

UCSF/Presidio Graduate School Telemedicine Project

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PRESIDIO
GRADUATE SCHOOL

Overview

Who/When:

- Five Presidio Graduate School MBA students
- Semester-long finance project, fall 2011

What/Where:

- Calculating the cost/benefit of UCSF providing pharmacy and nutrition consultations via telemedicine to HIV-patients at SF clinics



Why

- HIV-patients need and deserve the pharmacy and nutrition consultations to improve health outcomes
- Caring for HIV-patients benefits the greater community and reduces overall care costs
- UCSF strives to provide a world-class patient experience



Objective

- To help **determine** the financial, social and environmental **costs** and **benefits** of the UCSF program that provides pharmacy and nutrition consultation via **telemedicine** to HIV-positive patients at San Francisco clinics



Three Scenarios

Telemedicine

Care provided
via tele-
medicine from
Parnassus to
patients at SF
Clinics

UCSF Travels

UCSF
specialists
travel to SF
Clinics to
provide care
in-person

Patient Travels

Patients travel
from SF Clinics
to Parnassus to
receive care in-
person



Three Scenarios

Telemedicine

Positives:

69% patients served
Scalable
No travel time
High-tech care
Quality care

Negatives:

Difficult insurance
reimbursement

UCSF Travels

Positives:

69% patients served
Quality care
Easier insurance
reimbursement

Negatives:

Not scalable
Higher cost
UCSF travel time

Patient Travels

Positives:

5% patients served
Quality care
Easier insurance
reimbursement

Negatives:

Not serving population
Lowest cost
Patient travel time



Telemedicine Recommended

Metric per year	Telemedicine	UCSF Travels	Patients Travel
Patients Served	69%	69%	5%
Annual Cost to UCSF	\$225,000	\$245,000	\$178,000
GHG Travel Emissions	0	0.22 MtCO ₂ e	0.16 MtCO ₂ e
Hours Spent Traveling	0	30	20
Hourly Wage Foregone	0	\$77	\$15
Cost of Travel	0	\$2,300	\$300
Estimated Savings Due to Enhanced Care	TBD	TBD	TBD
Total: Cost / Served	\$225,000 / 69%	\$247,300 / 69%	\$178,400 / 5%



MtCO₂e = metric tons of CO₂ equivalent

Conclusions

- Telemedicine is most scalable
- Telemedicine is the less-expensive, more-effective method
- It would be helpful to have data on healthcare cost savings due to nutrition and pharmacy consultations
- If telemedicine is scaled, it will benefit UCSF and the SF Clinics if they can streamline communication and transfer of medical records



Additional Slides

Suggested Additional Data Points

- To help quantify the benefit and potential revenue streams for telemedicine, the following information may be helpful to collect the following information on HIV-positive patients who participate and don't participate in the telemedicine program:
 - Insurance information
 - Annual cost to health system (in hospital bills and medication)

Cost of Telemedicine FY2010

Description	Annual Salary/Cost	Percentage of time spent on Telemed	Cost associated with Telemedicine
Medical Provider	\$218,250	20%	\$43,650
Pharmacist	\$153,070	10%	\$15,307
Nutritionist	\$91,240	10%	\$9,124
Telemedicine Coordinator	\$127,250	20%	\$25,450
Community Health Program Representative	\$36,685	100%	\$36,685
Administrative Assistant II	\$73,633	100%	\$73,633
Telemedicine Operating Costs	\$20,837	100%	\$20,837
Total			\$224,686

Scenario: Telemedicine

- 69% of patients show up for their visits
- Increased flexibility for UCSF nutritionists and pharmacists and minimized travel time
- Patients forego costly, time-consuming travel
- Cost is competitive with UCSF travel scenario
- Cost decreases as number of sites scale
- Gives UCSF experience providing high-tech, world-class care



Scenario: UCSF Travels to Clinics

- 69% of patients show up for their visits
- UCSF nutritionists and pharmacists burdened with time-consuming travel
- Patients forego costly, time-consuming travel
- Cost is competitive with UCSF telemedicine when there are five or fewer sites
- Cost increases as services provided scale



Scenario: Patient Travels to UCSF

- 5% of patients show up for their visits
- Increased flexibility for UCSF nutritionists and pharmacists and minimized travel time
- Patients burdened with time-consuming travel
- Cost is competitive with UCSF travel scenario
- Cost is minimized yet patients are underserved



Assumptions

- The percentage of patients served is based on data from 360 Positive Care for 10/20/10 – 10/20/11.
- Annual costs for providing each service are based on data from 360 Positive Care Fiscal Year 2011.
- GHG emissions: Patients and UCSF specialists travel by car, and get 29 miles per gallon. Emissions were calculated based on gallons of gas burned, using <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>
- Hourly wage was estimated at \$77 for UCSF specialists based on average hourly compensation for medical providers, nutritionists and pharmacists prorated based on a 40-hour work week.
- Hourly wage was estimated at \$15 for patients as it is assumed they are in a lower income bracket because they utilize clinics for care.