

The background of the slide features a large, light blue watermark of the University of California seal. The seal is circular and contains the text "UNIVERSITY OF CALIFORNIA" around the top and "SAN DIEGO" around the bottom. In the center, there is a shield with an open book, a star above it, and a banner at the bottom that reads "LET THERE BE LIGHT".

# The Nurse Practitioner Role in Transitions of Care: One Institution's Experience

CANP March 2014

Eileen M. Haley, MSN, RN, CNS, ACM, Manager

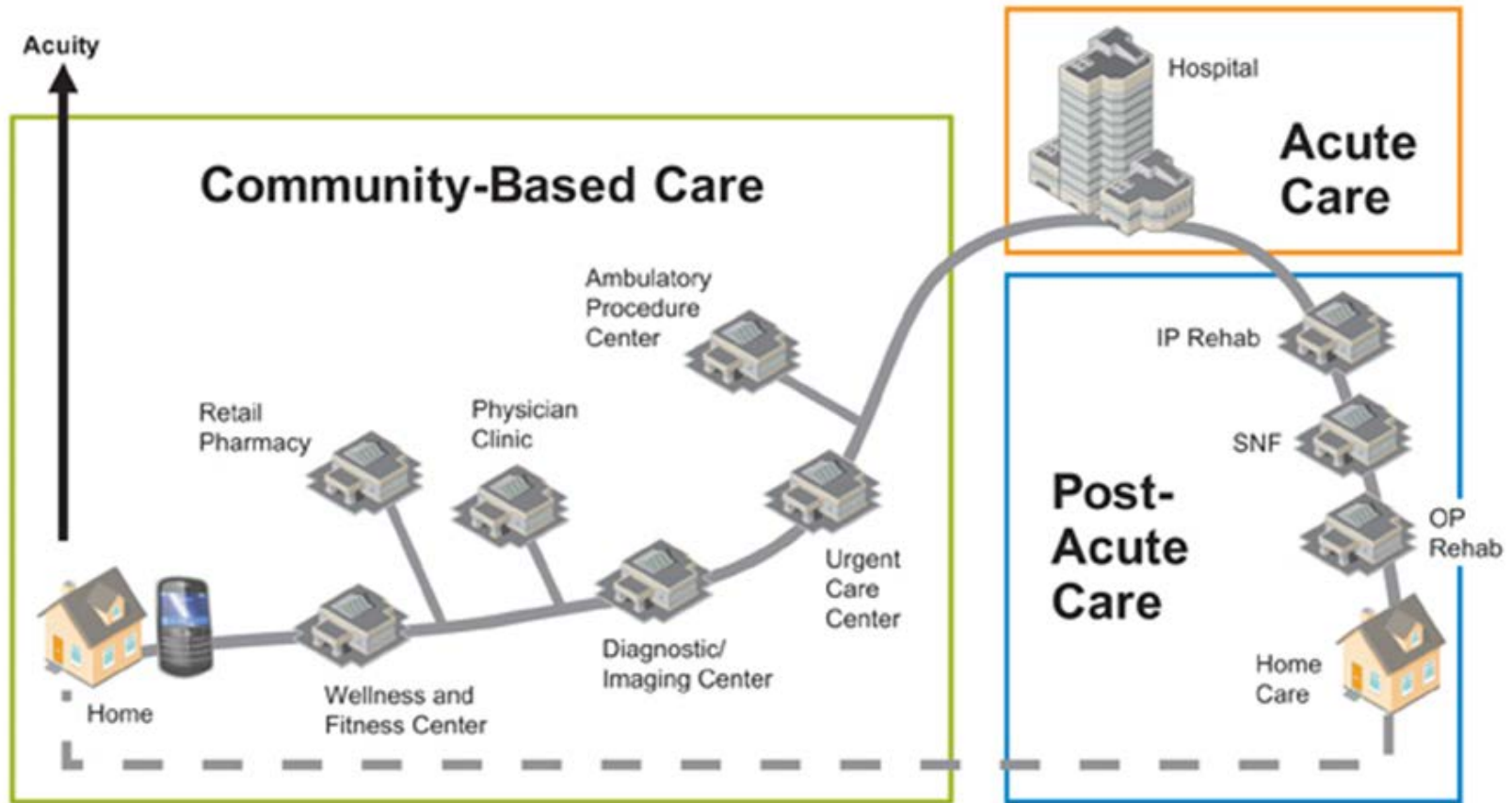
Tari Gilbert, MSN, FNP-BC, Transition Nurse Specialist

Care Coordination Department

# Objectives

- Review Transitions of Care and relationship to ACA
- Compare Transition Nurse Specialist role as it relates to case management, advanced practice nurse and public health role
- Specific areas of concern related to high risk populations and HIV / AIDs
- Lessons Learned & Future Plans

# The Care Transitions Continuum



Source: Sg2

# Drivers of Transitions of Care Efforts

- Affordable Care Act: Value-Based Purchasing & Avoidable Readmissions
- DSRIP (Delivery Service Reform Incentive Pool)
- Grants / Government Programs (Care Transitions Intervention (CTI)/Community-Based Care Transitions Program (CCTP))
- Regulatory requirements for transitions of care (e.g. CMS, TJC)

*Quality data highlights the need – and it's the right thing to do for our patients!*

# History of Transitions of Care Efforts UC San Diego Health System

Year	Project
2003	Formation of the Discharge Process Committee. Effort led by Hospital Medicine
2006	A standardized template for patient discharge instructions was implemented in the electronic medical record
2006	Hospital Medicine became involved in Project BOOST
2008	Preliminary project completed with observations of RN teaching at the time of discharge
May 2010	EPIC discharge module, electronic medication reconciliation implemented
Sept 2010	RN Teach back coach project, EPIC implementation (February 2011)
Nov 2011	RN DC advocate project, Care Transitions Intervention Collaboration with Aging and Independent Services
2012	RN Transitions coach project, Reorganization of Discharge Process Committee into project-focused workgroups

# Transitions of Care (TOC) Structure

## TOC Executive

*Strategizes efforts, links to other efforts in the health system, addresses systems barriers identified by the project teams*

## TOC Steering

*Coordinates efforts among the teams, provides support and feedback to teams, forum to inform the health system strategy efforts and to move strategic objectives to the operational level*

### Operational Level – Project Teams / Leads

Advanced  
Transitions of  
Care (ATOC)

Care Transitions  
Protocol (CTP)

