Importance of Culture in Designing, Implementing, and Evaluating Prevention and Intervention Programs

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Acknowledgements: Melissa Hudmon & A. Jeanene Bengoa McCoy
Multiple Cultures
“Culture means a lot of things to each person and each of us are member of different cultures. All of us start with the culture of the families of whom we are born in to and of the larger community of which we are born, even the country of birth so that we are all given cultural settings and then we expand from there relative to memberships in various cultures.”
Studies of human variations have determined that there is no scientific basis for race and that “races” cannot be distinguished genetically.

- US Human Genome Program

This implies even greater importance of culture.
Maslow’s Hierarchy of Needs

- **Physiological**
  - Breathing, food, water, sex, sleep, homeostasis, excretion

- **Safety**
  - Security of: body, employment, resources, morality, the family, health, property

- **Love/belonging**
  - Friendship, family, sexual intimacy

- **Esteem**
  - Self-esteem, confidence, achievement, respect of others, respect by others

- **Self-actualization**
  - Morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts
Dr. McCoy’s Life and Career

* Born at home in Appalachian Mountains (the oldest mountains in the world)

* McCoys are listed in every Cherokee Census (eastern band)

* Has served as a teacher and mentor to many young researchers.
Most of my 45 years of a career as a social/behavioral scientist has been studying the role of culture relative to different persons and how they are affected with different behaviors within different cultures.

- Cincinnati
- University of Cincinnati
- University of Kentucky
- University of Miami
  - Substance Abuse
  - HIV/ADIS
  - Cancer
Cherokee Culture
Mingo Falls, known to Cherokees as *yon equo*, or Big Bear Falls
The Long Man

Gunahge asgaya—that means a long man. The river is the Long Man, with its head in the mountains and its feet in the sea. And its body grows as it goes along.

The river was highly respected because it saves all life. Because if we didn’t have water, everything would die—plants, animals, people. All things would be gone. It satisfies our thirst, provided a lot of our food like the fish and clawfish. And certain kinds of wild vegetables, wild salads grow along the streams, and then we survive on the salads.

And the Long Man was called upon for strength, for cleansing, for washing away sadness, for ailments. The water was used in so many ways. They had a lot of formulas and a lot of prayers that went over it.

When it needs more water, it begins to sing and sing and sing. And that’s when it’s calling for the water, praying to the sky for water. And sure enough it won’t be long until it starts to rain.

Jerry Wolfe, Cherokee elder

Springs bubble forth from the mountaintops in Great Smoky Mountains National Park. The springwater joins with rain and tumbles down these ancient slopes, creating rivers that grow ever larger, cycling and recycling through living things all along the journey to the Gulf of Mexico. There the water might be reborn in a cloud, which once again rains over the mountains.

Mountains are the wellspring for more than 80 percent of Earth’s surface water.

Uktena and Rattlesnake Mountain

Through the trees beyond the river, Rattlesnake Mountain overlooks the town of Cherokee. According to Cherokee tradition, a great medicine person named “Ground Hog’s Mother,” or Ogy unitisi, sought a magical crystal set like a blazing star in the forehead of the great poisonous serpent, Uktena. After many adventures, Ogy unitisi found Uktena asleep along a high mountain pass. He pierced Uktena’s heart with an arrow, and Uktena died, spitting poison. Ogy unitisi retrieved the crystal and became the most powerful medicine man of his time.

The Cherokees had a ceremonial ground and stickball field at the village of Nungnyi, on the east side of the Oconaluftee River. And from this field they could look up and sometimes, late in the winter, they would see the mountain light up with an orange light. And they said this was because the crystal from Uktena was buried there, and would cause the whole mountain to light up. And so this was a special place: Rattlesnake Mountain, and it still is a special place today.

Renee Owle, Cherokee storyteller

descendants of Uktena?

