2018 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

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Getting to Zero with primary care: Pharmacy home visits and providers view of PrEP

Mackie King, PharmD, BCPS, CPP[a]; Nancy Warren, MPH,MA[b]

(a) Clinical Pharmacist Practitioner. New Hanover Regional Medical Center, Wilmington, NC 28409

(b) Director of Evaluation, Pacific AIDs Education and Training Center Program, UCSF, San Francisco, CA

Objectives

- Describe how focus groups can contribute to PrEP program implementation
- Describe one barrier primary care providers presented in prescribing PrEP
- Develop a practice model that supports home visits and the use of adherence tools

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Focus groups: Primary Care Clinicians

Purpose:

To assess level and type of PrEP educational needs for primary care clinicians as well as challenges and facilitators for PrEP implementation in their clinic setting

Focus groups: CHCs, hospital clinics in 6 counties

San Diego

Orange County

Alameda County

Contra Costa

Sonoma County

Marin County

Focus groups: profession

Attendees	NP	MD	RN	MD Resident	PA
N=50	50%	28%	10%	8%	4%

Demographics: Race ethnicity

Asian	African American	Latino	Pacific Islander	White/ Caucasian	Decline to state/ Missing
6%	8%	16%	2%	42%	26%

Demographics: Sexual Orientation

Bisexual	Gay/ Lesbian	Straight/ Heterosexual	Decline to state/ Missing
2%	8%	50%	40%

What guided our questions for the focus groups?

Clinicians and clinics are too busy

Providers: HIV and Sexual Health Assessments

Providers: don’t feel comfortable

Questions

- Basic PrEP Knowledge
- Screening for PrEP
- PrEP and clinic workflow
- PrEP protocols, procedures, guidelines
- Sexual Health, STIs, etc
- Stigma

"One of the main obstacles that I've had so far when prescribing PrEP is, we're pretty busy, as primary-care providers. I've done the application to try and get the pharmaceutical company to pay for it, but then after that, kind of lost track…"

"I don't think I know enough about PrEP, the drugs, or the regimens to be comfortable:"

"Thinking more upstream, it's also screening – who would be eligible for PrEP? Who's a good candidate? It's not something that I think of automatically when I'm seeing a patient for the first time."

"Yeah. I don't think we're screening – there's so many things we're screening for, and then people are saying, you're screening for too much!"

"Because HIV is so linked to sex, the notion of sexualization makes it kind of something that is taboo. It's not something that you want to talk about or address."

“I do a sexual history on my patients in the physical, …but…patients that I’ve acquired, who’ve been established and then passed to me.. the sexual history is part of ‘smoking, alcohol, drugs, and sex’ and usually smoking and alcohol are filled out but drugs and sex are not.”

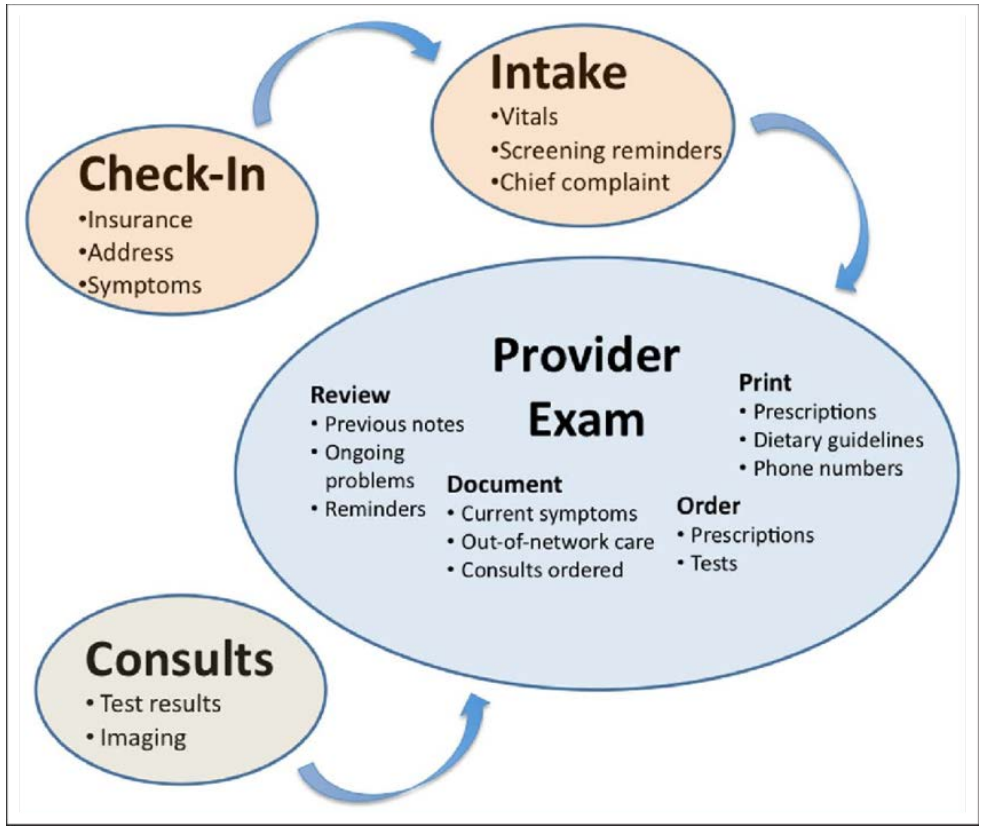
" The notion that HIV is linked to same-sex intercourse, it's still perverse, to some people…Providers, people in general, society, clinic staff, insurance carriers – it's crazy, man!"