Follow Up  
Phone Calls

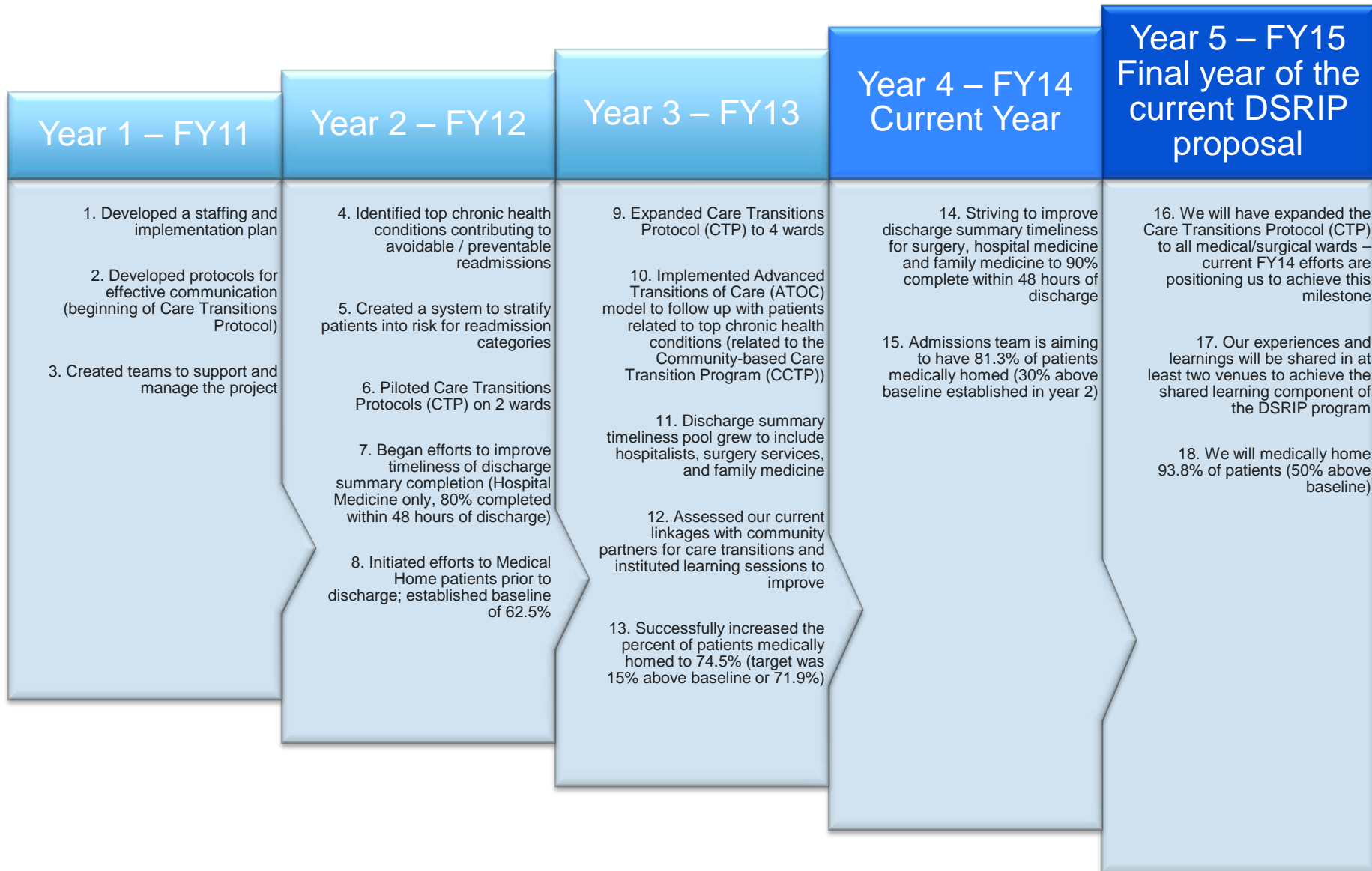
Medical Home

Medication  
Reconciliation

PCP  
Communication

Skilled Nursing  
Facility (SNF)

# DSRIP – Implement/Expand Care Transitions Programs



# Delivery System Reform Incentive Pool (DSRIP)

- Delivery System Reform Incentive Pool (DSRIP) demonstration project for public hospitals to maintain Medicaid waiver/DSH funds
  - Public hospital proposals cover five areas of improvement:
    - Infrastructure development
    - Innovation and Design
    - Patient-focused Improvement
    - Urgent Improvement in Care (Common Interventions)
    - HIV Transitions Project
- 30-day Readmission Rate incentives
- Value Based Purchasing incentive program proposed to include a Medicare Spending per Beneficiary (MPSB) scoring element



# Community-based Care Transitions Partnership (CCTP)

- Mandated from the Affordable Care Act
- Part of larger Partnerships for Patients initiative
- Goals-
  - improve patient care, reduce cost, reduce readmissions by 20%
- Target population - High Risk Medicare FFS inpatients
- \$500 million in funding from 2011 – 2015
- Community Based Organizations (CBO) partner with hospitals and others in community
- Competitive process to obtain funding
- Currently 82 groups funded after four rounds

# The Care Transitions Intervention

## *Results of a Randomized Controlled Trial*

*Eric A. Coleman, MD, MPH; Carla Parry, PhD, MSW;  
Sandra Chalmers, MPH; Sung-joon Min, PhD*

**Arch Intern Med 2006**

- Elderly patients transitioning to SNF/home
- Randomized: Intervention group paired with “Transition Coach” (TC) vs. standard care
- Empowerment and education: 4 pillars
  - Facilitate self management/adherence
  - Maintain a personal health record
  - Timely follow-up
  - Knowledge and management of complications
- Education during hospitalization
  - Including meds and med reconciliation
- Phone calls and personal visits by TC post discharge
- N=750

# A Reengineered Hospital Discharge Program to Decrease Rehospitalization

## A Randomized Trial

Brian W. Jack, MD; Veerappa K. Chetty, PhD; David Anthony, MD, MSc; Jeffrey L. Greenwald, MD; Gail M. Sanchez, PharmD, BCPS; Anna E. Johnson, RN; Shaula R. Forsythe, MA, MPH; Julie K. O'Donnell, MPH; Michael K. Paasche-Orlow, MD, MA, MPH; Christopher Manasseh, MD; Stephen Martin, MD, MEd; and Larry Culpepper, MD, MPH

Annals of Int Med 2009

- Project RED
- RCT of 749 hospitalized adults
- Intervention
  - Nurse Discharge Advocate
    - F/U appt, Medication Reconciliation
    - Patient education
  - Individualized instruction booklet
  - Pharmacist call 2-4 days post-discharge
    - Review medications

# Project BOOST: Better Outcomes for Older Individuals through Safe Transitions



Hospitalists. Transforming Healthcare.  
Revolutionizing Patient Care.



Society of Hospital Medicine  
The John A. Hartford Foundation

UC San Diego  
HEALTH SYSTEM

# Risk for Readmission Tools

## Risk Prediction Models for Hospital Readmission A Systematic Review

Devan Kansagara, MD, MCR

Honora Englander, MD

Amanda Salanitro, MD, MS, MSPH

David Kagen, MD

Cecelia Theobald, MD

Michele Freeman, MPH

Sunil Kralinski MD MSc

**Context** Predicting hospital readmission risk is of great interest to identify which patients would benefit most from care transition interventions, as well as to risk-adjust readmission rates for the purposes of hospital comparison.

**Objective** To summarize validated readmission risk prediction models, describe their performance, and assess suitability for clinical or administrative use.

**Data Sources and Study Selection** The databases of MEDLINE, CINAHL, and the Cochrane Library were searched from inception through March 2011, the EMBASE database was searched through August 2011, and hand searches were performed of

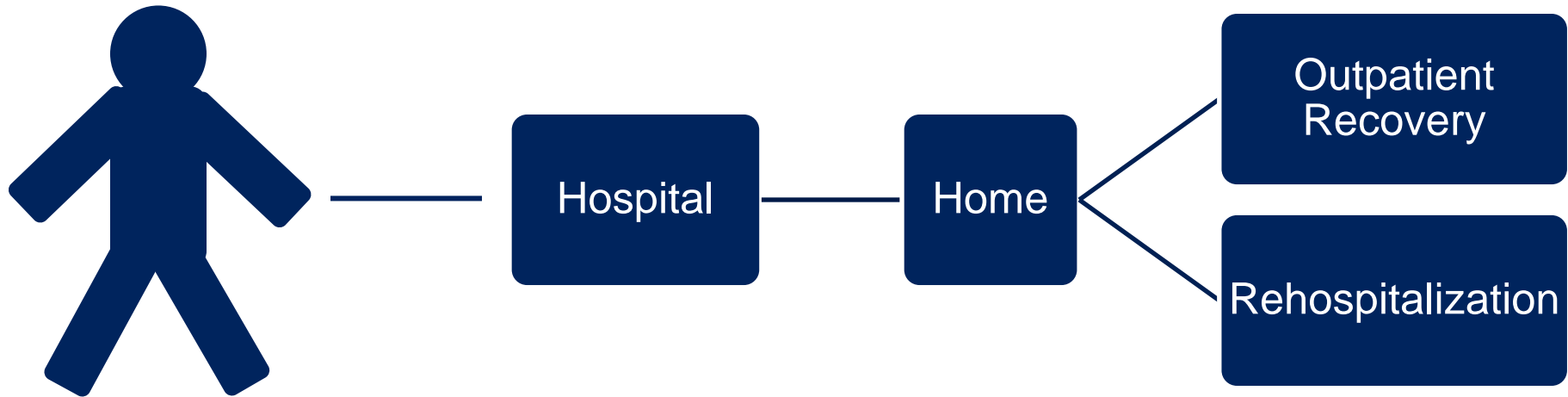
**Conclusions** Most current readmission risk prediction models that were designed for either comparative or clinical purposes perform poorly. Although in certain settings such models may prove useful, efforts to improve their performance are needed as use becomes more widespread.