Two poisonous snakes do live here: the timber rattlesnake and the copperhead. Could they be relatives of Uktena, the great poisonous serpent?
Sequoyah
Traditions
Toward an Integrating Framework for Approaching Inter-disciplinary Multi-disciplinary Multi-site Health Studies on HIV, Substance Abuse Cancer and Other Related Diseases, Behaviors, and Intervention Strategies

**Goal:** Inter-disciplinary (Integration of the Multi-disciplinary studies)

**Disciplines:**

<table>
<thead>
<tr>
<th>Ology (Study)</th>
<th>Subspecialties (ion) (ics)</th>
<th>Health</th>
<th>Sites</th>
<th>Framework</th>
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<td>Ø Epidem</td>
<td>Ø Nutrit</td>
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<td>Ø Concept Theories</td>
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<td>Ø Rural- Belle Glade, Immokalee</td>
<td>Ø Paradigms</td>
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<td>Ø Community</td>
<td>Ø National, U.S.</td>
<td>Ø Models</td>
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<td>Ø Anthrop</td>
<td>Ø Prevent</td>
<td>Ø Hospital</td>
<td>Ø International – Puerto Rico; Brazil, Argentina; China; Costa Rica; Colombia</td>
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<td>Ø Primary</td>
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<td>Ø Non-profit</td>
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Multidisciplinary Sources/ Techniques
Interdisciplinary Approaches/ Analyses

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<tr>
<th>Community (Field)</th>
<th>Clinic</th>
<th>Laboratory</th>
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<tr>
<td>• “Street” Populations</td>
<td>• Risk Assessment</td>
<td>• Toxicology</td>
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<tr>
<td>• Shooting Galleries</td>
<td>• Drug</td>
<td>• Serology</td>
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<tr>
<td>• Needle Collection</td>
<td>• Sexual</td>
<td>• Cereology</td>
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<tr>
<td>• Direct Observation</td>
<td>• Biological Specimen</td>
<td>• Brian Bank</td>
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<tr>
<td>• Behavioral</td>
<td>• Sera</td>
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<tr>
<td>• Cultural</td>
<td>• Urine</td>
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</tr>
<tr>
<td>• Institutional Population</td>
<td>• Hair</td>
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<tr>
<td>• Drug RX</td>
<td>• Intervention</td>
<td>• Virology</td>
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<tr>
<td>• Criminal Justice</td>
<td>• Education</td>
<td></td>
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<tr>
<td>• Public/ Community Health</td>
<td>• Counseling</td>
<td></td>
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<tr>
<td>• Hospital</td>
<td>• Skills</td>
<td></td>
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<tr>
<td>• ER/ TRAUMA</td>
<td>• Longitudinal</td>
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<td></td>
<td>• Random Assignment</td>
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<td>• Pre-Post-Post</td>
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<td>• Skills Demo</td>
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<td>• Drug</td>
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<td>• Bleach</td>
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<td>• Sexual</td>
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<td>• Condom</td>
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</table>
Program Goals

• Provide excellence in research that focuses on high risk populations and influences public health policy & practice

• Utilize multi/trans-disciplinary scientists & strategies

• Design studies & interventions relative To risky practices among injecting & other drug users

• Disseminate relevant knowledge to scientists, policymakers, practitioners, & the community

No project is complete until it is published
Target Populations

**Drug-involved**
- High Risk
- Vulnerable
- Hard to Reach
- Hidden
- Stigmatized (Dual)
- Special Populations

**Defined by:**
- Gender Specific
- Age-specific
- Culturally-specific
- Migrants
- Immigrants
Other Study Populations

- Providers
- Health Care Institutions
- NGOs
- Drug Treatment Programs
- Drug Prevention Programs
- HIV Prevention Programs
- Criminal Justice
Program Sites

- Urban
- Rural
- Inner City
- Schools
- Multiple Sites Studies (NIH/CDC/Foundations)
- International
Assessment Center
Culture and Developing Prevention/Interventions

-Culture of Drug Abuse
-Risk of Injecting
-Cancer
HIV Seroprevalence across the Rural/Urban Continuum

Clyde B. McCoy, Ph.D.,* Lisa R. Metsch, Ph.D.,
H. Virginia McCoy, Ph.D., and Norman L. Weatherby, Ph.D.

