

# Multimedia Patient Education for Culturally Diverse Communities

Collaborative Partnerships in  
Video Production

# Introduction

- Park Avenue is a community clinic in the Twin cities area
- serving the Hmong community for 25-30 years
- Recipient of the EHR of the MDH from 2002-2009
- Also developed a video kiosk through a UCare Minnesota grant

# Dedicated multimedia room



# Our Goals

- Combat health illiteracy which has an annual cost of \$73 billion (National Academy on an Aging Society).
- To serve the needs of the Hispanic community by creating multimedia educational tools
- Culturally appropriate, on-site counseling

# Grant Programs

- EHDI: videos in DVD format (on-site, distribution), Cable TV broadcast, Diabetes prevention website ([www.diabetesyouth.com](http://www.diabetesyouth.com))
- On-site counseling for EHDI
- UCare: Interactive Video Kiosk

# What is Health Illiteracy?

- when patients fail to understand the directions given to them by physicians
- are not able to properly take medications
- suffer from poor health because they do not understand the need for medical or surgical therapy
- do not comprehend the future implications of their behavior
- common in general population

# Cultural diversity

- Culturally and linguistically diverse
- Adds to the dilemma of health illiteracy
- Higher rates of morbidity and illness in ethnic communities.

## ONE ANSWER:

- Educate patients more effectively using culturally appropriate multimedia tools.

# Facts

- Health care providers are time-constrained



# Limitations of Existing Patient Education Products: PROVIDER PERSPECTIVE

- Providers do not often have the time to counsel patients
- 15-minute: history, exam, diagnosis prescribe, referrals, write note, explain to the patient what is recommended and why.
- Providers need better tools for patient education in the fast-paced, HMO-driven clinical setting.



# Patient perspective



- Provide a multimedia video format
- Less burdensome
- More entertaining than print media
- Increased information retention
- Especially important in diverse communities

# Brochures in Clinics

*FACT:*

*BROCHURES ARE  
STILL THE  
MAINSTAY OF  
PATIENT  
EDUCATION IN THE  
CLINICAL SETTING.*

*PROVIDER  
DIRECTED  
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IN OUTPATIENT  
CLINICAL SETTINGS*

# Hmong community

- High rates of diabetes, overweight/obesity, high blood pressure, teen pregnancy
- High rates of non-compliance
- High utilization of health care system
- Few educational products
- High rates of illiteracy among adults

# Multi-lingual videos

- Park Avenue created a Hmong language video collection for EHDI
- 20-30 video clips
- MD Kiosk ([www.mdkiosk.com](http://www.mdkiosk.com)) has produced a number of Hmong language videos in conjunction with Park Avenue Family Practice
- Dubbing; culturally tailored videos

# Studies on the efficacy of video education

- Australian study of videos for patients receiving standard pre-chemotherapy education
- Videos: management of predictable chemotherapy side effects and reporting of treatment-related symptoms.
- The video group higher recall in information concerning fever, mouth problems, low red cell count and prevention of constipation.
- More commonly telephoned reporting medical problems of nausea, vomiting and signs of infection compared with the standard group.

# ER Waiting Room Video

- 12-min educational video on stroke
- passive watching of a stroke videotape in the urban, inner city ER Waiting Room
- Pre and post test
- n=98 in video grp
- n=100 in control grp
- participants demonstrated improved knowledge of stroke-related questions, with an increase of test scores from 6.7 +/- 2.5 to 9.5 +/- 2.6 ( $p < 0.01$ ).
- 1-month follow-up, the video group had significantly higher test scores than the control group

# More studies

- Visual field testing:  
n=244
- Video on maintain fixation, etc)
- Pts exposed to an educational video had more reliable results (75.9% vs 61.4%, p=0.015)
- Video on anesthesia procedure and risks
- n=209
- All received counseling
- Questionnaire: Patient knowledge of procedure and risks was significantly higher in the video groups compared with the no-video group.
- Video shown before does lead to more questions pre-anesthetic visit.

Br J Ophthalmol 2003; 87: 153-156

Anesth Analg. 2008 Jan;106(1):202-9,

# Latino Community

- Poison Control Center Video
- randomized, controlled trial
- n=289 spanish speaking parents of children <6 years of age
- Grp 1: video intervention (video group)
- Grp 2: attend the regularly scheduled WIC class (control group)
- Video group showed:
  - an increase in knowledge about the PCC's function, its hours of operation, and staff qualifications;
  - More confident in carrying out recommendations made by the PCC;
  - was more likely to have the correct PCC phone number posted in their homes;
  - more likely to correctly answer that calling the PCC was the best action to take in a poisoning situation.