*JAMA.* 2011;306(15):1688-1698

[www.jama.com](http://www.jama.com)

Only a few included overall health and function, illness severity, or social determinants of health

# Risk of Readmission



Repeated admits  
Medical co-morbidity  
Depression  
Male  
Insurance status  
Age  
Race  
Married  
Regular physician  
Polypharmacy

Poor safety performance  
Poor quality  
Poor safety climate

Living alone  
Self perceived QOL

Social/Environmental Data

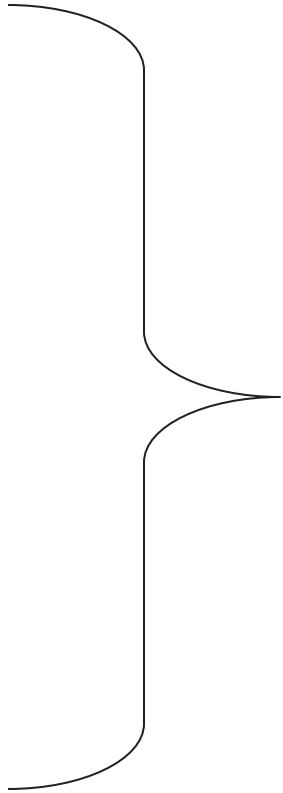
Administrative Claims Data

# Key Components of BOOST Toolkit

- **Standardized Risk Assessment: Tool for Identification of High Risk Patients (8Ps)**
- **Patient-centered Preparation for Discharge**
  - Checklists- GAP, Universal Patient Checklist
  - Use of Teach back Technique
  - Medication Reconciliation
  - Patient-friendly discharge forms
    - Principal Care Provider identification
    - Who to contact with questions/concerns
    - Warning signs/symptoms and how to respond
    - Outpatient appointments
    - Pending tests
- **Standardized PCP communication**
- **72 hour follow-up call for high risk patients**

## 8P Risk Assessment

- Prior hospitalization
- Problem medications
- Psychological
- Principal diagnosis
- Polypharmacy
- Poor health literacy
- Patient support
- Palliative Care
- \*Prior Functional Status



Each associated  
with risk specific  
interventions



# Risk Specific Interventions: *An example*

## **Problem Medications**

- Medication specific teaching using Teach Back to patient/caregiver
- Monitoring plan developed and communicated to patient and aftercare providers, where relevant (e.g. warfarin, digoxin and insulin)
- Specific strategies for managing adverse drug events reviewed with patient/caregiver
- Follow-up phone call within 72 hours to assess adherence and complications

# EPIC Risk For Readmission - PADB

61 year old, 11/26/1952 Female    HC 10-EAST 1001B    Allergies: **Latex, Hydro...** Code: **FULL**    Iso: None Inf: None    Attend Prov: SEBASKY, M    Pref Language: Spanish    MyUCSDChart...

**Risk for Readmission**    Report: **Risk for Readmission**

**Attending Provider:** [Sebasky, Meghan Marie, MD](#)

Allergies: **Latex, Hydromorphone, Morphine**    Isolation: **None**    Infection: **None**    Code Status: **FULL**    Ht: 5' 4" (1.626 m)    Wt: 55.4 kg (122 lb 2.2 oz)    Admission Cmt: IRMA    Principal Problem: Biliary obstruction [576.2]    BMI: 20.95 kg/m<sup>2</sup>

**Prior Hospitalizations**

	First Filed Value
Were you admitted to a hospital or visited the Emergency Room in the last 6 months?	<b>Yes</b>
How many times have you been admitted or visited the Emergency Room in the last 6 mo?	<b>1</b>
Have you been admitted to the hospital in the last 30 days?	<b>Yes</b>

**High Risk Diagnoses**

	First Filed Value
Do you have Diabetes?	<b>No</b>

**Polypharmacy / High Risk Medication**

	First Filed Value
Do you regularly take any medications to prevent blood clotting?	<b>No</b>
Do you take oral medication regularly to treat your chronic pain?	<b>No</b>

**Physical Dysfunction**

	First Filed Value
PT: Have you needed assistance recently with walking or getting out of bed?	<b>No</b>

**Psychiatric Complication**

	First Filed Value
Are you receiving or do you have a need of medical treatment for issues with depression, mood or anxiety?	<b>No</b>
Expressing suicidal/self harm thoughts without intent?	<b>No</b>

**Poor Health Literacy**

	First Filed Value
How often do you need to have someone help you when you read instructions, pamphlets or other written material from your doctor or pharmacy?	<b>Never - (Not at risk)</b>

# What is Care Coordination?

- *Care coordination is not a stand-alone service that ends at the practice or hospital's property line.*
- *It is a bridge to connect services across the greater care community, cementing the medical (health) home's foundation as the central hub of patient care and accountability.*
- *Includes not only the patient, but the patient's family and community.*

*- Agency for Healthcare Research and Quality*

# History of Case Management

Up until 1970's Model Community Based

Lillian Wald

- Nurse, 1891
- Dedicated her life to working in the community, specifically in juvenile asylums, later establishing the Henry Street settlement.
- Coordinated care for indigent children and families with health assistance and education.

1980's – DRG's, HMO's, HIV/AIDS, Medical Advancements

2000 & beyond – ACA, Value Based Purchasing, ACO's, Readmission penalties

CM: SW vs Nurse; varying levels of expertise

(Kersbergen, A. L. (1996, July/August). Case Management: A rich history of coordinating care to control costs. Nursing Outlook, 44(4).

# care coordination process

## Advanced Transitions of Care (ATOC)

**Patient Assessment / Risk Stratification**

**Inpatient Discharge planning**

**Post Discharge Follow up**

**Analytics**

**Project BOOST 8 P's:  
Owned by team**

**Multidisciplinary Team collaboration: MD, Nursing, CM, SW, TNS**

**Coordinate Transitions of Care between Care Settings**

**Capture and report on data & process, share information**

Principal / Problem Diagnosis

Polypharm / Problem meds

Prior ED / Hosp

Psychosocial / Prior function

Health Literacy

Outcomes

Patient

Plan of Care

Interventions

Assessments

**TNS**

Home Care

Physician

Nursing Home

Community

Hospital

# Transition Nurse Specialist

- Post MSN: CNS / NP
  - Blended role of Expert Nurse, Case Manager, Community Resource Liaison
- Eric Coleman's Model: Care Transitions Intervention
- Project RED
- Mary Naylor: Transition Care Model – uses APN's

# Comparison of Nurse Practitioner Standards & Practices vs Case Management Standards

## Legal Authority for NP Practice

NPs use standardized procedures to perform medical functions which overlap with MDs (CCR Section 1485).

Section 2725 of the Nursing Practice Act (NPA) provides authority for nursing functions essential to providing health care, for example:

- physical and mental assessment
- disease prevention and restorative measures
- initiation of emergency procedures

An expert nurse role

## Standards of Practice: Case Management

Minimizes fragmentation of care within the health care delivery system.

A collaborative process of **assessment, planning, facilitation, care coordination, evaluation, and advocacy** for options and services to meet an individual's and family's comprehensive health needs through communication and resources to promote quality cost effective outcomes.

# Advanced Transitions of Care (ATOC) - Transition Nurse Specialists (TNS)

***Transition Nurse Specialist*** is an innovative role using advanced practice nurses and combines expert clinical skills with standards of case management and community resources model.

Our Model:  
6 TNSs: 1 NP focusing on HIV/AIDS and 5 CNSs with present emphasis in MFFS Cardiology, COPD, Diabetes and ortho/ spine specialties.

Interventions addressing problem areas for high risk patient populations:

- In depth hospital interview
  - Identify need for pharmacy and CTI
- Phone calls addressing:
  - Medication reconciliation
  - Review of red flags for readmission
  - Develop a personal health record (PHR)
  - Establish goals and provide
- Coaching to shift patient to self-activation and management
  - Linkages to care
  - Community resources
  - Coordination for transportation and providers

ATOC / TNS Highlights:

- ✓ TNSs work with Primary Care Managers, specialty clinics and community clinics (appointments and handoffs)
- ✓ TNSs make post discharge follow up call within 48 hours post discharge
- ✓ TNSs work with skilled nursing facilities post discharge via follow up call and onsite visits
- ✓ TNS make home visits and provide feedback to physicians on findings
- ✓ Collect data in real time for process improvement and shared learning

**Ultimate goal is to provide handoff back to primary care providers, timely follow up with our specialists and linkage to Chronic Disease Case Managers ~~ moving towards a population health model.**

