

# The Transprofessional Model of Care for HIV/AIDS: An Evaluation of the Model

Visiting Nurse Association Foundation  
Formerly the Visiting Nurse Association of Los Angeles  
Evaluation by The Measurement Group



# Visiting Nurse Association Foundation

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- ✦ Principal Investigator
  - ✦ W. June Simmons, M.S.W.
- ✦ Project Director
  - ✦ Kristine Hillary, P.H.N., M.S.N.
- ✦ Administrator
  - ✦ David A. Cherin, Ph.D.
- ✦ Local Evaluators - The Measurement Group
  - ✦ G. J. Huba, Ph.D.
  - ✦ Diana E. Brief, Ph.D.
  - ✦ Lisa A. Melchior, Ph.D.



# The Need for a New Model

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- ✦ AIDS is a leading cause of death among men and women aged 25-44 years
- ✦ The terminal phase of HIV/AIDS is often lingering and unpredictable
  - ✦ The treatment and service delivery costs are high for the chronic terminal care of HIV/AIDS, similar to that of other chronic terminal illnesses



# Standard Model of Home Care

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- ✦ Service providers in the Standard Model are not a closely-meshed treatment team
  - ✦ Patients must transfer care teams between medical, surgical, and hospice services
- ✦ The focus of care is dichotomized between biological and psychosocial concerns
  - ✦ Care is focused on curative rather than palliative services to patients
- ✦ As a result of the split intent, costs are high and the quality of life for patients suffers



# Critique of the Standard Model

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- ✦ Services are focused on a standard medical model of care
- ✦ The patient is not necessarily moved toward hospice care as the disease progresses
- ✦ The psychosocial needs of the patient are not a central part of the overall care strategy
- ✦ Psychosocial services that are provided to the patient are delivered by a separate group of providers



# The Transprofessional Model

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A response of the Visiting Nurse Association of Los Angeles to limitations in the Standard Home Care Model when used with AIDS patients



# Transprofessional Model [I]

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- ☛ The Transprofessional care team features blended intent
  - ☛ The care team has training in both acute medical surgical services and palliative care
- ☛ The Transprofessional care team features blended competencies
  - ☛ The care team has training in both the medical and psychosocial issues confronting HIV/AIDS patients
- ☛ Professionals are provided with a holistic view of individual patients



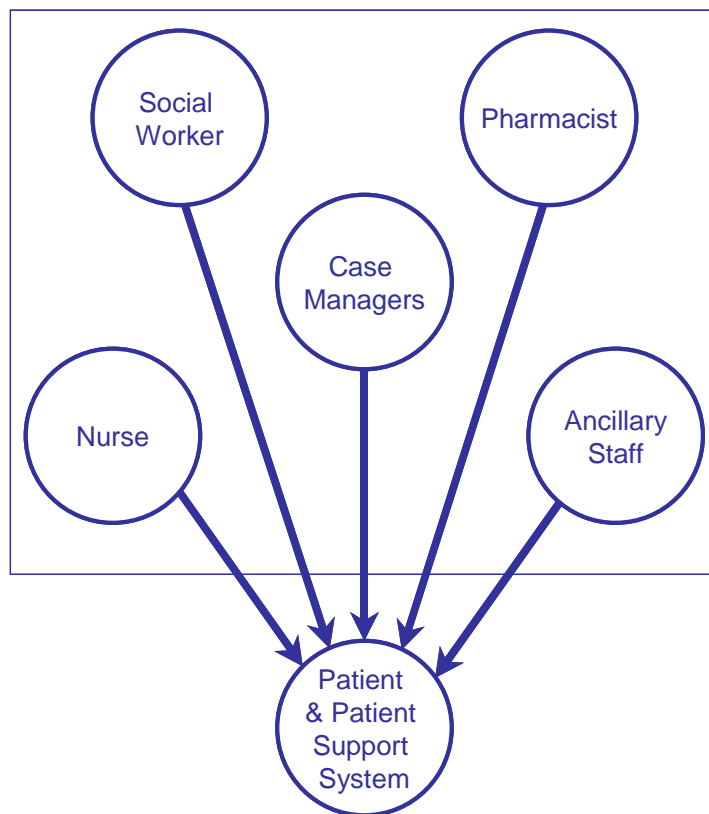
## Transprofessional Model [II]