"I think that there's a lot of stigma around– stigma on stigma on stigma, because you're talking about HIV …and it's centered around these risky behaviors, whether sexual behaviors or injection drug use."

“Everybody has to be asked these questions. You should never be baffled because it looks like a strait-laced person. You should never stop there, and I always ask, ‘oh, you partner with men or women?’ I always do.”

"When we do the STI screenings and we get the reports back for positive chlamydia, gonorrhea, that kind of stuff, and they've said that they – well, they obviously aren't using protection, then I haven't – and I'm not sure exactly why I haven't – suggested the PrEP."

Where does PrEP fit?



"You really need some kind of systems-based solution. If it could be built in, in such a way that it becomes part of screening – think about how we screen for depression – that's done more or less automatically now, where we don't have to think about it, we have a pathway for how to react to it and a fairly easy algorithm to understand."

High value clinic sites

Teen Clinics

School Based Clinics

Homeless clinics

We have a lot of teens that are doing sex work.

Some people in school, some young men in school-based, who will want to talk about having sex with men, others who ask questions but aren't really forthcoming, so I feel like I could see them more if we had this ability (to prescribe PrEP)

Well, the thing I'm thinking is, I really talk about condoms, especially with anal sex. I'm like, dude, this is really an important thing. How are you gonna do it? How are you gonna negotiate that? So it's funny, because …maybe I'm old-fashioned, that I'm thinking about condoms first. And not PrEP. That's interesting."


POLICY AND
PROCEDURE

Staff want to be PrEP-ared


COACHING
TEACHING
KNOWLEDGE
TRAINING
SKILLS
LEARN
EXPERIENCE
DEVELOPMENT

"… for something like this (HIV risk assessments) I think interacting with somebody else, so that we can do the role-playing kind of thing. Because I think one of the obstacles with this is that a lot of people aren't comfortable with asking these types of questions."

“In person. We have enough things to do online that we’re backed up on anyways.”

“… from having to do many online modules in residency, they’re just not engaging enough. In-person would probably be way more helpful…”

Motivational focus grouping

An unexpected result….

Thank you to PAETC Sites who organized these focus groups!

- Bay Area/North Central Coast
- San Diego
- UC Irvine

Thank you to PAETC/UCSF team who worked on this:

- Portia Morris, MPH
- Andres Mairoana, MPH

Thank you to California State Office of AIDS and HRSA for funding

THANK YOU!