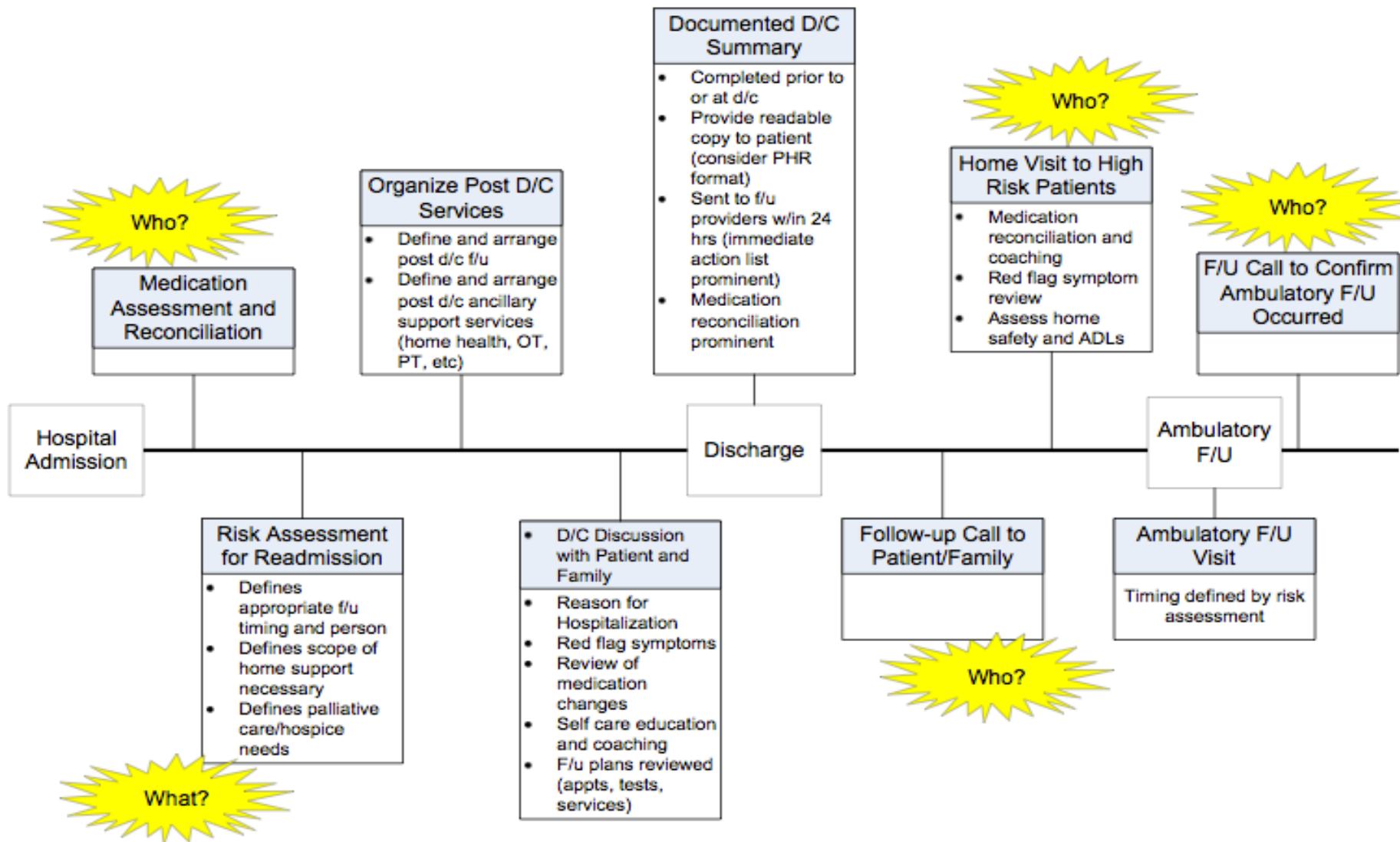


# Transition Nurse Specialist Team

*A small body of determined spirits fired by an unquenchable faith in their mission can alter the course of history.*

*Mahatma Gandhi*

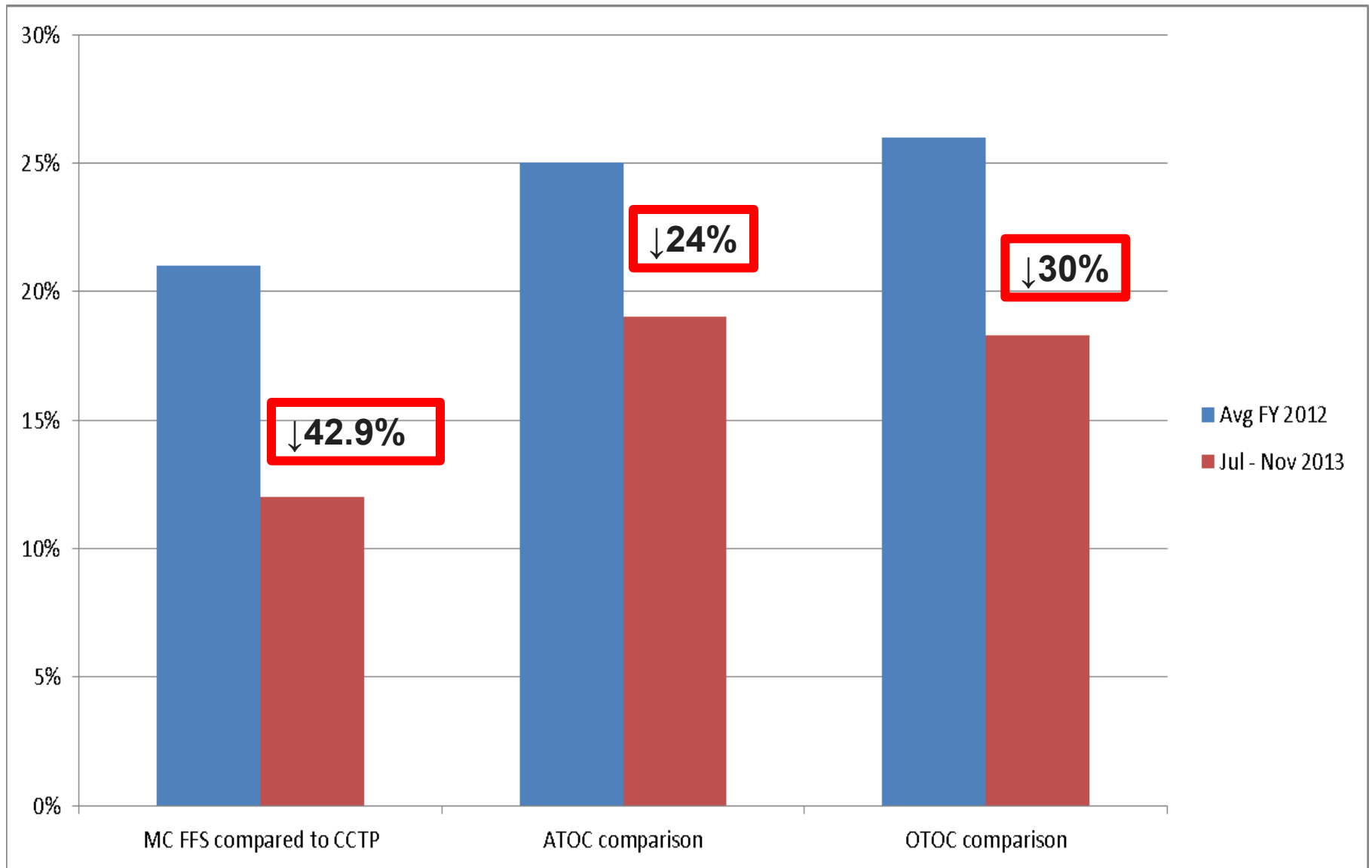




Courtesy of David Labby MD



# ATOC Reduction in Readmission



# HIV Overview

# HIV / AIDS Patient Population

- Only one in five patients diagnosed with HIV are on therapy with undetectable viral loads. Of the 1.2 million persons living with HIV in the US, 59% are linked to care, 40% of these are retained in care, 24% are on highly active anti-retroviral therapy (HAART), but only 19% have achieved our primary goal of reaching an undetectable HIV viral load
- 47% of all HIV+ discharged patients in San Diego County were hospitalized at UCSD
- 39% of HIV+/aware individuals did not receive any HIV primary medical care
- The Owen Clinic is the HIV primary care practice for the UCSDHS, serving 3,073 active HIV/AIDS patients and providing 24,880 visits making it one of the oldest and largest HIV clinics nationwide

Gardner EM, McLees MP, Steiner JF, Del Rio C, Burman WJ. The spectrum of engagement in HIV care and its relevance to test-and-treat strategies for prevention of HIV infection. *Clinical infectious diseases* : an official publication of the Infectious Diseases Society of America. 2011;52(6):793-800.

(The Ryan White HIV/AIDS Program Services Report 2011),

## Owen Clinic Transitions of Care (OTOC) Team

- Dedicated Transition Nurse Specialist/Nurse Practitioner
- Dedicated Pharmacist
- Physician
  - In-patient consult service
  - Weekly rotation

## OTOC TNS / NP

- Create inpatient HIV registry
- Initiate early case management for new inpatient HIV cases
  - educate
    - 20% of HIV+ people are not aware of their status
  - assess needs
  - link to care services, including funding
- Facilitate HIV care transition planning including the ambulatory medical home
- Coordinate discharge needs
- Provide timely linkage to the HIV medical home, whether at UCSDHS or within the community

# HIV

- Composed of two copies of positive single-stranded RNA
- This RNA codes for the viral genes
- Enclosed in a conical capsid, composed of viral protein p24
- Other viral proteins ensure the integrity of the viral particle, or virion
- Belongs to the Retrovirus family
- Two different strains (HIV-1 and HIV-2) exist, along with multiple subtypes, or *clades*
  - In the US, HIV-1, clade B predominates



# Transmission

- HIV transmission occurs when blood, semen (including pre-seminal fluid), vaginal fluid, or breast milk from an infected person enters the body of an uninfected person
- HIV can enter the body through a vein (e.g., injection drug use), the anus or rectum, the vagina, the penis, the mouth, other mucous membranes (e.g., eyes or inside of the nose), or cuts and sores (including needle sticks)
- Although HIV is present in *many* body fluids, transmission is not possible through exposure to these because of the enormous volumes required to be exchanged

