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**Exploration of Portal Activation by Patients in a Healthcare System**

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**Patient Portal**



- Patient Portal via EHR
- Large Health System
- Regional Partners
- Community Connect
- 205, 177 Patient Portal Activations
- 11,574 Mobile App Users


**Patient Portal Features**

- Messaging
- Customer Support
- Refill Requests
- Appointment Scheduling
- Test Results
- Update Demographics, meds, allergies, problems
- Questionnaires
- Patient Education



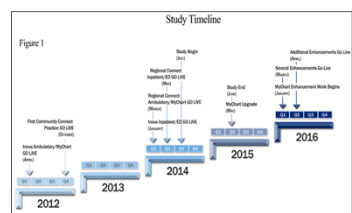
**Background**

- Increasingly healthcare systems are adding patient portals to their communication methodologies between providers and patients.
- These are web based secure online avenues of communication allowing the sharing of confidential patient information with patients or their representatives.
- Healthcare systems need to assess how the portals are being used in order to understand patient engagement and how to utilize such technology to enhance person centered care.



**Purpose**

- The purpose of this study was to evaluate user characteristics and activation patterns of the portal connected to an electronic health record (EHR).



**Methods**

**Ethics**

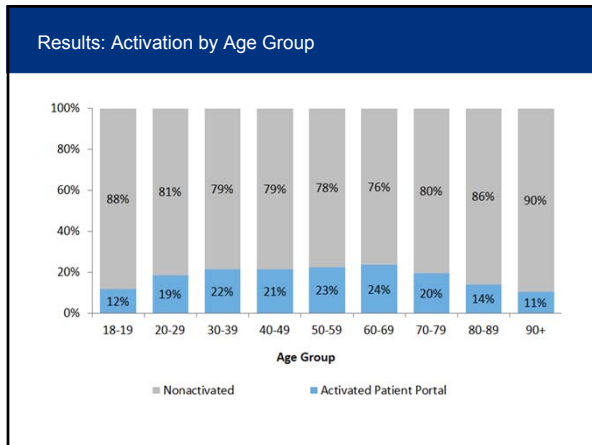
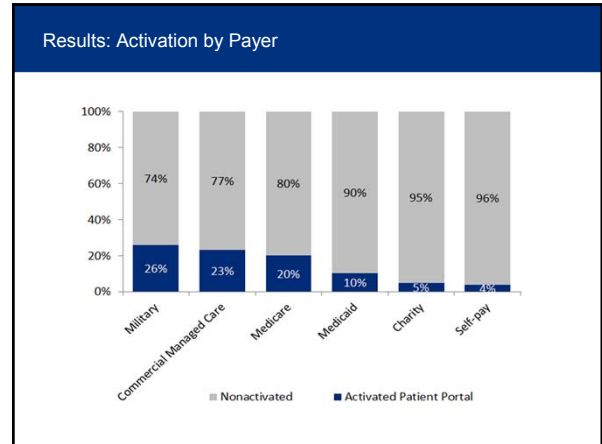
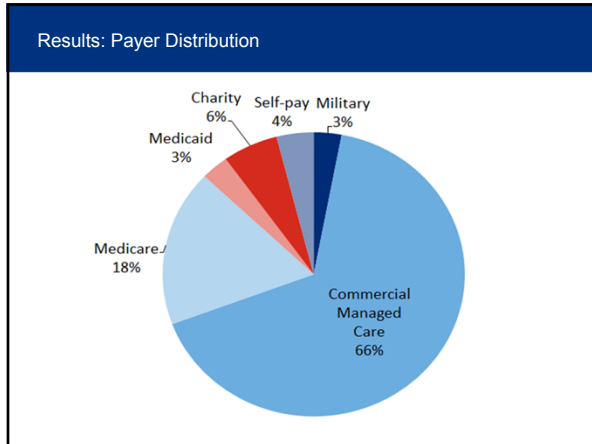
- Institutional Review Board approved

**Design**

- Observational retrospective study
- Patient portal activation by Health System patients
- Encounters from July 2014 – June 2015
- Patients ≥ 18 years of age

**Study procedures**

- Patients' user data obtained from the EHR database
- Percentage below the federal poverty level (FPL): match patient zip code to 2013 U.S. census five year estimates
- Multiple logistic regression model to determine characteristics associated with patient portal activation
- Statistical significance: p<0.05