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- ✦ A team approach to treatment is the centerpiece of the model
  - ✦ Services are coordinated through the use of a case manager to develop an integrated system of blended care
  - ✦ Continuity of home care services from medical surgical nursing to hospice care is provided by a nurse and social worker
- ✦ Patients, once assigned for service, remain with the same care giving team

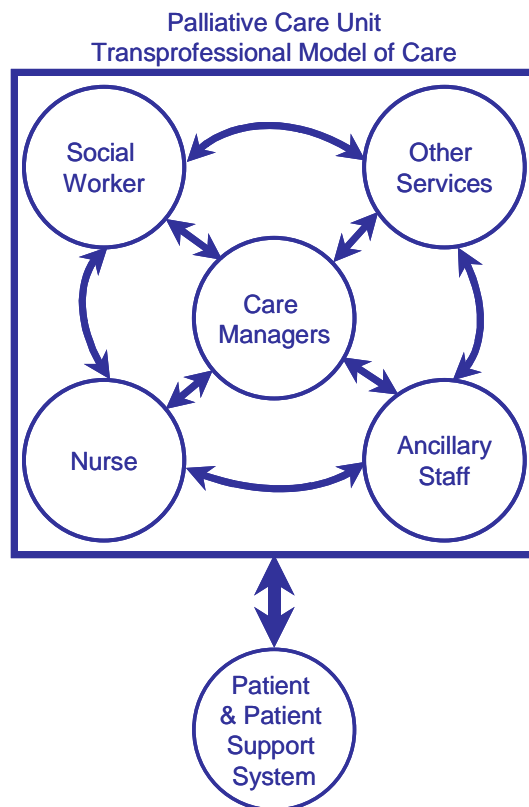
# Standard Model of Home Care

Standard Model of Care



- Providers often work independently
- Providers are loosely coordinated by a nurse case manager
- Services are often duplicated and providers often do not focus on biopsychological services
- The service provision episode may be inefficient

# Transprofessional Model



In the Transprofessional Model, all providers coordinate care and combine psychosocial services into an integrated system of blended care. This is more effective and efficient.

- All providers coordinate care
- Biopsychological services are combined into an integrated system of care
- There is an active system of case management that links all providers
- The model may be more effective and efficient

# Comparison of the Transprofessional and Standard Models



Quality of Services  
Cost of Services  
Transition to Hospice  
Quality of Life



# Purpose of the VNA-LA Project

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- To evaluate models of home-based, end-stage care for HIV/AIDS patients
  - Study costs of end-stage care, patient involvement in the care process, and quality of life for patients under the two models of care
  - Develop a capitated model of home-based care for end-stage patients
  - Look at the potential for integration of a Transprofessional Model of end-stage care into care for HIV/AIDS patients



# Design of Model Comparison [I]

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- ✦ Patients were randomly assigned to treatment under the Transprofessional Model or the Standard Model of Home Care
  - ✦ Random assignment in a “true” experimental design
- ✦ All seven offices of the VNA-LA were used to ensure a broad range of patients and providers
- ✦ Providers and procedures were monitored from the VNA-LA Central Office by the Project Manager and the Clinical Supervisor



## Design of Model Comparison [II]

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- ☛ Data were gathered on costs, quality of life, disease conditions, and quality of care
  - ☛ Data recoded from the VNA-LA management information system
    - ☛ Direct download of the data to the computers of the Local Evaluator
  - ☛ Data modules developed for the project by the Project Manager and the Local Evaluator
  - ☛ Data modules developed for the SPNS Cooperative Agreement Projects by the Local/National Evaluator
- ☛ Routine medical record reviews



# Study Research Hypotheses [I]

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- ☛ It was hypothesized that the Transprofessional Model of home care would produce the following changes
  - ☛ Introduce a difference in the types of providers delivering care to terminal AIDS patients
  - ☛ Reduce duplication of services
  - ☛ Bring into the treatment process a sharing of care between nurses and social workers
  - ☛ Reduce visit and supply costs during the entire episode of home care for end-stage HIV/AIDS patients