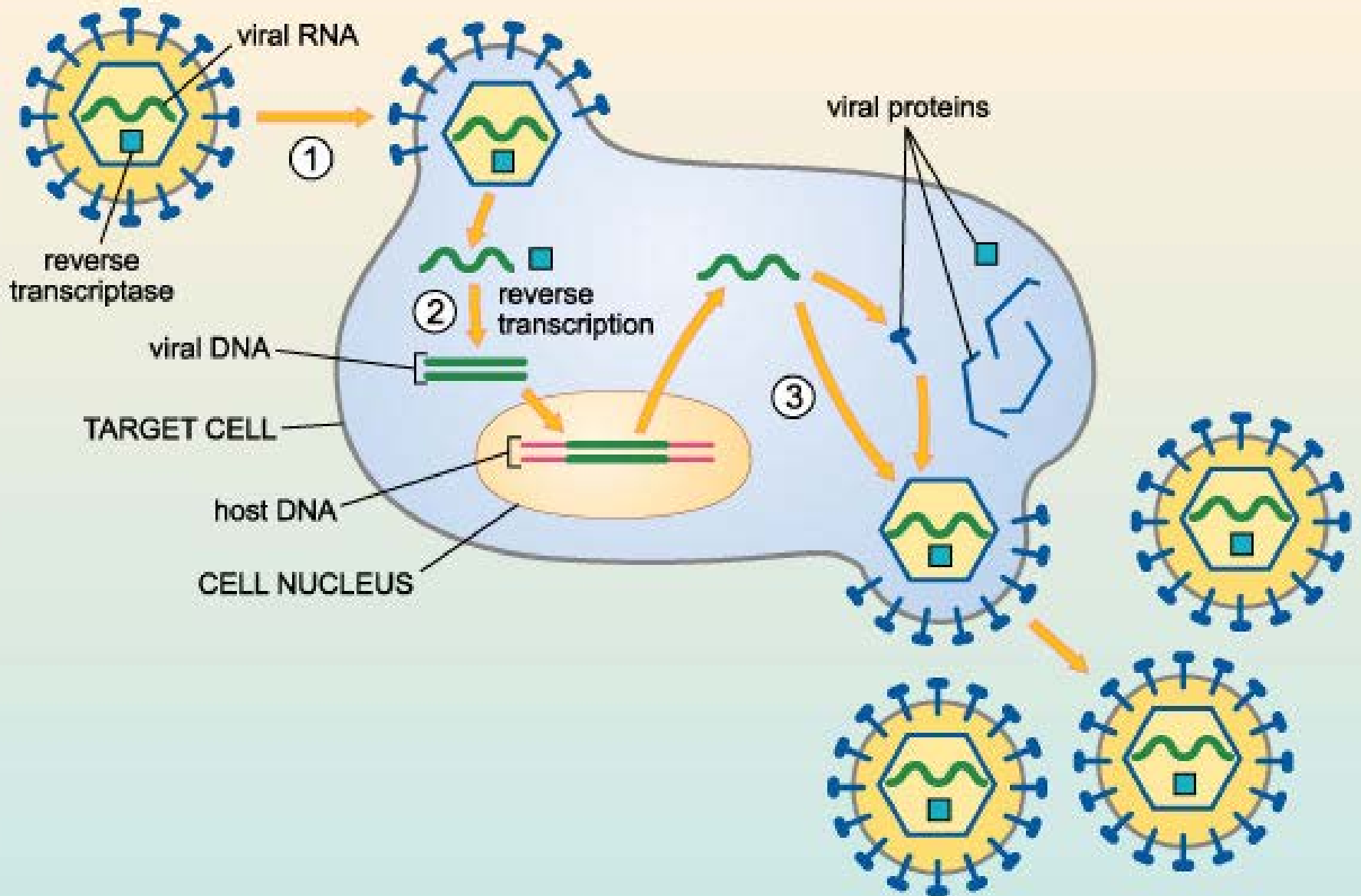
# Pathophysiology

- HIV protein attaches to CD4+ cell (a T-lymphocyte) and injects its RNA into cytoplasm
- Utilizing reverse transcriptase, HIV RNA is converted to DNA
- This DNA is imported into the cell's nucleus and integrated into cellular DNA
- Integration usually occurs within 72 hours of exposure, if transmission occurs

# Pathophysiology, cont.

- Once integrated, HIV is reproduced within the cell
- Budding occurs when infected virions are released from cell surface to infect other CD4+ cells
- HIV results in
  - Lymphocytopenia
  - Production of incomplete and nonfunctional Abs
- Within days of transition, HIV virus is detectable in the blood
  - HIV Ab test may remain negative for weeks-months following transmission

# Schematic: Viral Life Cycle



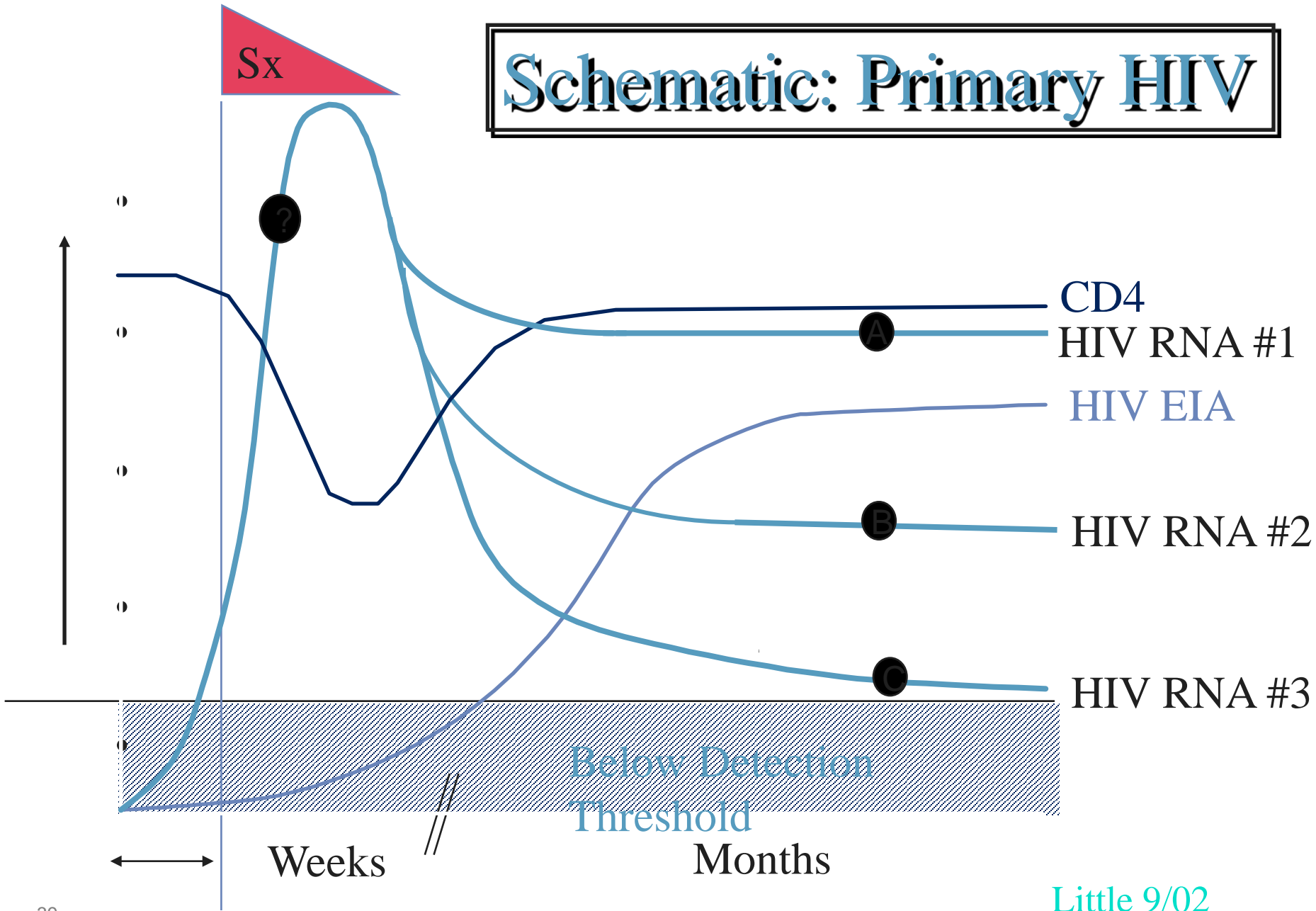
# Primary or Acute Infection

- Primary infection is the first stage in HIV disease, during which time HIV begins to establish itself in the body.
- *Acute* infection refers to period of time between when a person is infected and when he or she begins to produce antibodies to HIV, usually six to 12 weeks.
- During the acute infection stage, people will not test positive for HIV antibodies.