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Getting to Zero with primary care: Pharmacy home visits

Mackie King, PharmD, BCPS, CPP

Clinical Pharmacist Practitioner. New Hanover Regional Medical Center, Wilmington, NC 28409

New Hanover Regional Medical Center Care Team Clinic

- Primary Care HIV Clinic
- Nurse Practitioners, Physicians, Nursing
- 867 patients served in the clinic
- 2734 visits in 2017
- Pharmacist added in 2013

Clinical Pharmacist Practitioner

- "…a licensed pharmacist approved to provide drug therapy management, including controlled substances, under the direction of, or under the supervision of a licensed physician"
- Various requirements for licensure
- Academic Background
  - Undergraduate: The College of Charleston
  - Pharmacy School: The Medical University of South Carolina
  - Post-Graduate Year-1 Residency: The University of Colorado Hospital
  - Post-Graduate Year-2 Ambulatory Care Residency: The University of Colorado Hospital Skaggs School of Pharmacy and Pharmaceutical Sciences

Pharmacists' Contribution – Current State

- Assists with chronic disease state management
  - Diabetes, hypertension, weight loss, chronic pain, anticoagulation
  - Referred by physician, NP, or nurse
- Evaluates CD4 counts for prophylaxis against opportunistic infections
- Currently spends two half-days in clinic per week
  - Rest of the time spent in Internal Medicine Clinic
- Adherence telephone calls
- Trains medical residents, pharmacy residents, pharmacy students
  - Increases provider competency in HIV management
  - Impactful for rural settings

Evidence for Collaboration

Benefits of pharmacists as part of a multi-disciplinary team caring for PLWH

- Diabetes control and cardiometabolic risk factors

  Cope et al.

  - Significant improvement in LDL, smoking cessation, ASA use
  - Estimated savings of $3000 per patient

  Bury et al.

  - Less than 50% patients meeting goals for A1c, LDL, TG, BP
  - Only 5% receiving appropriate aspirin therapy

March et al. Am J Health-Syst Pharm. 2007;64:2574-2578
Nevo et al. Nevo et al. Am J Health-Syst Pharm. 2015;72:1463-1470
Cope et al. AIDS Patient Care and STDs. 2015;29(8):445-453
Bury et al. Proc. 2007;20:118-123.

Evidence from Our Clinic

Patients with uncontrolled diabetes sent to pharmacist for diabetes-focused visits

- Evaluated % patients achieving CMS/NCQA goals:
  - A1C < 8%, BP < 140/90 mmHg, LDL < 100

Results:

- A significantly greater percentage of patients achieved A1C < 8% and the composite CMS/NCQA goals
  - Baseline BP and LDL goals achieved at high rate
- A significantly greater percentage of patients were treated with a high-intensity statin for cardiovascular risk reduction
- Doubled the amount of patients with A1C < 7%

What about HIV-related outcomes?

Poster 44A

Needs Assessment

	Goal
Retention/ Medical Visit Frequency: NC-RIC *Numerator:* # of patients with at least one medical visit in each 6-month period over 24 months with a minimum of 60 days between visits *Denominator:* # of patients with at least one medical visit in the first months of the 24-month period	95%
Prescription of HIV Antiretroviral Therapy (ART): NC-C02 *Numerator:* # of patients with at least one ART medication prescribed at year end *Denominator:* # of patients with at least one medical visit in the measurement year	95%
HIV Viral Load Suppression: NC-C01 *Numerator:* # of patients with a HIV viral load less than 200 copies/mL at last viral load test during measurement year *Denominator:* # of patients with a diagnosis of HIV with at least one medical visit in the measurement year	85%