# Study Research Hypotheses [II]

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- ☛ It was further hypothesized that the Transprofessional Model of home care would produce the following changes
  - ☛ Offer a greater potential for patients to have a voice in their care decisions
  - ☛ Be more effective in helping patients communicate about their disease, diagnosis, and prognosis
  - ☛ Demonstrate a higher quality of life for patients during the entire episode of home care
  - ☛ Have more timely admissions to hospice



# Operational Variables [I]

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- ☛ Quality of Life

- ☛ RAND SF-21 [Module 17]

- ☛ Costs

- ☛ Home visits, supplies, equipment, tests and medications

- ☛ Quality of Services

- ☛ Reid-Gundlach Service Agency Questionnaire

- ☛ Demographics

- ☛ SPNS Cooperative Agreement Module 1



# Operational Variables [II]

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- ☛ Disease Conditions

- ☛ Johns Hopkins Medical Center Model  
[John Bartlett, M.D.]

- ☛ Services

- ☛ VNA-LA Management Information System



# Data Collection Methods

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- Patients are called by phone once a month to discuss the quality of the services they received and their quality of life
- Data on costs are taken monthly from MIS and transferred to The Measurement Group
- Patient medical records are reviewed monthly
- Case conferences are held monthly with physicians and case managers



# Implementation of the Project

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- ✦ The study sample consists of 549 patients in service with Visiting Nurse Association of Los Angeles
  - ✦ Patients were referred to home care services during the period between August 1, 1995 and April 30, 1997
- ✦ Data were gathered from patients' admitting records and a review of patients' medical service records from VNA-LA's in-house data system