# Primary or Acute Infection

- Up to 70% of people newly infected with HIV will experience flu-like symptoms, including fevers, chills, night sweats, pharyngitis, and rashes
  - “The worse flu I ever had...”
- Degree of symptoms can often predict prognosis

# Schematic: Primary HIV



# Viral “Setpoint”

- HIV RNA >100,000 copies/ml
  - ~ 20%
  - Progression to AIDS 2-5 years
- HIV RNA 10,000-100,000 copies/ml
  - ~ 70%
  - Progression to AIDS 5-8 years
- HIV RNA <10,000 copies/ml
  - ~10%
  - Progression to AIDS 8-15 years



# HIV Disease Progression

- Infection begins when HIV enters into a CD4+ and begins reproducing
  - Infected CD4+ cells are eventually destroyed, thus weakening the immune system gradually
- After a latency period, during which there are no visible signs, the immune system begins to decline more rapidly, and symptoms of HIV begin to emerge

# HIV Disease Progression, cont.

- “AIDS” refers to the time when the immune system is severely damaged, as evidenced by one of the following:
  - A CD4+ helper count of less than 200 per cubic millimeter ( $\text{mm}^3$ ) of blood, or
  - The presence of certain opportunistic infections or malignancies that would not be found in someone with a normally functioning immune system

# Immune System Decline

- Immune decline is detectable through blood tests even before any actual symptoms might be experienced
- Once the immune system is damaged by HIV, infected persons will often experience many symptoms, including skin rashes, fevers, fatigue, weight loss, night sweats, thrush, neuropathy, dementia
- Every system can be affected

# AIDS

- Without medication or treatment, most people progress from HIV to AIDS within 8-10 years
- With treatment and medication, the onset of AIDS can be delayed
- A small percentage of people infected with HIV never progress to AIDS
  - Long-term non-progressors
    - ~1% of those infected
    - Asymptomatic, normal CD4 counts
  - Genetic factors, not fully understood

# Clinical Categories

- Clinical category **A**
  - HIV +, asymptomatic or few symptoms
- Clinical category **B**
  - HIV + with 1 or more HIV-related problems
- Clinical category **C**
  - HIV+ individual who has an AIDS diagnosis, by CDC's definition

# AIDS-Defining Conditions

- CD4 <200 mm, <15%
- AIDS wasting
  - Loss of 10% of body weight
- Opportunistic infections and/or tumors

# HIV Care

- HIV is now considered a manageable, chronic disease
- Progression to AIDS can be delayed, often indefinitely, with treatment
- Timing of treatment initiation varies
- Requires combination of medications to fully suppress, prevent resistance
  - Highly active antiretroviral therapy: “HAART”

# Treatment Initiation Considerations

- “Hit Hard, Hit Early”
  - Starting medications (HAART) shortly after transmission increases the chance of improved immune response
  - Maintains healthier CD4s, more robust immune system
- Watchful waiting
  - Since all medications have side effects, this school of thought suggests waiting until medically necessary



# HIV Treatment Guidelines

- Consider therapy if
  - CD4s >500
- Strongly consider HAART when
  - CD4s 350-500
  - VL >100,000
  - Complications or co-infections present
- Strongly consider HAART if
  - CD4s 200-350, regardless of VL
- Initiate HAART when:
  - CD4s <200 or < 15%
  - Symptomatic patient
  - Patients in serodiscordant relationships
- In the US: treat ALL patients with HIV, unless compelling reason to postpone

# Highly Active Antiretroviral Therapy (HAART)

- **Entry Inhibitors**
  - Interfere with either the fusion of HIV onto the CD4 cell or entry into the cell
- **NRTIs and NNRTIs**
  - Interfere at the first stage of viral replication, preventing the virus releasing into the cytoplasm
- **Integrase Inhibitors**
  - Inhibit ability of HIV to integrate into host's DNA
- **PIs**
  - Target the last stage of replication, interfering with the production of new virions

# Antiretrovirals and Prevention

- Universal access influences prevention by at least 3 levels
  - At the **biological** level, it reduces viral load in bodily fluids, making people living with HIV less likely to pass on their infection.
  - At the **behavioral** level, it encourages individuals to come forward for voluntary counseling and testing.
  - At the **operational** level, it is likely to lead to overall improvements in health systems and better integration of AIDS care.

# Further Prevention

- Testing
  - Transmission more likely to occur if status unknown
- Education
  - CDC programs
    - Prevention for Positives
    - “ABC”: Abstinence, Be faithful, use Condoms

# Monitoring Treatment Response

- HIV RNA PCR
  - Goal is “undetectable” or VL <20
  - HAART inhibits viral replication, but does not eliminate virus
- CD4
  - Goal is elevated CD4
- Chemistry panel
  - LFTs, Renal panel, Lipids, Glucose/HgbA1C
- CBC
  - Monitor for anemia, neutropenia

# Significance of Adherence

- 80-95% adherence to HAART necessary to achieve and sustain viral suppression, and to prevent treatment-limiting mutations
- Studies show that most people achieve 36-75% adherence to HAART in the long-term
- Potential factors affecting adherence include:
  - Complexity of regimen
  - Toxicities and side effects
  - Knowledge deficits
  - Psychosocial issues

# Goals of Therapy & Tools to Achieve Goals

- Improved quality of life
- Reduction of HIV-related morbidity and mortality
- Restoration and/or preservation of immunologic function
- Maximal and durable suppression of viral load
- Prevention of vertical transmission
- Prevention of transmission to sexual partners
- Selection of ARV regimen
- Preservation of future treatment options
- Maximizing adherence
- Use of resistance testing

# Complications

- Opportunistic Infections
- Superinfection
- Co-Infections
- Metabolic Syndrome
- Psychosocial Issues
- Neurological complications



# Opportunistic Infections

- Common opportunistic infections (OIs)
  - Tuberculosis
  - CMV (Cytomegalovirus)
  - MAC (Mycobacterium Avium Complex)
  - Pneumonia, both PJP(PCP) and bacterial
  - Toxoplasmosis
  - Cryptococcal meningitis
  - Candidiasis

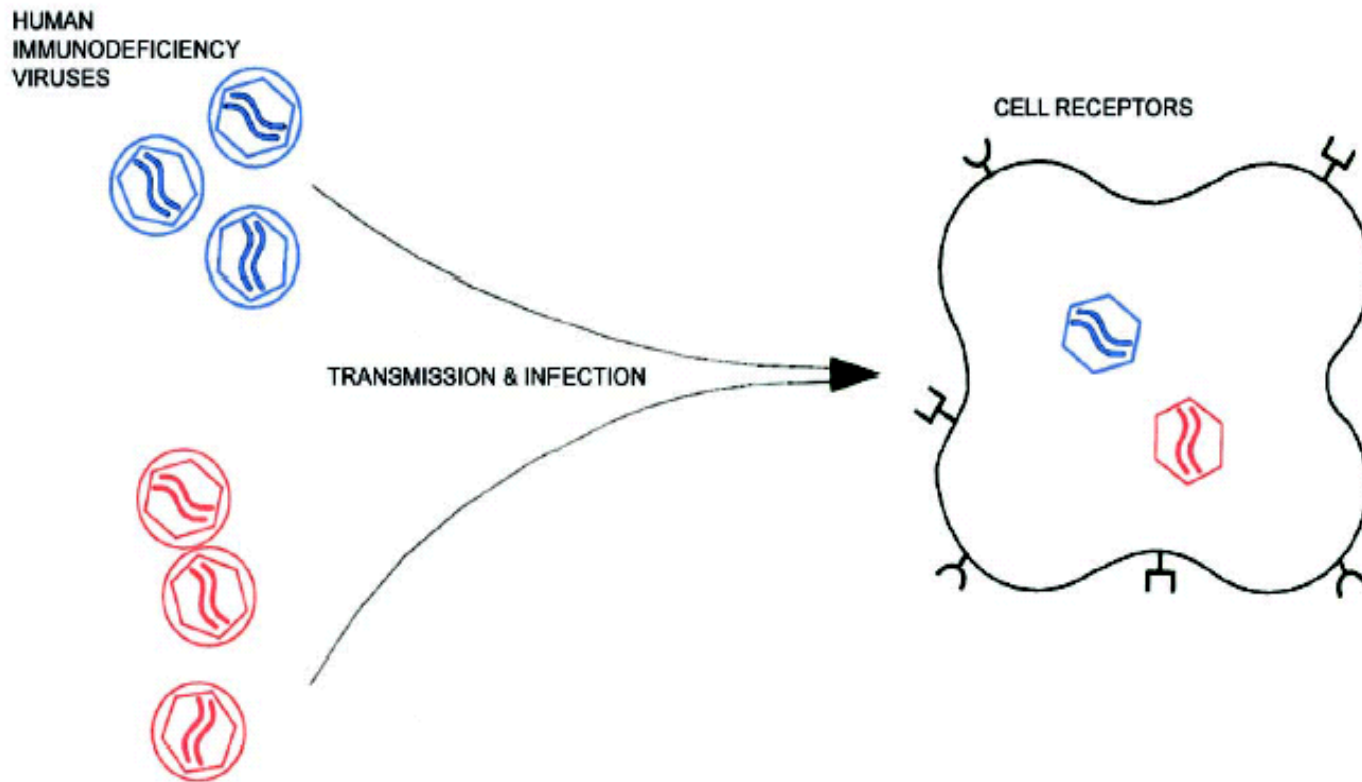
## O.I.s, continued

- Opportunistic Tumours
  - Kaposi's Sarcoma
  - Progressive Multifocal Leukoencephalopathy (PML)
  - Non-Hodgkin's Lymphoma
  - Cervical or anal dysplasia