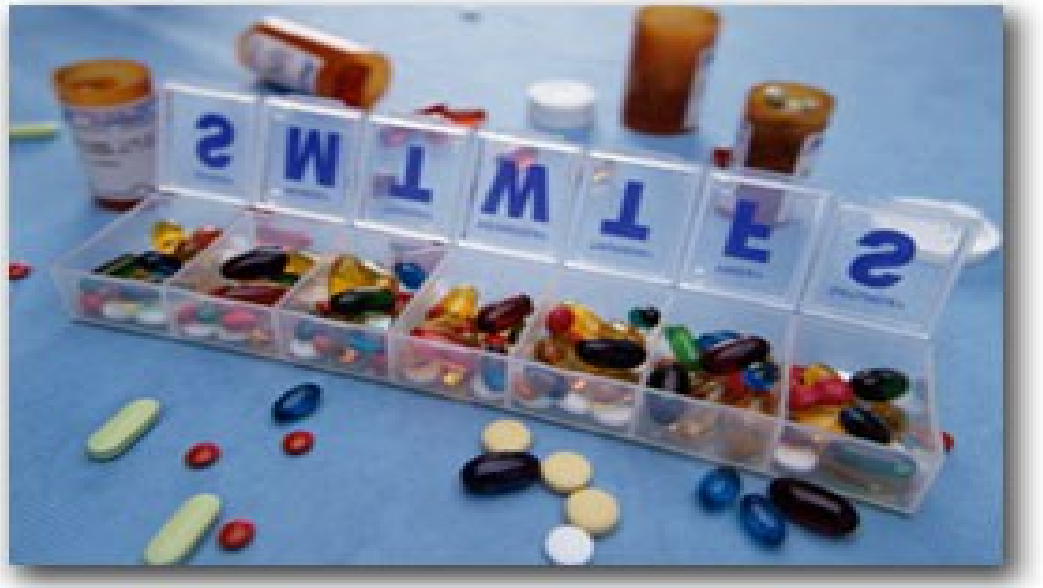
Needs Assessment – Clinic

	Goal	CY 2016	CY 2015
Retention/ Medical Visit Frequency: NC-RIC *Numerator:* # of patients with at least one medical visit in each 6-month period over 24 months with a minimum of 60 days between visits *Denominator:* # of patients with at least one medical visit in the first months of the 24-month period	95%	504/693 73%	490/696 70%
Prescription of HIV Antiretroviral Therapy (ART): NC-C02 *Numerator:* # of patients with at least one ART medication prescribed at year end *Denominator:* # of patients with at least one medical visit in the measurement year	95%	763/825 92%	722/813 89%
HIV Viral Load Suppression: NC-C01 *Numerator:* # of patients with a HIV viral load less than 200 copies/mL at last viral load test during measurement year *Denominator:* # of patients with a diagnosis of HIV with at least one medical visit in the measurement year	85%	676/825 82%	657/813 87%

Previous Strategies to Increase Adherence

Targeting adherence to reduce viral load

- Nursing reminder phone calls
- PharmD adherence appointment/phone calls
- Peer bridge counseling
- Support services
    - Care Managers



It is all about perception

- Did you miss any of your medications in the last week?

- If you had to guess, how many times do you think you may have missed your (insert drug name here) in the last week?
  - Specific
  - Non-judgemental

Additional steps to improve adherence

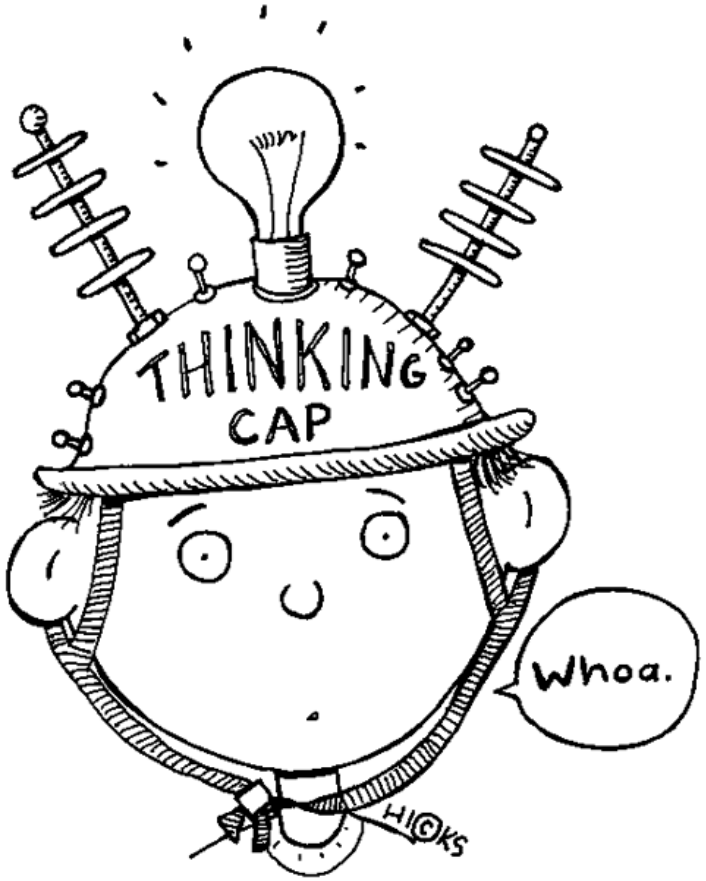
From the literature:

- Evaluate comorbidities
- Treat underlying disorders
- Link medication taking to daily activities
- Encourage single-tablet regimens, when possible
- Text messaging services
  - More success with programs that request response, limited by data
- Reminder alarms
- Electronic drug monitors
  - Not practical
- Random pill counts
  - May lead to pill dumping

Thompson et al. Ann Intern Med. 2012;156(11):817

New Practice Model

- Pharmacy Home Visits
- Adherence tools



FY 2017 RWHAP Part C Capacity Development

Objectives:

- Improve patient viral load suppression by 10%
- Improve rate of ART prescription by 5%
- Improve retention in care by 5%

FY 2017 RWHAP Part C Capacity Development

~$69,000 awarded 9/1/2017 for Patient-based treatment adherence program

- 0.3 FTE for a pharmacist and 0.3 FTE for a pharmacy technician
- Mileage reimbursement
- Supplies for blister packing medications

Blister Packing

- One week cards
  - Allows for multiple dosing per day
- 31-day cards
  - Ideal for patients on once-daily meds
- Cost is
  - <$2 per card*
  - ~$6 for shipping
  - Patient is not charged

FY 2017 RWHAP Part C Capacity Development

Methodology:

- Pharmacy Technician
  - Place medications in multi-med blister packs
- Pharmacist
  - Deliver blister packs to patient's home, provide education on each medication
    - Three home visits, then medications could be mailed
  - Conduct comprehensive medication review to ensure accuracy
  - Perform chronic disease state management while in the home
  - Provide handout with education

Adherence Tools

- Blister Pack
- Pill keychain canisters
- Calendars
- Pill trays
- Electronic Medical Record Access

Education

Face-to-face education on:

- Need for adherence, goals of therapy
- Directions and purpose
- Side effects and how to manage them
- How medications work

Labels included a QR code

- Scan with smartphone and take patient to a youtube link on education for the medication

New Hanover Regional Medical Center

Medication	Directions	Pill Identifiers	What is this medication used for?
Truvada	1 tablet every day	Blue tablet	To lower amount of virus
Reyataz	1 tablet every day	Red/Blue Capsule	To lower amount of virus
Norvir	1 tablet every day	White oval tablet	To lower amount of virus
Citalopram	1 tablet every day	White round tablet	Mood

- Leave medication in the blister bubble until you are ready to take or give it
- Use dry hands to open the blister bubble
- Push the right day and times medication through back of blister card, you may also cut along the paper backing if needed
- Take medication as soon as you open the blister pack

If there are any questions or to schedule your next home visit please contact Mackie King

Mackie King, PharmD, BCPS, CPP
Pharmacist II
Internal Medicine Clinic/Care Team Clinic
Phone Number: 910-662-9358

Logistics – enrollment

- Patients with detectable viral load > 6 months, documented problems with adherence
  - Modified to all patients with detectable viral loads were eligible for inclusion
  - Truth over harmony
- Patients were referred by providers and support staff, or contacted through QI reports
  - Reports run monthly identifying patients with detectable viral loads
- Patients were contacted, informed of the program, and asked if they wanted to participate

Logistics – execution

- Pharmacies were contacted to coordinate getting all meds filled on the same day
  - Walgreens is the HMAP pharmacy for our area in NC
- In rare events that patients were insured, medications were transferred to the NHRMC Outpatient Pharmacy to more easily facilitate filling and delivery
- Pharmacy Technician reported two half-days a week to pack medications
- Patients were grouped by geographical location to facilitate home visits

Logistics – execution

- Patients maintained in secure spreadsheet and organized by date of last visit/shipment
- Patients contacted and appointments scheduled based on geographic location and date of last fill
- New appointments scheduled as needed throughout the week

Preliminary Results

- >300 patients screened/evaluated during course
- Maximum enrollment of 58 patients
  - Voluntarily withdrew 3
  - Deceased 1
  - Insurance issues 4