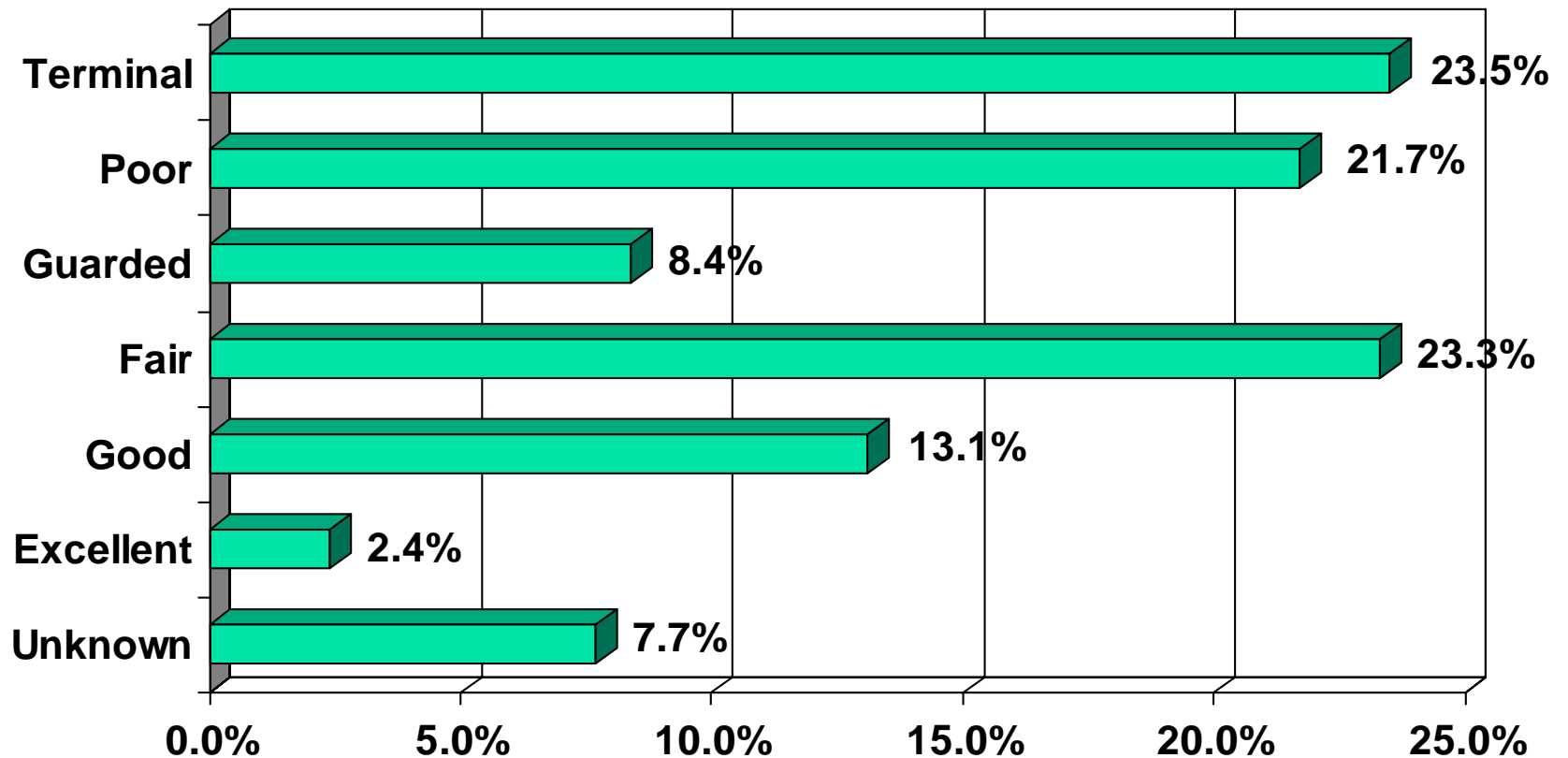


# Patient Base for Comparison

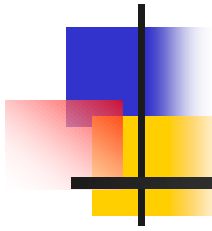
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- ☛ Total patient base
  - ☛ 201 patients assigned to the Transprofessional Model
  - ☛ 348 patients assigned to the Standard Model
- ☛ No major difference in demographics between the two groups
  - ☛ Total population was 88.0% male
  - ☛ Average age was 38.7 years
  - ☛ Ethnicity was 20.0% African American, 1.5% Asian American, 44.4% Caucasian, and 34.1% Latino

# Patient Prognosis at Intake [Clinical Judgment]



# Results Comparing the Transprofessional and Standard Models



## Bottom-Line Conclusion

The Transprofessional Model has a more effective mix of services, a labor cost savings of 8%, and a per-month savings of \$1,340 in pharmacy costs



# Notes for Statistical Analyses

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- ✦ Because the data are not normally distributed, significance tests were done on both “raw” and “transformed scores”
  - ✦ In general both sets of analyses have the same conclusion [and if they do not, this is noted]; significance levels from transformed scores are reported
- ✦ Multivariate tests were done to correct for the number of univariate statistical tests conducted