Comprehensive Drug Research Center, Department of Epidemiology and Public Health, University of Miami School of Medicine, Miami, Florida, USA

DETERMINING THE ONSET OF MAMMOGRAPHY SCREENING: AGE, RACE/ETHNICITY AND FAMILY HISTORY OF BREAST CANCER

Clyde B. McCoy, Ph.D.1,3
Lisa R. Metsch, Ph.D.1,2,3
Eugene Komaroff, Ph.D.1,2,3
H. Virginia McCoy, Ph.D.1,4
Robert Arwyl, M.A.1,5
Joseph Zavertnik, M.D.1,3

A Comparison of the Efficacy of Two Interventions to Reduce HIV Risk Behaviors Among Drug Users

Clyde B. McCoy · Victor De Gruttola ·
Lisa Metsch · Mary Comerford

DRUG USE AMONG URBAN ETHNIC YOUTH
Appalachian and Other Comparisons

CLYDE B. McCOY
VIRGINIA McCOY WATKINS
University of Miami

Detection of HIV-1 DNA in Needle/Syringes, Paraphernalia, and Washes from Shooting Galleries in Miami: A Preliminary Laboratory Report

*Syed M. Shah, ††§§Paul Shapshak, *§§James E. Rivers, †Renée V. Stewart,
†Norman L. Weatherby, †§§Ke-Qin Xin, ††††J. Bryan Page, *‡‡Dale D. Chitwood,
‡‡‡‡Deborah C. Mash, ‡David Vlahov, and *§§Clyde B. McCoy
Culture of Substance Abuse & Injectors
“SHOOTING GALLERY” FOR INJECTING DRUGS

PARAPHERNALIA: Cooker, Match book, Syringe

“COOKING THE HIT.” Cotton, Bag with Drugs
“DRAWING” THE DRUG INTO THE SYRINGE

DRAWING BACK THE MIX ALONG WITH BLOOD

FRONT LOADING

BACK LOADING
SELF-INJECTION

ASSISTED INJECTION: Fresh start. Or “worn” veins.

DESPERATE INJECTION INTO ABSCESS

CLEANING THE “WORKS” – Blood in the rinse water
Elayne West

WEAR A RUBBER EVERY TIME YOU HAVE SEX...

CLEAN NEEDLES BEFORE EACH USE...

PROTECT YOURSELF FROM AIDS.
FEEL BETTER ABOUT YOURSELF!

BUT A MAN LIKE ME - I DON'T NEED THAT.

HEY MAN, YOU THINK LIFE IS LIKE THE MOVIES? WHERE'S YOUR HEAD? I'VE SEEN THE BIGGEST GUYS WASTED AWAY TO NOTHING IN THE HOSPITAL AND DEAD IN 18 MONTHS! YOU WOULDN'T BELIEVE YOUR EYES. GETTING THE AIDS MEANS BEING SICK AND WEAK, J.T. NOT STRONG ENOUGH TO GET HIGH OR DO ANYTHING ANYMORE. YOU JUST LAY THERE AND DIE. YOU DON'T WANT TO GO OUT LIKE THAT, MAN.

YOU'RE RIGHT, MAN. I DON'T WANT THAT NINJA!
Miami Model: Prevention of HIV Infection

Planning

Public Needs
- Adequate Health Care; Decrease Mortality; Decrease Risk Behaviors; Increase Prevention of HIV

Public Policy
- Change Priorities
  - Health Care System
  - Effective
  - Efficient
  - Sensitive
  - Monitoring

Program Objectives
- Assess extent of HIV
- Establish HIV Intervention with Outreach Component
- Decrease Risk Behavior
- Measure Outcomes

Implementation

Program Practices
- Provide Intervention Services
- Outcomes Counseling
- Testing Pre/Post Follow-up