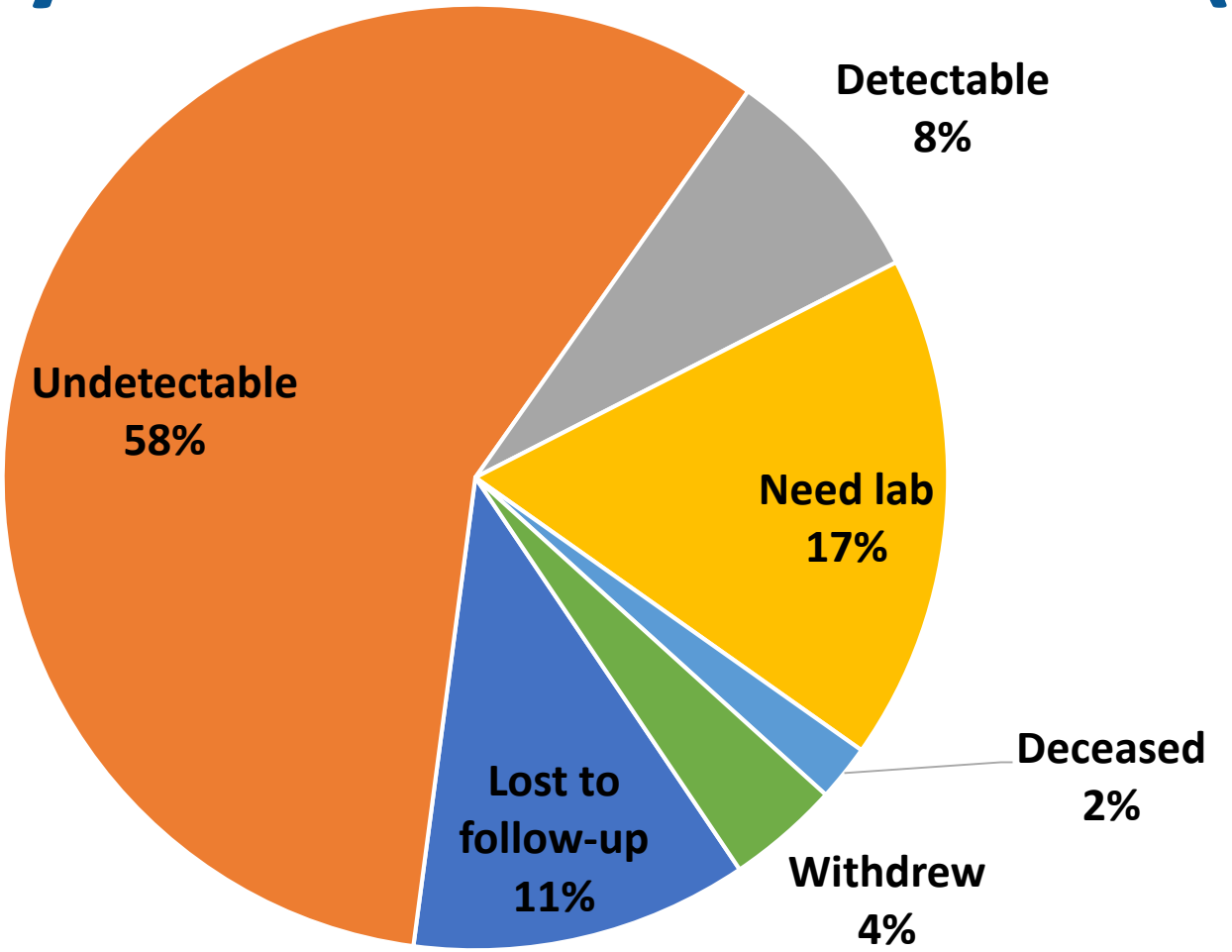
Baseline Data– Study Population

	Baseline	Goal
Retention/ Medical Visit Frequency: NC-RIC *Numerator:* # of patients with at least one medical visit in each 6-month period over 24 months with a minimum of 60 days between visits *Denominator:* # of patients with at least one medical visit in the first months of the 24-month period	35/52 67%	72%
Prescription of HIV Antiretroviral Therapy (ART): NC-C02 *Numerator:* # of patients with at least one ART medication prescribed at year end *Denominator:* # of patients with at least one medical visit in the measurement year	42/52 81%	86%
HIV Viral Load Suppression: NC-C01 *Numerator:* # of patients with a HIV viral load less than 200 copies/mL at last viral load test during measurement year *Denominator:* # of patients with a diagnosis of HIV with at least one medical visit in the measurement year	5/52 10%	20%