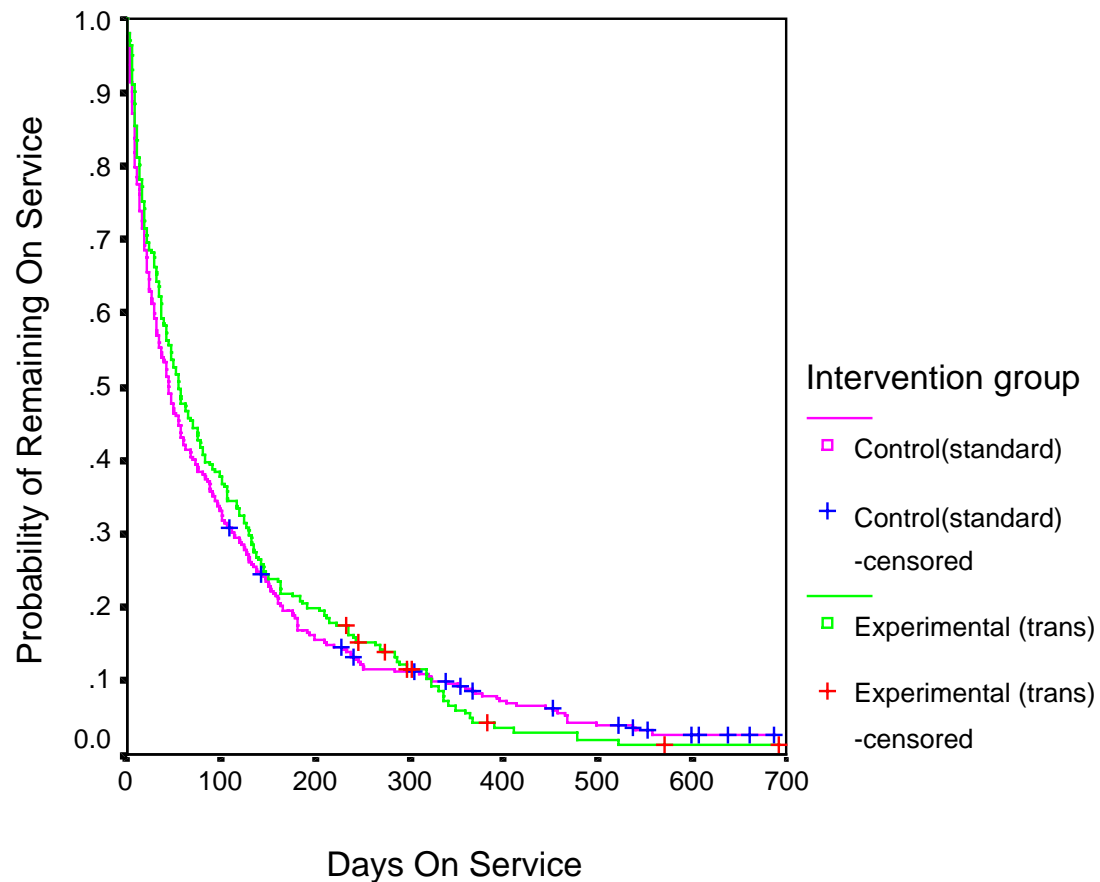


# Days on Service

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- ✦ The Transprofessional Patients were on service an average of 109.9 days [SE=8.4 days]
- ✦ The Standard Model Patients were on service an average of 112.2 days [SE=9.7 days]
  - ✦ The mean difference is not significant
- ✦ Cox regression models show different retention patterns for the two models
  - ✦ After 300 days, Transprofessional Model clients leave the service sooner as they transition to hospice