Program Feedback

Evaluation

General Public Feedback

Determination of Social Costs and Benefits

Generalizability of Model

Other Inputs
- Rates
- Seropositivity
- Prevalence
- Incidence
- Behavioral Changes
- Protocol Compliance

Feedback

Society's Values
- Maintain High Quality of Life, Including Adequate Health Care
Lessons Learned

**Technology Transfer**


**Teaching and skills-demonstration training of disinfectant methods to IDUs should be a part of a total AIDS prevention effort to increase efficacy and compliance**


- **Needle hygiene practices are effective in reducing the risks of HIV- infection from injection paraphernalia**
  
  

- **Positive behavioral change among drug users is associated with reduction in seroincidence**
  
- **Interventions are effective in reducing the high risk of HIV/AIDS associated with injection and other drug-using behaviors**


- **Interventions are effective in reducing the high risk of HIV/AIDS associated with injection and other drug-using behaviors**


IRPG Intervention Timeline

Timeline:
- **Intake/Session 1**
  - (2-3 weeks)
  - Session 2
  - (1 day-1 weeks)
  - Session 3
  - (<10 working days)
  - Session 4
  - (30-45 days)
  - 1 mo. F-U
  - (30-40 days)
  - 3 mo. F-U
  - (90-120 days)
  - 6 mo. F-U
  - (180-240 days)

Assessment:
- Sex. Activities Knowledge Process 1: Rom
- Knowledge Process 1: Rom*
- Process 2: Grp
- Sex. Activities Knowledge Process 1: Rom
- Process 1: Rom
- Sex. Activities Knowledge Process 1: Rom
- Process 1: Rom

Intervention:
- **HIV Pretest Counseling**
- **HIV Posttest Counseling**
- Randomization (by day of week)
- **NIDA STD 1 (Group)**
- **Romance 1 (Group)**
- **NIDA STD 2 (Group)**
- **Romance 2 (Group)**

* May be administered prior to next session
Mobile Mammography
Increasing the Cancer Screening of the Medically Underserved in South Florida

Clyde B. McCoy, PhD, Beverly B. Nielsen, RN, EdD, Dale D. Chitwood, PhD, Joseph J. Zavertnik, MD, and Elizabeth L. Khoury, RN; MA

A community-based breast cancer screening program for medically underserved women: its effect on disease stage at diagnosis and on hazard of death

Clyde B. McCoy, Margaret Pereyras, Lisa R. Metsch, Fernando Collado-Mesa, Sarah E. Messiah, and Sandy Sears

Determining the Onset of Mammography Screening: Age, Race/Ethnicity and Family History of Breast Cancer

Clyde B. McCoy, Ph.D.1,2,3
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H. Virginia McCoy, Ph.D.1,4
Robert Anwyl, M.A.1,4
Joseph Zavertnik, M.D.1,4

Mobile Mammography: A Model Program for Medically Underserved Women

Clyde B. McCoy, PhD
Elizabeth L. Khoury, RN, MA
Lisa S. Hermanns, RN, MPH
Ladara Bankston
University of Miami School of Medicine
Miami, Florida

Effectiveness in Prevention

Increasing Breast Cancer Screening Among the Medically Underserved — Dade County, Florida, September 1988–May 1991

Centers for Disease Control

Mortality and Morbidity Weekly Report

April 26, 1991 / Vol. 40 / No. 16

251 Increasing Breast Cancer Screening Among the Medically Underserved — Dade County, Florida, September 1988–May 1991
264 Outbreaks of Rabies Among the Animals — United States, 1991
266 Foot-and-Mouth Disease Outbreaks in Domestic Cattle Caused by F. Infectious and SOV-192/70 — North Dakota, 1990

Effectiveness in Prevention

Increasing Breast Cancer Screening Among the Medically Underserved — Dade County, Florida, September 1987–March 1991
Figure 1. A cancer screening model for the medically underserved was used to promote discussion and development of program standards.
### Figure 1. EVALUATION DESIGN: GOALS, DATA, METHODS AND ANALYSIS