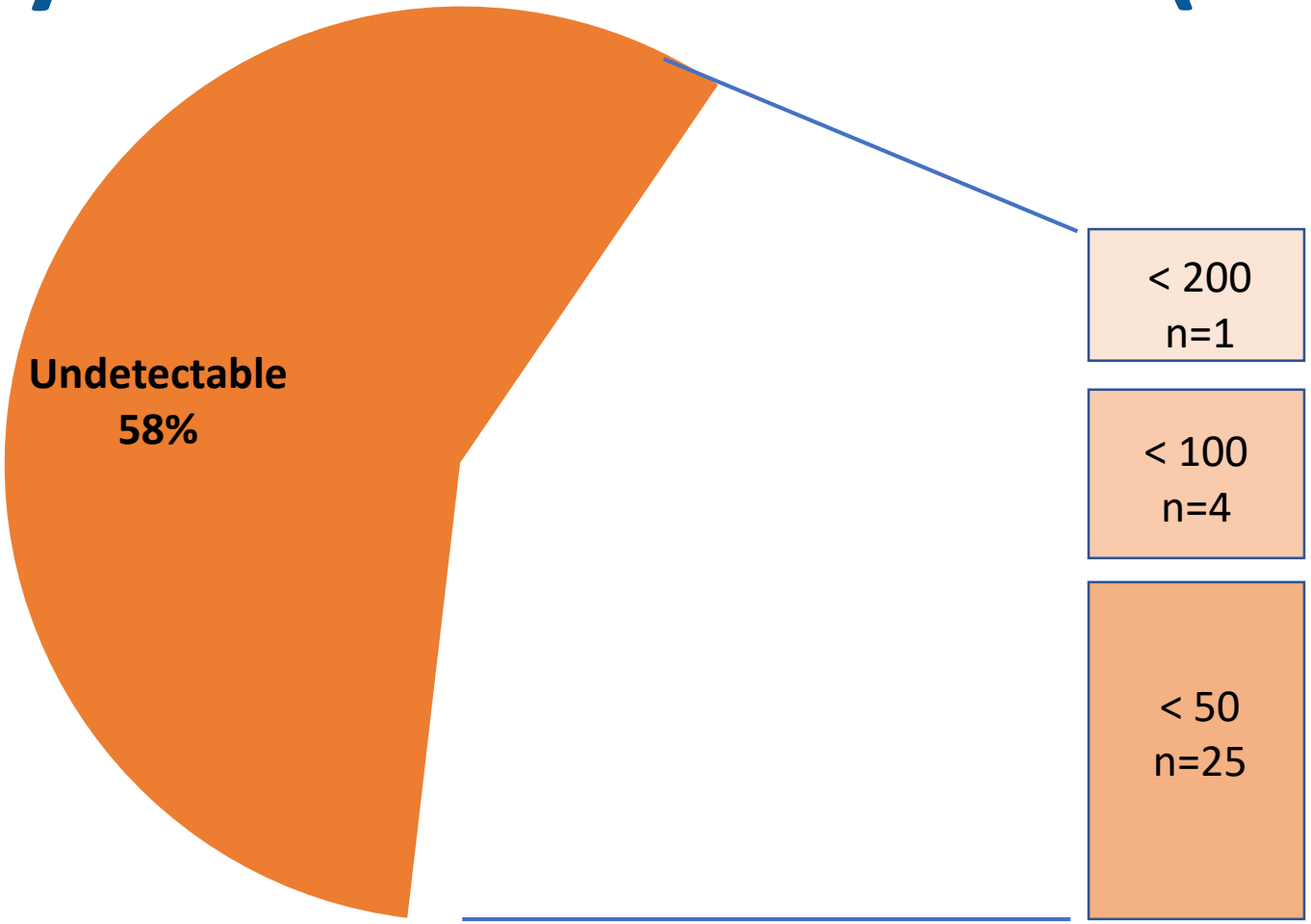
Results – Study Population

	Baseline	Goal	Results
Retention/ Medical Visit Frequency: NC-RIC	35/52 67%	72%	52/52 100%
Prescription of HIV Antiretroviral Therapy (ART): NC-C02	42/52 81%	86%	52/52 100%
HIV Viral Load Suppression: NC-C01	5/52 10%	20%	30/52 58%

Preliminary Results – viral loads (n=52)



Preliminary Results – viral loads (n=52)



Preliminary Results – “per protocol”

- 52 patients initially enrolled
  - Subtract 9 patients for withdrew, deceased, or lost to follow-up
  - 43 remaining patients who adhered to program
    - **70% undetectable**
    - 9% detectable
    - 21%% need labs

Quality Metrics– Overall Population

	Goal	Results	CY 2016
Retention/ Medical Visit Frequency: NC-RIC	95%	78%	73%
Prescription of HIV Antiretroviral Therapy (ART): NC-C02	95%	96%	92%
HIV Viral Load Suppression: NC-C01	85%	85%	82%

Additional Benefits

Patients who obtained government or private insurance throughout the study period were encouraged to utilize the institution's 340b pharmacy.