# Retention Curves for Patients Under the Two Models of Care



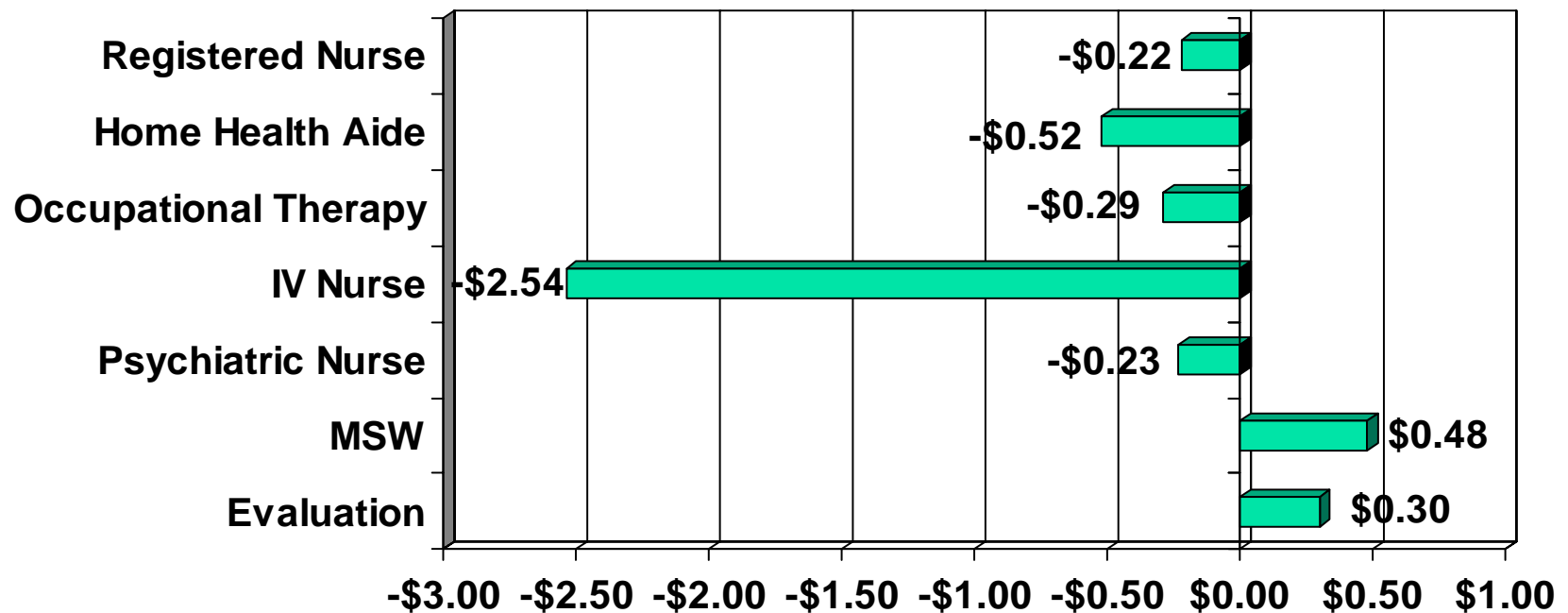


# Difference in Cost Per Day

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- ☛ Each day of patient services, the Transprofessional Model saves
  - ☛ \$.22 in Registered Nurse costs
  - ☛ \$.52 in Home Health Aide costs
  - ☛ \$.29 in Occupational Therapy costs
  - ☛ \$2.54 in IV Nurse costs
  - ☛ \$.23 in Psychiatric Nurse costs
- ☛ and adds
  - ☛ \$.48 in MSW costs
  - ☛ \$.30 in Evaluation costs

# Transprofessional Model Saves



Comparison to Standard Model; Negative Numbers are Savings Per Patient Per Day



# Total Labor Cost Per Day

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- ✦ Under the Transprofessional Model, the total labor cost per patient per day is \$17.99
- ✦ Under the Standard Model, the total labor cost per patient per day is \$21.30
- ✦ The savings in labor cost from the Transprofessional Model is \$3.31 per patient per day