<table>
<thead>
<tr>
<th>Goal/Objectives</th>
<th>Sources of Data</th>
<th>Research Methods</th>
<th>Statistical Analysis</th>
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</thead>
<tbody>
<tr>
<td>A. Analyze conceptualization of model</td>
<td>Population data (U.S. Census) Mortality (Vital Statistics) Incidence and Staging</td>
<td>Diagnostic Analysis</td>
<td>Descriptive Statistics</td>
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<td></td>
<td>(FCDS, SEER) PHCC and EDP Surveys (KAPB) EDP and JMH Program Records Medical</td>
<td>Content Analysis</td>
<td>Cross-Sectional and Longitudinal Analysis</td>
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<tr>
<td></td>
<td>Records PHCC and JMH Consortium Minutes Focus Groups (Staff) Needs Assessments</td>
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<tr>
<td>A1. Conduct diagnostic analysis of model development</td>
<td>DETECT PHCC Survey EDP Survey</td>
<td>Case Control Study</td>
<td>Odds Ratios</td>
</tr>
<tr>
<td>a. Define/describe problem</td>
<td>Program Records DETECT JMH Records Focus Groups (patients and staff)</td>
<td></td>
<td>Logistic Regression</td>
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<tr>
<td>b. Operationalizing objectives</td>
<td>EDP Survey PHCC Survey Focus Groups (patients and staff)</td>
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<td>c. Define target population</td>
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<td>d. Develop model</td>
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<td>e. Specifying Delivery System</td>
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<td>B. Analyze implementation of model</td>
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<tr>
<td>AIM 2. Evaluate utilization patterns by comparing</td>
<td>DETECT PHCC Survey EDP Survey</td>
<td>Case Control Study</td>
<td>Odds Ratios</td>
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<tr>
<td>screenees/non-screenees</td>
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<td>Logistic Regression</td>
</tr>
<tr>
<td>AIM 3. Evaluate continuity of care</td>
<td>Program Records DETECT JMH Records Focus Groups (patients and staff)</td>
<td>Cohort/panel Study</td>
<td>Survival Analysis (Kaplan-Meier and Cox Model)</td>
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<td>(Tx follow-up, wait time, elapsed time, #visits,</td>
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<tr>
<td>Reasons for delay/wait)</td>
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<td>AIM 4. Evaluate PHCC and EDP patient satisfaction</td>
<td>EDP Survey PHCC Survey Focus Groups (patients and staff)</td>
<td>Case Control Study</td>
<td>Odds ratios</td>
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<td>comparing screenees/non-screenees</td>
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<td>Logistic Regression</td>
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<td>JMH Clinical Trials data</td>
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<td>Goal/Objectives</td>
<td>Sources of Data</td>
<td>Research Methods</td>
<td>Statistical Analysis</td>
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<tr>
<td>C. Assess effectiveness of the model Assessments of model utility:</td>
<td>DETECT</td>
<td>Quantitative comparisons of populations: Case-Control studies and comparisons of Screeners with:</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>AIM 5. Impact Studies</td>
<td>KAPB survey -- Dade county</td>
<td>PHCC clients (non-screeners)</td>
<td>Logistic Regression</td>
</tr>
<tr>
<td>a. Percent receiving mammograms</td>
<td>FCDS -- Dade county and Florida</td>
<td>FCDS</td>
<td>Multinomial Logistic Regression</td>
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<tr>
<td>b. Percent receiving 1st mammogram</td>
<td>JMH Tumor Registry</td>
<td>JMH Tumor Registry</td>
<td>Loglinear Modeling</td>
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<tr>
<td>c. Biopsy rates vs. screening</td>
<td>Vital Statistics (Dade county and Florida)</td>
<td>SEER</td>
<td>Survival Analysis (Kaplan-Meier and Cox Model)</td>
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<tr>
<td>d. Cancer detection rates/screening</td>
<td>SEER</td>
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<tr>
<td>e. EDP stage distribution (compared to FCDS and JMH unscreened populations)</td>
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<tr>
<td>f. Five-year survival</td>
<td>Program Records</td>
<td>Cost-benefit Analysis</td>
<td>Cost Modeling</td>
</tr>
<tr>
<td>AIM 6. Cost Analysis</td>
<td>JMH Records</td>
<td>Operations Research</td>
<td>Break-even Analysis</td>
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<tr>
<td>D. Evaluate generalizability of the model</td>
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<td>Case Control Study</td>
<td></td>
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<tr>
<td>AIM 7. Generalizability of model</td>
<td>Program Records</td>
<td>Quantitative and Qualitative methods</td>
<td>Summary Statistics</td>
</tr>
<tr>
<td>AIM 8. Generalizability of guidelines</td>
<td>All evaluation data, reports, records, and Operations Manuals Focus Groups</td>
<td>Process Evaluation</td>
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<td>AIM 9. Dissemination of findings</td>
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DETECT = Data collected in EDP program
FCDS = Florida Cancer Data System (Florida's tumor registry)
PHCC Survey = KAPB survey of PHCC patients who did not use EDP (non-screeners), including patient satisfaction
EDP Survey = KAPB survey of PHCC patients who participated in EDP (screeners), including patient satisfaction
Intervention Methodologies
Intervention & Evaluation Designs