- Net Revenue: $297,000
- Net Net Revenue $94,000

Patient Case – JC

47 yo male, Spanish speaking, diagnosed May 2017. Hospital course complicated with brain biopsy of frontal lobe lesion, + CNS toxoplasmosis, HSV, thrush, HZV.

Patient from Honduras. Clinic uses iPad interpreter program. Multiple interpreters throughout various appointments have expressed difficulty communicating with the patient.

Referred for pharmacy home visit 12/2017

Patient Case – JC

In person interpreter brought along for pharmacy home visit. Findings included improperly storing medications, missing medications and taking regimen incorrectly. Saw five months in a row. Visits complicated by hospitalization for seizure, chronic headaches, and availability of interpreter.

Viral loads:

- 12/2017: 129,000 copies/ml
- 2/2018: 585,000 copies/ml
- 5/2018: 887,000 copies/ml

Patient Case – JC

With no improvement in viral load despite documented adherence (using blister packs, counted/evaluated old blister packs at each appointment), suspicion for resistance arose.

Genotype ordered, identified resistance patterns. ART modified.

Viral loads:

- 7/2018: 280 copies/ml
- 9/2018: 168 copies/ml

Patient Case – GW

64 yo female referred to home visit program after previously undetectable viral load increased to >200 copies/ml.

Patient was seen for two months, adherence did not improve, missing >50% of doses in adherence packaging. Spent >1 hour having a “heart to heart” with patient.

Third month, adherence had greatly improved, patient feeling better.

“…before you go…”

A picture is worth… $48,000

- Patient with greater than 20 boxes of medications that had been automatically shipped to her that were untouched lying on her bed
- Total cost calculated at ~$48,000
- ~$26,000 could be donated to local free clinic

Conclusions

After implementation of pharmacy home visits, we successfully:

- Increased prescription of ART and retention in care to 100% in the study population
- Dramatically increased rates of viral suppression in difficult to treat population
  - 10% to 58%
    - 83% undetectable
- During this time frame, we met NC HAB core measure for prescription of ART and rates of viral load suppression for the overall clinic population

Conclusions – Community Impact

- Greater than 50% of the cohort population became undetectable
- Donated $26,000 worth of medications to community clinic
- Helped identify three cases of genetic mutations
- Assisted in simplifying regimens
- Surveillance for prophylaxis of opportunistic infections
- Improvements in chronic disease state management
  - Diabetes
  - Inhaler use
  - Diet
- Comprehensive care for patients who are uninsured/underinsured
- Improving access to care and health equity by nonconventional means

Barriers to Success

- Getting in touch with patients
  - Rarely answer their phones
  - Phone numbers change/inaccurate/run out of minutes
  - Patients rarely respond to written communication
  - Easily greater than 1,500 phone calls placed during the project
- Majority of people liked the blister packs
  - Some patients did not because lack of privacy

Barriers to Success

- Patients not getting labs drawn
- Patients keeping regularly scheduled appointments
  - Not formally evaluated, suspected
- Sustainability
  - Not having dedicated full-time staff
    - 0.3 FTE not enough to cover the workload, patient contact, deliveries, etc
    - When patients remain enrolled in the program, high success rates
      - Requires additional provider time

Future Steps

- Multidisciplinary home visits
  - Nurse practitioners – acute complaints
    - Telemedicine?
  - Pharmacy – education
    - May not be required for every home visit
  - Nursing/phlebotomy
  - Other skilled providers
- 92% of budget dedicated to personnel
  - Hope to incorporate full FTE into Care Team Clinic
    - Coordinate with HMAP pharmacies
  - Dedicated staff at Outpatient Pharmacy for blister packing

Thank you

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New Hanover Regional Medical Center – Care Team Clinic

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