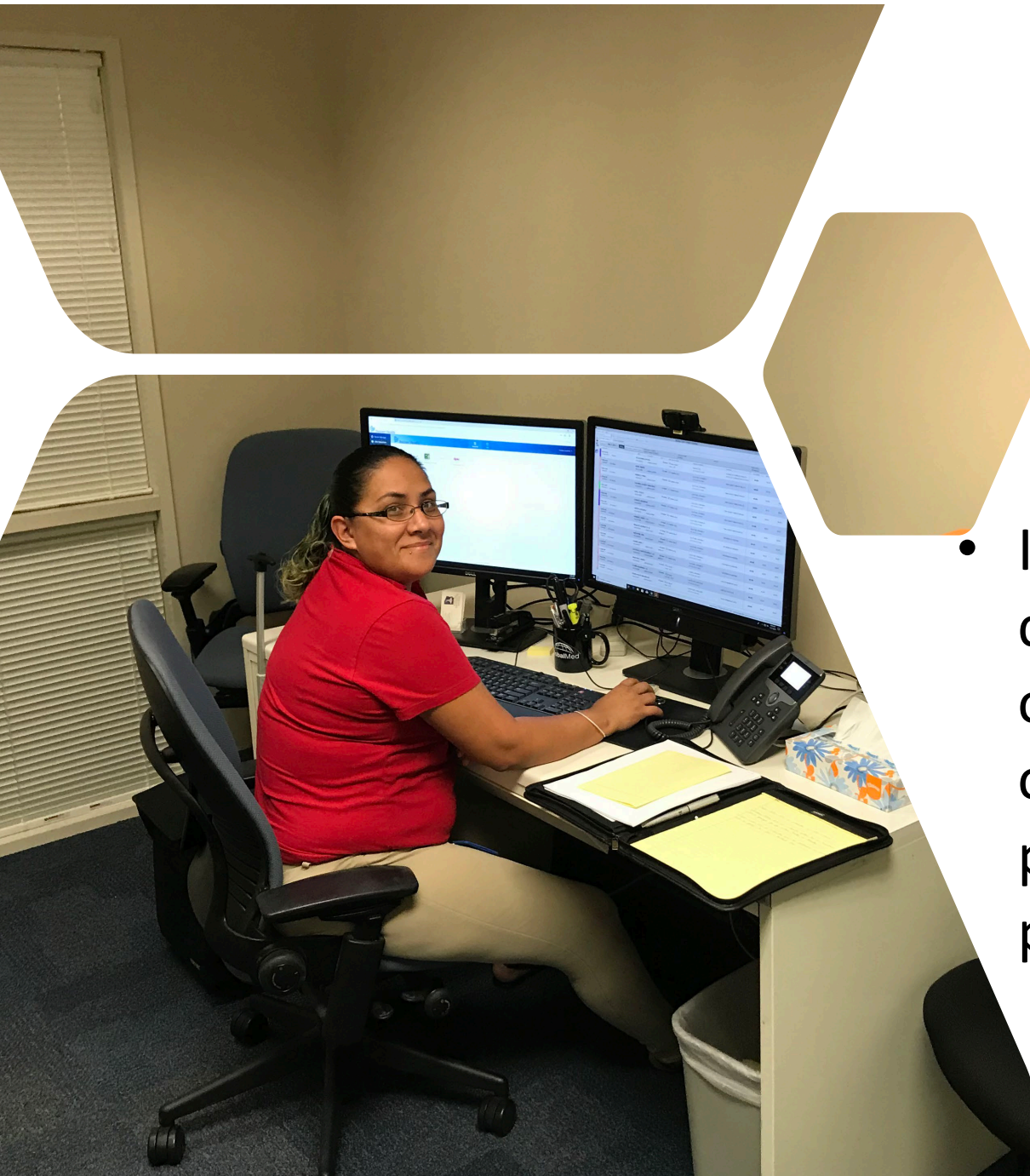


## How We Do It: Day Before Clinic

- 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



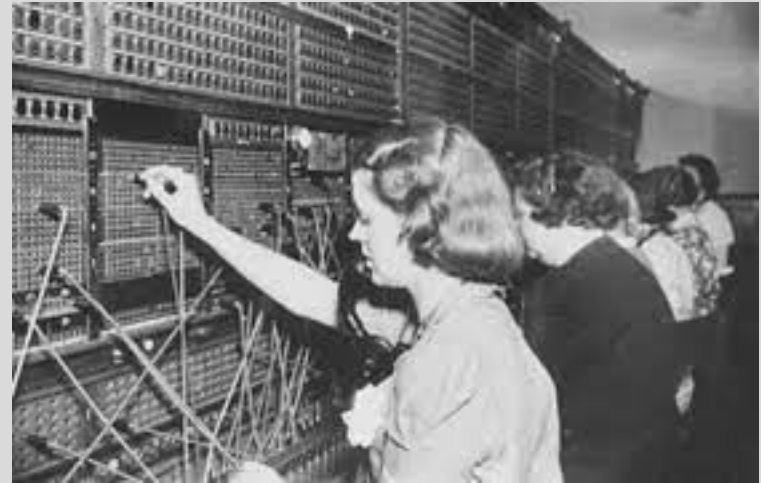


# Actual Clinic visit

- 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

# Our “Local” Telemedicine HIV Clinics

- How often: 2 half day clinics/week
- Personnel needed: physician, pharmacist, clinic manager
- EMR: Cerner




## 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
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## 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.