- **Qualitative**
  - Framing the appropriate questions, instruments, locales, etc.
  - Putting flesh on the bones of statistics

- **Quantitative**
  - RCTs (Randomized Control Trials-- clinical & community
  - Other appropriate evaluation standards and protocols where RCTs are not appropriate.
Available Resources

- A Large Multi-disciplinary Team Of Published Scientists
- 100s Of Projects And Investigators For More Than Two Decades
- Intervention Models, Manuals, And Evidence-based Promotional Materials Developed With Input From Risk Groups
- National And International Partners
- Graduate And Medical School HIV/AIDS-specific Curriculum
- Certificate Programs
Spectrum of Risks

Spectrum of Interventions

- Multiple Strategies
- Research based
- Public Health
- Effectiveness
- Efficacy
- Efficiency
- Compliance

- Outreach
- Indigenous
- Proactive
- Culturally Sensitive
- Culturally Relevant
- Multi/Trans-Disciplinary
Spectrum of Risks

Risk Population
- IDUs
- Crack Smokers
- Sex - Partners
  - Workers
- Children

Risk Locales
- Shooting Galleries
- Crack Dens
- House of Prostitution
- Bath Houses
- Streets/Neighborhoods

Sharing practices
- Drugs
- Paraphernalia
- Sex

Evaluation
- Risk Assessment
  - Seroprevalence
  - Seroincidence
- Risk Reduction
- Compliance
- Behavior Change

Public Health Outreach and Intervention
- Identification
- Location
- Assessment
- Aggressive Recruitment/Enrollment
- HIV Testing
- Education / Counseling
- Follow-up

Protective Behaviors
- Cessation / Reduction of Drug Use
- Needle Hygiene
- Paraphernalia Hygiene
- Condom Use
Spectrum of Intervention Goals/Outcomes
Eliminate/Reduce Risks (Increase Protection)

Chronic Drug Use
- IDU
- CDU

Drug Treatment
- Detox
- Methadone Maintenance
- Out Patient
- Residential

Sharing
- Dirty Paraphernalia
  - Needle/Syringe
  - Cookers/Cottons/Water
  - Disinfect
  - Sterile
  - Syringe
  - Bleach
  - NEP
  - Pharmacy

Dirty Drugs
- Front loading
- Back loading

Drug Partners
- Drug Partners
- Sex Partners

Unsafe Sex
- Condom Use
- Safe Sex
- Abstinence

Incidence
- Ecology
  - Spatial
    - Demographic
- Outreach
  - Locales
  - Targeting