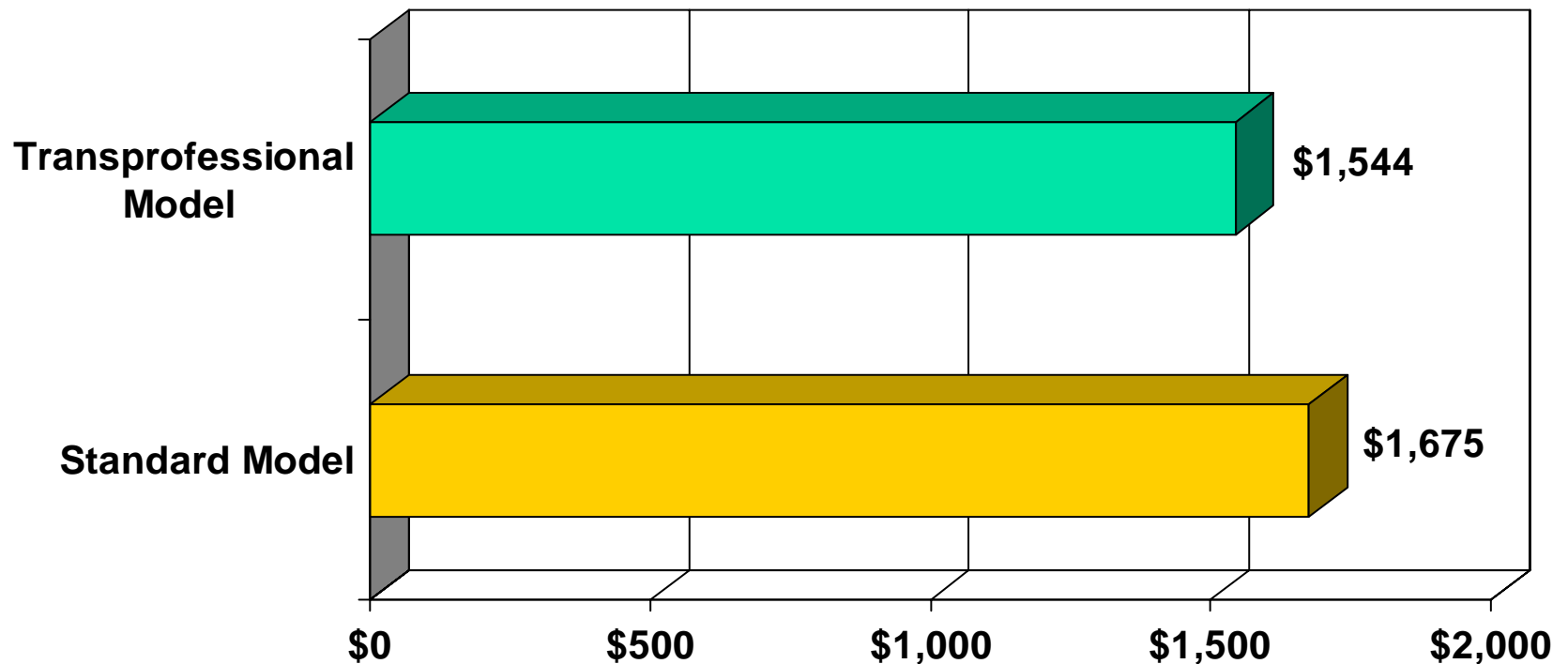


# Total Labor Cost Per Episode

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- ✦ Under the Transprofessional Model, the total labor cost per patient per episode is \$1,543.95
- ✦ Under the Standard Model, the total labor cost per patient per episode is \$1,675.46
- ✦ The savings in labor cost from the Transprofessional Model is \$131.51 per patient episode
- ✦ The total labor cost savings is 8%