# O.I.s, continued

- Prevention
  - Prophylaxis
    - Antibiotics to prevent PCP, MAC when CD4s drop
    - Antifungals to prevent thrush
    - Antivirals to prevent HSV outbreak
  - PAP smears
    - Cervical and anal
    - Follow-up colposcopy and/or biopsies as needed

# HIV SUPERINFECTION



**Figure 1.** Superinfection of the same cell with 2 genetically distinct strains of HIV is a necessary step for virus recombination to occur

# HIV/HCV

- Co-infection accelerates course of both diseases
  - More rapid progression to ESLD, AIDS
  - Higher viral loads of both infections
  - Increased infectivity potential
- Co-infection may make treatment more difficult, secondary to treatment-limiting side effects
- HIV/HCV co-infection is prevalent
  - 30-50% of HIV+ individuals co-infected with HCV

# HIV/HBV

- Up to 40% co-infection in endemic areas
- Complicates treatment
  - Medications overlap
  - Certain HIV medications may lead to HBV reactivation
  - Resistance may develop to medications

# Considerations

- All HIV+ individuals should be evaluated for HAV, HBV, HCV
- If not immune, all HIV+ individuals should be vaccinated against HAV, HBV

# STDs and HIV

- Increased transmission
  - Increased viral shedding
  - Especially true in presence of ulcerative disease
    - Syphilis, HSV
- Increased HIV viral load
- Increased complications
  - Need for more extensive, prolonged treatment of STD than if mono-infected



# Metabolic Syndromes

- Metabolic acidosis
  - Usually secondary to medications
  - Mitochondrial dysfunction leads to lactic acidosis
    - Fatigue, SOB, muscle aching/pain
  - Unchecked, this is fatal

# Metabolic Syndromes, continued

- Lipodystrophy
  - Fat redistribution syndrome
- Glucose intolerance
  - Frank diabetes
- Hyperlipidemia
  - May progress to cardiovascular disease

# Fat Redistribution Syndrome

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# Psychosocial Issues

- Depression
- Substance use/abuse
- Stigma
- Lack of social support

# Neurologic Complications

- Peripheral neuropathy
- Meningitis and encephalitis
- HZV (“shingles”)
- Cognitive impairment
- Progressive multi-focal leukoencephalopathy (PML)

# The HIV Transition Nurse Specialist/NP Role

- Ensure that patients have an HIV medical home of their preference
- Coordinate with inpatient pharmacists to provide a MedActionPlan
- Monitor all hospitalized HIV positive patients
  - Assess labs
    - Are they current?
    - Is patient undetectable?
  - Determine appropriateness of HIV medications
- Post discharge
  - Communicate with PCP re: hospital stay
  - Follow-up with discharged patient
    - Adherence to discharge plan
    - Follow-up visit with PCP within 7 days of discharge
    - Weekly calls, as needed, until linked into care

# Patients Served Since Onset of Program

- Data gathered from in-patients hospitalized between July – Dec 2013
- N= 283
- Demographics
  - Gender
  - Race/ethnicity
  - Age

# HIV / AIDS Patient Population

- 80% of HIV-positive people are aware of their status
  - 59% are linked to care
  - 40% of these are retained in care
  - 24% are on highly active anti-retroviral therapy (HAART)
  - 19% have achieved our primary goal of reaching an undetectable HIV viral load
- UCSD treats 47% of hospitalized HIV+ patients in San Diego County
- 39% of HIV+/aware individuals did not receive any HIV primary medical care
- Re-admission rates for the HIV population were 44% higher than the US general population

Gardner EM, McLees MP, Steiner JF, Del Rio C, Burman WJ. The spectrum of engagement in HIV care and its relevance to test-and-treat strategies for prevention of HIV infection. *Clinical infectious diseases* : an official publication of the Infectious Diseases Society of America. 2011;52(6):793-800.

(The Ryan White HIV/AIDS Program Services Report 2011),



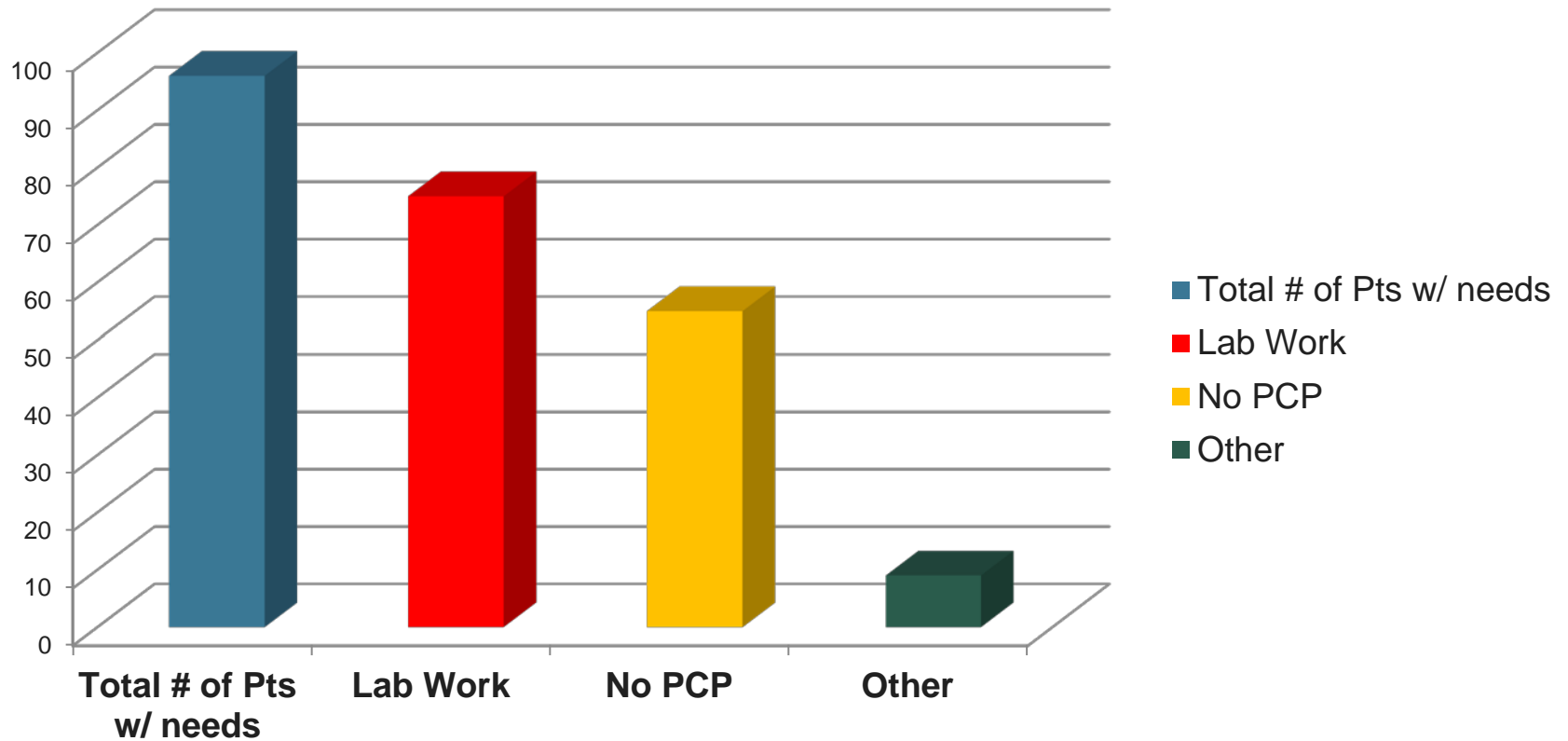
# RESULTS July-December 2013

- 283 patients were followed
  - 75% of the patients successfully linked to care within 7 days post discharge
- Readmissions
  - Decreased readmission rates 30%
  - Majority of readmissions (69%) were due to progression of illness