# Culturally sensitive videos

- Cervical cancer screening behavior
- 2 clinics; low-income, inner city African-Americans and Latinos
- n=335; n=551
- 1-week-on-1-week-off design was utilized
- videos were continuously displayed in designated waiting rooms during on (intervention) weeks; off for 1 week (control)
- RESULTS: The proportion of women seen as patients during the intervention weeks who subsequently obtained Pap smears was significantly higher than that of those seen during the control weeks at each site ( $p < 0.05$ )

# Efficacy of Video education

- Sharp decline in breastfeeding in Hmong laotian emigrants (134 Hmong, Laotian, and Cambodian refugees)

(Romero Gwynn, Eunice breastfeeding rates among indochinese immigrants in Northern CA American Journal of Diseases in Children 143 (July 1989):804-808)

# Breastfeeding Video



- Bilingual
- Developed in conjunction with MDH
- Testimonials
- Discussed benefits of Breastfeeding
- On-site counseling

# Baseline Breastfeeding rates

- Baseline of approx 9.5% (2/21) seen in 2003-4 at Park Avenue
- Low percentages reported among immigrant Hmong mothers in other states found in the literature of <12%
- Thailand (2002) Rate of exclusive breast feeding at least 4 months=16.3 %

<http://nutrition.ucdavis.edu/briefs/Issues/NovDec96.htm>

<http://www.unescap.org/esid/psis/population/database/thailanddata/thailandfacts1.htm>

# Breastfeeding Study

- 1/06 to 3/08
- n=64
- 71 deliveries
- Exposed to DVD: “Breastfeeding for Healthy Infants and Health Moms”
- Counseling by health care personnel at prenatal visits and post-partum

## Demographics:

- 100 % Hmong ethnicity
- Deliveries:
  - 34 Refugees (2004-)
  - 33 Immigrants
  - 4 American-born

# Rates for Combination Breastfeeding/Bottle

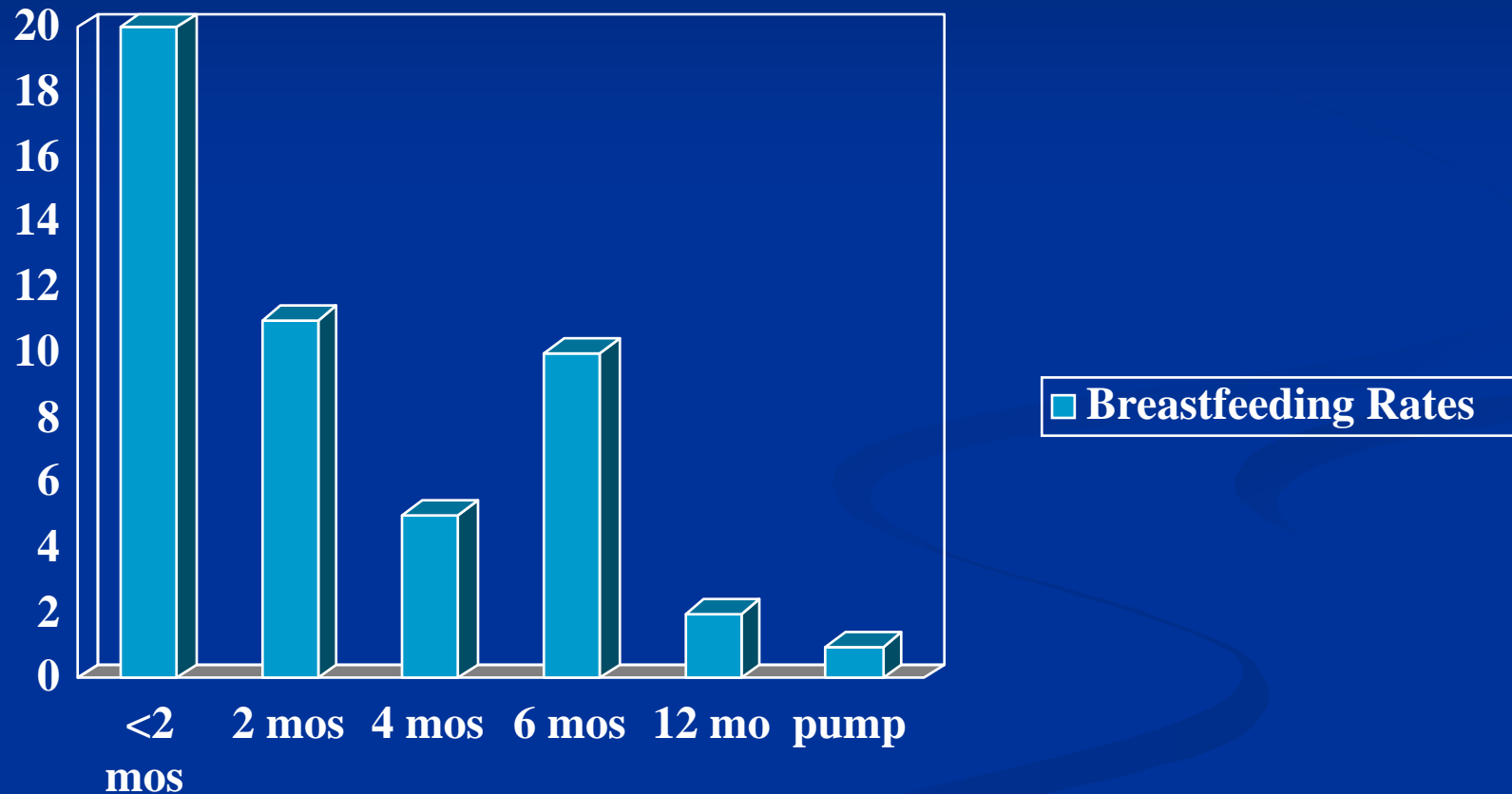
- <2 mos=20/71
- 2 mos=11/71
- 4 mos=5/71
- 6 mos=10/71
- 10+ mos=2/71
- Breastpump=1
- None exclusively breastfed
- Rates are for breast and bottle
- 7.26 fold increase in breastfeeding rates