# Total Labor Cost Per Episode



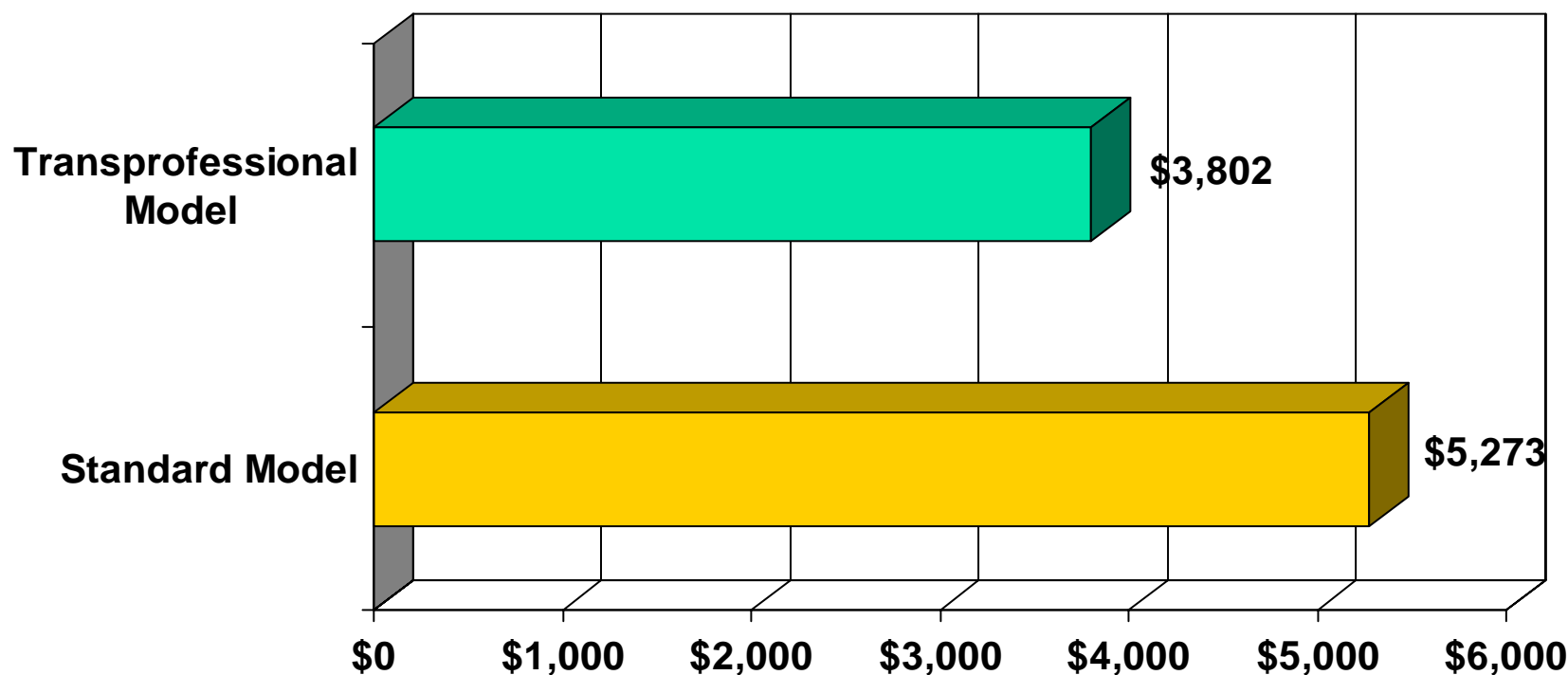


# Total Cost Including Pharmacy

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- For the Transprofessional Model, the cost of a typical episode including LABOR and PHARMACY is \$3,801.95
- For the Standard Model, the cost of a typical episode including LABOR and PHARMACY is \$5,273.46
- The Transprofessional Model yields a total patient savings of \$1,471.51 per episode

# Cost Per Episode [with Pharmacy]





# Transition to Hospice Care

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- ✦ An important outcome variable assesses the intent of the Transprofessional Model which is to move a patient to hospice at the appropriate time
- ✦ It is 14.56 times more likely that a Transprofessional Model patient, as compared to a Standard Model patient, will see a Hospice Nurse during the episode of treatment
  - ✦ Hospice Nurse visits occur at the time the patient has accepted the disease and wishes to enter the program



# Differences in Costs

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- What produced the differences in care costs was the differences in the two models of care
- Standard home care is focused on the disease and the physiological aspects of the disease
- The Transprofessional Model includes these traditional foci and adds a biopsychological aspect of care
- The following medical record notes from each model of care illustrate this difference.



# Comparison of Medical Record Notes

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## ☛ Standard Model:

- ☛ The patient is making minimal progress toward goals of care: compliance with self-administration of medication.
- ☛ The patient has CMV retinitis resulting in poor vision, minimal progress is being made in medical compliance.

## ☛ Transprofessional Model:

- ☛ Discussed continued risk to patient of continuing on current course of medications with patient's physician.
- ☛ Patient expressed anxiety over his condition and medications. Ordered a counseling session with the social worker.



# Staff Focus Group Results

- ✦ A focus group was held in June 1997 with the key staff who had participated in the provision of Transprofessional Model clinical services
  - ✦ The focus group was facilitated by local evaluation staff who were generally not known by the clinical staff
- ✦ The participants were five highly experienced care providers



# Transprofessional Model Staff Focus Group Results

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- Staff identified the key Transprofessional Model strengths, as they implemented the program
  - Multiple support sources for patients
  - United patient-centered front for addressing challenging therapeutic issues
  - Multiple support sources for staff
  - Staff work together in blended intent with a biopsychological focus
  - Appropriateness of the model specifically for AIDS



# Implications

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- ✦ The Transprofessional Model of care produces lower costs
- ✦ Patients display a greater acceptance of their prognosis and alternative care options
- ✦ The practice pattern of home health care is changed to a multi-disciplinary approach to care
- ✦ The study results present us with the ability to reform end-stage care from both a cost perspective and a service perspective



# The End

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Presentation developed by

David A. Cherin, Ph.D.

G. J. Huba, Ph.D.

Diana E. Brief, Ph.D.

Lisa A. Melchior, Ph.D.

Chermeen A. Elavia, B.A.