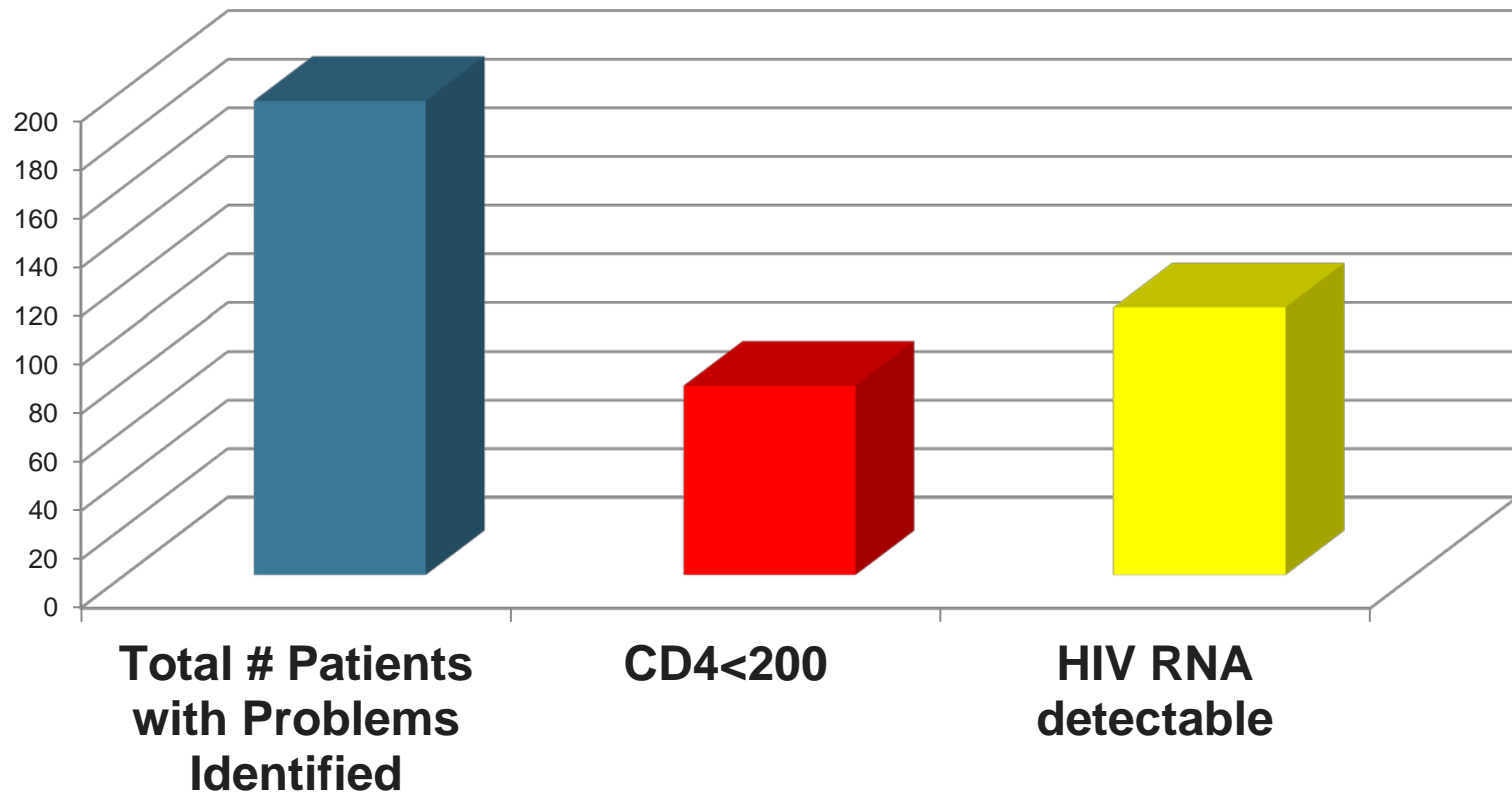
## RESULTS, cont.

- At least 50% of the patient population
  - Lacked social support and/or
  - Were homeless or temporarily housed
- Only 23% denied and/or had no documented psychiatric history
  - Psychiatric diagnoses
  - Substance abuse
- 80% of patients contacted post-discharge required further assistance / problem solving from TNS/NP

# Patients Identified With Additional Needs

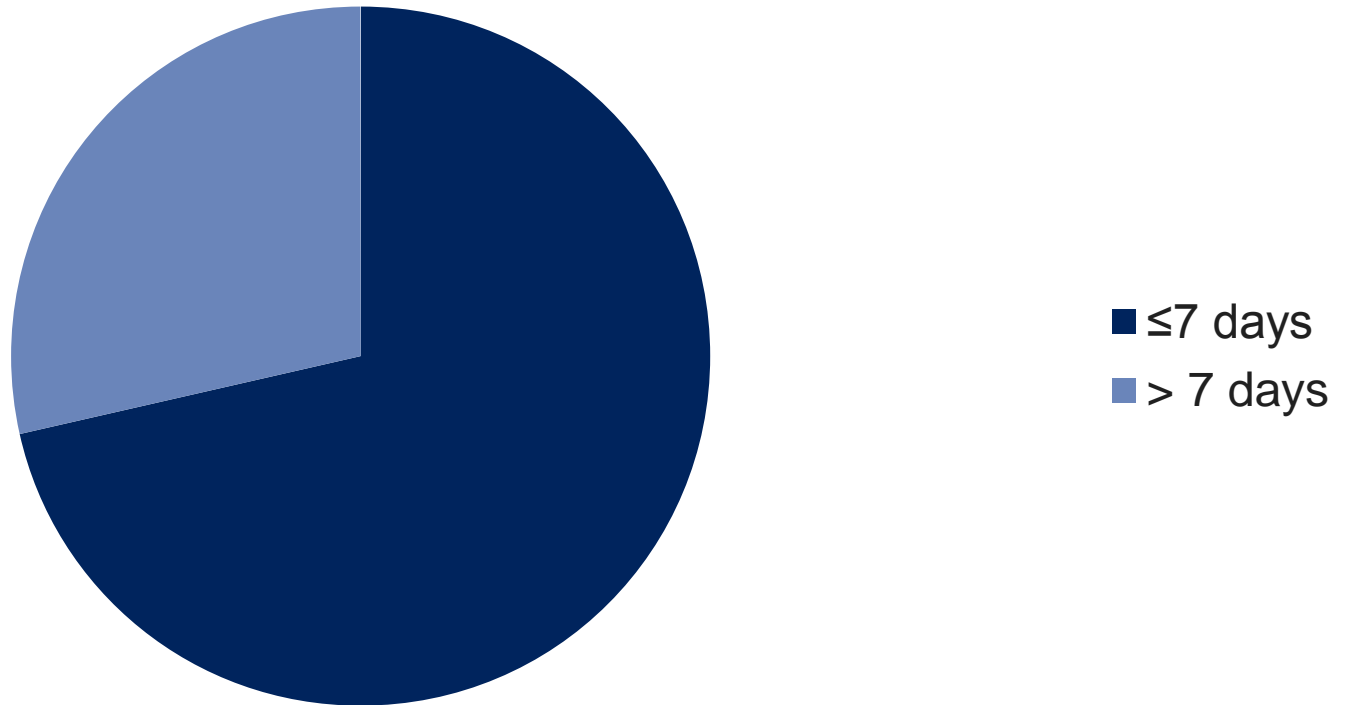


# Patients' Lab Work



# Linkage to Care

## Time to f/u appointment



# Case Study

- O.R. is a 59 y.o. Spanish-speaking patient
  - h/o HIV, HSV,. Condyloma
  - h/o SCC, NHL (in remission)
- Hospitalized 2012-2013
  - Multiple admissions, up to 5 months/episode
  - Required IV foscarnet for persistent scrotal lesions
  - Transitioned to Infusion Center mid-2013
    - Agitation at Infusion Center → readmission
  - Team: CM, IHSS, MD, Pharmacy, TNS/NP

# Additional Interventions: CTI Transition Coach / Pharmacy

On identified subset of patients

- Hospital visit
- Personal Health Record
- Home visit
- Follow up phone calls
- Coaching for self management

CTI Advanced intervention

- Homemaker, personal care attendants, transportation
- ✓ Communicates any concerns or problems to TNS/NP for resolution

# Innovations in Transitions of Care

## *Highlights:*

- Care Transitions Protocol
  - Standard of practice
  - Consistency
- Interdisciplinary Rounds
- Teach back
- Transition Coaches (TC)
- Transition Nurse Specialists (TNS)
- Pharmacist interventions
- Care Transitions Interventions (CTI)
- Post Discharge Follow up: Telephonic and home visits
- Linkage to care & timely follow



**GOAL: Utilizing NPs in TNS role to reduce preventable admissions, improve linkage to care, eliminate gaps across care continuum for improved patient outcomes**



# Future

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LOOKING  
TO THE  
FUTURE



## Future For Nurse Practitioners in Role

- Work with area Universities on developing nursing curriculum on Transitions of Care specific to this role
- Increase number of Nurse Practitioners in this TNS role with specific disease populations
- Utilize NPs to fullest scope of practice
- Integrate role into primary care setting
  - First post discharge follow up visit
  - Follow a panel of patients

# Questions / Comments