TOTAL: 49/71=69%

Compared to clinic baseline  
2/21 (9.5%) (p=0.000)

P value would also be  
significant if compared to  
<12% in literature

# Breastfeeding Rates



# Treatment vs Control Group

	Treatment	Control	Total
Bottle	22 (31%)	19 (90.5%)	41 (44.6%)
Breast & Bottle	49 (69%)	2 (9.5%)	51 (55.4%)

$P=0.000$ , chi sq (1)=23.217

# Hmong Heart Attack DVD

- Adult patients with CVD risk factors (DM, htn, obesity, high cholesterol)
- Pre and Post surveys
- Heart Attack DVD was shown in clinical setting
- n=40
- The most marked improvement in awareness of foods which were better for weight control and CVD prevention.

# Heart Attack DVD

- White rice is a preferred carbohydrate prior
  - Pre: 29/40(72.5%)
  - Post: 0/40 (0%)
- Brown rice is a preferred carbohydrate
  - Pre: 15/40(37.5%)
  - Post: 38/40 (95%)

# Heart Attack DVD

- Pork and fatty meats are healthy and can prevent a heart attack
- Pre: 29/40 (72.5%)
- Post: 1/40 (2.5%)

# Heart Attack DVD

- Number of participants not regularly exercising prior to watching videos who now want to exercise
- 6 participants expressed motivation to exercise

- Is exercising once a week enough to maintain a healthy lifestyle? (Correct answer no)

- Pre: 17/40 (42.5%)

- Post: 26/40 (65%)

# Video Distribution



- Clinic Media Education (DVD)
- Website:  
[www.diabetesyouth.com](http://www.diabetesyouth.com)
- (Links: Lao Family.  
HAM ^ ^ ^ ,
- Cable TV Broadcast
- WIC program (DVD)
- Community Programs (HAMAA, others)

# Rationale for Video Kiosk

- Underprivileged: do not have high speed internet, lower levels of literacy, may not have cable TV
- Hmong adults do not use internet
- Motivation may be low
- Brochures are not effective, especially in older Hmong

# Solution

- Need a clinician directed video education tool
- Need hardware or broadcast options in the clinical setting.
- Video Kiosk: multi-lingual, interactive