### Results: Characteristics

Characteristics	Frequency N (%)	Activated N (%)	P-value
<b>TOTAL</b>	<b>387,198 (100%)</b>	<b>80,435 (21%)</b>	-
Sex			0.081
Male	155,790 (40%)	32,149 (20.6%)	
Female	231,385 (60%)	48,286 (20.9%)	
Primary Language			<0.001
English	297,895 (77%)	69,720 (23%)	
Spanish	24,872 (6%)	1,023 (4%)	
"Interpreter not required"	43,568 (11%)	7,271 (17%)	
Other	20,863 (5%)	2,421 (12%)	
Hispanic Ethnicity / Race			<0.001
Hispanic	44,315 (11%)	4,586 (10%)	
Non-Hispanic	342,883 (89%)	75,849 (22%)	
Race			<0.001
White / Caucasian	216,457 (56%)	53,094 (25%)	
Black / African American	49,534 (13%)	8,052 (16%)	
Asian	26,357 (7%)	5,644 (21%)	
Middle Eastern	7,129 (2%)	925 (13%)	
Other	87,721 (23%)	12,719 (15%)	
Encounters			<0.001
1 encounter	152,139 (39%)	18,991 (13%)	
2-3 encounters	115,489 (30%)	24,871 (22%)	
4+ encounters	119,570 (31%)	36,573 (31%)	

### Results: Characteristics

Characteristics	Frequency N (%)	Activated N (%)	P-value
<b>TOTAL</b>	<b>387,198 (100%)</b>	<b>80,435 (21%)</b>	-
FPL Level by Zip Code			<0.001
< 3.5%	90,328 (23%)	21,915 (24%)	
3.5 - 5.59%	103,948 (27%)	21,336 (21%)	
5.6 - 8.69%	95,759 (25%)	18,588 (19%)	
≥ 8.7%	93,669 (24%)	17,966 (19%)	
Employment Status			<0.001
Full Time	165,271 (43%)	39,956 (24%)	
Retired	73,491 (19%)	15,469 (21%)	
Not Employed	47,953 (12%)	7,024 (15%)	
Part Time	16,789 (4%)	2,915 (17%)	
Self Employed	12,900 (3%)	2,609 (20%)	
Student	6,875 (2%)	1,346 (20%)	
Disabled	5,861 (2%)	1,015 (17%)	
Active Duty	461 (0.1%)	55 (12%)	
Unknown	57,597 (15%)	10,046 (17%)	
Primary Care Provider			<0.001
Named	327,468 (85%)	76,615 (23%)	
Unknown / None	59,730 (15%)	3,820 (6%)	

### Conclusions

- Portal activation was highest among English speaking patients (23.4%) and lowest among Spanish speaking patients (4.1%). Activation was lower among patients living in zip codes with higher proportions of residents living below the FPL.
- Portal activation was highest among patients between the ages 60-69. Activation rates diminished with increasing age beyond 70 years. The findings of this study on portal activation indicated patients with Medicaid, charity or self pay had lower portal activation.

## Implications

- The research in the use of patient portals is evolving. More research is needed to determine how to best accomplish patient activation and utilization of the portal.
- This study provided insights to the importance of examining demographics to determine what adjustments need to be made to the system.
- The low activation rate prompted the exploration of opportunities to increase patient engagement through portal activation. It was observed that the Spanish speaking population had the lowest activation. The organization should offer a patient portal in Spanish to promote activation and engagement.

## Since the Study

- Spanish portal went live in September as well as the Spanish mobile app.
- The team has implemented additional activation strategies and is pursuing additional activation options.
- New features include:
  - ✓ Video Visits
  - ✓ Patient attachments and images
  - ✓ Device integration
  - ✓ Shared Notes
  - ✓ Electronic Proxy access requests
  - ✓ Release of Information Requests and Release of Information to the Portal



## Affiliations & Acknowledgements

- **Affiliations**
- Inova Health System; Kaplan University

- **Acknowledgements**
- Mary K. Cresci PhD, RN, FNGNA, Helen Stacks DNP, RN, &
- Hae-Ri Kang MS