Health Promotion
- Education
- Counseling
- Medical Technology

Compliance
Evaluation
Outcome Process

Dirty - Previously experienced with someone else
Lessons Learned

- Drug Abusers can change behavior
- Drug Abusers can be compliant
- Sex behaviors have been more difficult to change than drug behaviors
- Behavioral Research has made important contributions in increasing an understanding of its role in Public Health
- Public Health models are changing to include lifestyle factors
- Community partnerships are necessary for conducting successful and relevant research
China

- “No Pain No Gain, Establishing the Kunming, China Drug Rehabilitation Center” (McCoy et al., 1997)
- “Reawakening the Dragon: Changing Patterns of Substance Abuse in China and Asia” (McCoy et al., 1998)
- “Slaying the Dragon” (McCoy, 2003)
Costa Rica
Health Services Model
HEALTH SERVICES MODEL

Step 1: OUTREACH to CDUs
- CONTACT AND RECRUITMENT
- SCREENING FOR DRUG USE, ALCOHOL, COMMON MENTAL DISORDERS, HIV/AIDS, HEPATITIS, STDs
- EDUCATION ON HEALTHCARE SYSTEM, SCREENING RESULTS
- FACILITATED ACCESS TO STEP 2 PRIMARY CARE

Step 2: PRIMARY CARE
- COMPLETED REFERRAL
- MEDICAL ENCOUNTER, MEDICAL HISTORY, PHYSICAL DIAGNOSIS, LABORATORY TESTS
- EDUCATION ON HEALTHCARE SYSTEM, RISK FACTORS, PRESCRIBED TREATMENTS
- REFERRAL(S) TO SPECIALTY CARE

Step 3: SPECIALTY CARE
- COMPLETED REFERRALS
- SUBSTANCE ABUSE TREATMENT, DRUG ABUSE, ALCOHOL ABUSE
- MENTAL HEALTH TREATMENT, DEPRESSION, PTSD, ANXIETY DISORDERS, PERSONALITY DISORDERS
- HIV/AIDS TREATMENT
SBIRT: Screening, Brief Intervention, Referral to Treatment

**Step 1: OUTREACH to CDUs**
- CONTACT AND RECRUITMENT
- SCREENING FOR DRUG USE, ALCOHOL, COMMON MENTAL DISORDERS, HIV/AIDS, HEPATITIS, STDS
- EDUCATION ON HEALTHCARE SYSTEM, SCREENING RESULTS
- FACILITATED ACCESS TO STEP 2 PRIMARY CARE

**Screening**

**Step 2: PRIMARY CARE**
- COMPLETED REFERRAL
- MEDICAL ENCOUNTER: MEDICAL HISTORY, PHYSICAL DIAGNOSIS, LABORATORY TESTS
- EDUCATION ON HEALTHCARE SYSTEM: RISK FACTORS, PRESCRIBED TREATMENTS
- REFERRAL(S) TO SPECIALTY CARE

**Step 3: SPECIALTY CARE**
- COMPLETED REFERRALS
  - SUBSTANCE ABUSE TREATMENT: DRUG ABUSE, ALCOHOL ABUSE
  - MENTAL HEALTH TREATMENT: DEPRESSION, PTSD, ANXIETY DISORDERS, PERSONALITY DISORDERS
  - HIV/AIDS TREATMENT