# Kiosk use among low SES users

- Touchscreen Computer Kiosk: 8th grade text
- 1846 sessions in non-medical locations
- Almost half had a high school education or less
- 25% had never used the internet
- Majority reported a positive experience
- Majority first time users planned to try what they read
- Almost half planned to speak to the doctor about what they read

# Video vs Internet

- 23 min PSA (prostate specific antigen) screening video vs internet ( 47 slides with images, graphics, audio)
- Video group was assigned to watch video prior to a 30 min appointment at clinic
- Internet group was to review material at home (initiative needed by patient)

- Video group: more likely to review information: (98.2% vs 53.3%),  $p < .001$ 
  - No difference in knowledge between two groups who reviewed the information
- Video group had increased knowledge, more likely to decline PSA
- CONTEXT: clinical setting; appointed time for reviewing materials is important

(J Gen Intern Med 2003; 18:781-787)

# MD Kiosk TOUCHSCREEN



- The Video Kiosk
- Interactive interface

# ANECDOTAL DATA

- "A diabetic patient at park avenue was counseled by staff as part of our diabetes program. He was also shown the new diabetes dvd, which also specifically mentioned the symptoms of diabetes. He left the clinic better informed about diabetes in general and talked about the DVD to his friends.
- The patient's friend was told about the symptoms of diabetes which had been described in the dvd, such as thirst and frequent urination. It turned out that she had these very same symptoms!

- This woman then went to her own doctor and asked to be screened for diabetes, but she was refused a diabetes screen by this doctor.

- She then decided to come to park avenue for her medical care and was found to have a blood sugar of over 500!!!

# Information flow into community

- Empower patients to take control of their health.
- Probable that this woman had undiagnosed diabetes for many years.
- With the power of education, she was able to insist on diabetes screening, even when her own doctor had refused to check her for diabetes.

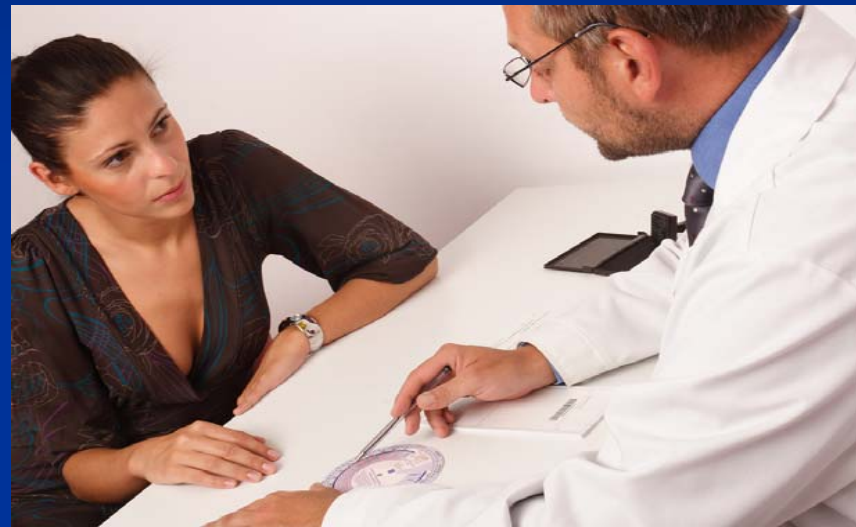
# Information flow into community



- Health information can have an enormous impact on whole community
- Women would have never insisted on being screened for diabetes if her friend had not himself been educated on diabetes.

# People: Medical Consultants

- 20 medical writers
- Many from academic institutions
- Major contributions from WebMD, HealthDay physician writer.



# Benefits of MD Kiosk Products



- Greater patient satisfaction
- Time savings for busy physician
- Decreased litigation for procedures & surgery
- Affordable interface (exc. free website)
- Option for fullscreen video mode
- Multi-lingual video/dubbing options, custom video option

# Discussion and Questions

[Klee@mdkiosk.com](mailto:Klee@mdkiosk.com)

CELL: 612-817-6690

Park Avenue Family  
Practice: 612 874  
8811



# Different Video Interfaces

- MD Kiosk WEB (Online Subscription)
- MD Kiosk PORTAL
- MD Kiosk TOUCHSCREEN
- MD Kiosk MOBILE
- MD Kiosk Virtual Health Island

# 2008 Product Line: New