**Referral to Treatment**
CONTACT AND RECRUITMENT

STTR: Seek, Test, Treat, Retain

SCRENNING FOR DRUG USE, ALCOHOL, COMMON MENTAL DISORDERS, HIV/AIDS, HEPATITIS, STDs

EDUCATION ON HEALTHCARE SYSTEM, SCREENING RESULTS

FACILITATED ACCESS TO STEP 2 PRIMARY CARE

Step 1: OUTREACH to CDUs

Step 2: PRIMARY CARE

COMPLETED REFERRAL

MEDICAL ENCOUNTER
  MEDICAL HISTORY
  PHYSICAL DIAGNOSIS
  LABORATORY TESTS

EDUCATION ON HEALTHCARE SYSTEM
  RISK FACTORS
  PRESCRIBED TREATMENTS

REFERRAL(S) TO SPECIALTY CARE

Step 3: SPECIALTY CARE

COMPLETED REFERRALS

SUBSTANCE ABUSE TREATMENT
  DRUG ABUSE
  ALCOHOL ABUSE

MENTAL HEALTH TREATMENT
  DEPRESSION
  PTSD, ANXIETY DISORDERS
  PERSONALITY DISORDERS

HIV/AIDS TREATMENT

Test

Seek

Medical Meeting

Physical Diagnosis

Laboratory Tests

Risk Factors

Prescribed Treatments

Referral(s) to Specialty Care

Treat

Retain
Technology Innovations

Step 1: OUTREACH to CDUs
- CONTACT AND RECRUITMENT
- SCREENING FOR DRUG USE, ALCOHOL, COMMON MENTAL DISORDERS, HIV/AIDS, HEPATITIS, STDs
- EDUCATION ON HEALTHCARE SYSTEM SCREENING RESULTS
- FACILITATED ACCESS TO STEP 2 PRIMARY CARE

Step 2: PRIMARY CARE
- COMPLETED REFERRAL
- MEDICAL ENCOUNTER
  - MEDICAL HISTORY
  - PHYSICAL DIAGNOSIS
  - LABORATORY TESTS
- EDUCATION ON HEALTHCARE SYSTEM
  - RISK FACTORS
  - PRESCRIBED TREATMENTS
- REFERRAL(S) TO SPECIALTY CARE

Step 3: SPECIALTY CARE
- COMPLETED REFERRALS
  - SUBSTANCE ABUSE TREATMENT
    - DRUG ABUSE
    - ALCOHOL ABUSE
  - MENTAL HEALTH TREATMENT
    - DEPRESSION
    - PTSD, ANXIETY DISORDERS
    - PERSONALITY DISORDERS
  - HIV/AIDS TREATMENT

Telemedicine Case Conference

Tablet-based Case Files
Screening Algorithms
Clinical Referral Consultation
# Ecological POET Model

<table>
<thead>
<tr>
<th>Population</th>
<th>Organization</th>
<th>Environment</th>
<th>Technology</th>
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<tbody>
<tr>
<td>• Size</td>
<td>• Leadership</td>
<td>• Resources</td>
<td>• Resources</td>
</tr>
<tr>
<td>• Density</td>
<td>• How we organize</td>
<td>• Physical</td>
<td>• Brain Power</td>
</tr>
<tr>
<td>• Demographic Characteristics</td>
<td>• NEEDS</td>
<td>• Social</td>
<td>• Utilization for Organizing</td>
</tr>
<tr>
<td>• Culture that Distinguishes vs. Genetic Composition</td>
<td>• WANTS</td>
<td>• Behavioral</td>
<td>• Most Effectively, Efficiently, Conveniently</td>
</tr>
<tr>
<td>• Cultural Identity</td>
<td>• EXPECTATIONS</td>
<td>• Cultural</td>
<td>• Accomplish Goals for meeting Needs, Wants, Expectations</td>
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<tr>
<td>• Cultural Stimuli</td>
<td>• Resources</td>
<td>• Psychological</td>
<td>•</td>
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<tr>
<td>➢ 500 Registered Federal Tribes</td>
<td>• Human Capital</td>
<td>•</td>
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<tr>
<td>➢ 400 million Urban &amp; other</td>
<td>• Limited type of Organizations</td>
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<tr>
<td></td>
<td>➢ Family Units</td>
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<tr>
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<td>➢ Institutions/ Government</td>
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<tr>
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<td>➢ Religions</td>
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<td>➢ Traditions</td>
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<td></td>
<td>➢ Rules, Roles, Relationships</td>
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<tr>
<td></td>
<td>➢ Career, Professions</td>
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