

BACKGROUND

Precision medicine and direct-to-consumer genetic testing has created a growing demand for genetic specialists.

A national shortage of genetic counselors has highlighted telegenetics as an attractive tool to improve efficient and cost-effective access to genetic services.

Huntsman Cancer Institute (HCI) serves 17% of the landmass of the contiguous United States, including the entire state of Utah and counties in Idaho, Montana, Nevada, and Wyoming.

Partnering with local hospitals, the HCI telegenetics program aims to facilitate genetic counseling, appropriate genetic testing, and long-term management of high-risk patients and their families.

These partnerships are often initiated by providers within a hospital system. Minimizing the time between this initial interest and contract finalization is critical in maintaining provider and patient engagement.

METHOD

We reviewed the following data on patient telegenetic services from January 2016 to September 2018:

- Primary reason for referral
- Number of patients referred
- Patient demographics (including age and gender)
- Percentage of referrals who completed genetic counseling

RESULTS

- Beginning in 2014, HCI has partnered with hospital systems to provide telegenetic services for residents in parts of Idaho, Oregon, Wyoming, and Nevada. We are currently contracted with four hospital systems (Figure 1).
- Since 2016, we received 338 referrals for telegenetics (Figure 2), and 66% of patients (n=223) completed counseling (Table 1).
- Local providers referred most patients for telegenetics because of a personal or family history of breast or colorectal cancer.
- Those with the primary indication of personal history of cancer (n=216; 151 completed, 70%) were more likely to complete genetic counseling than those referred due to a family history of cancer (n=122, 72 completed, 59%).
- The top reasons given by patients for why they did not want to schedule an appointment when contacted by our program were as follows:
 - Had already sought genetic services elsewhere
 - No longer interested in risk assessment or testing
 - Forgot why their provider referred them

Figure 2. Telegenetics Program Patient Volume Over Time

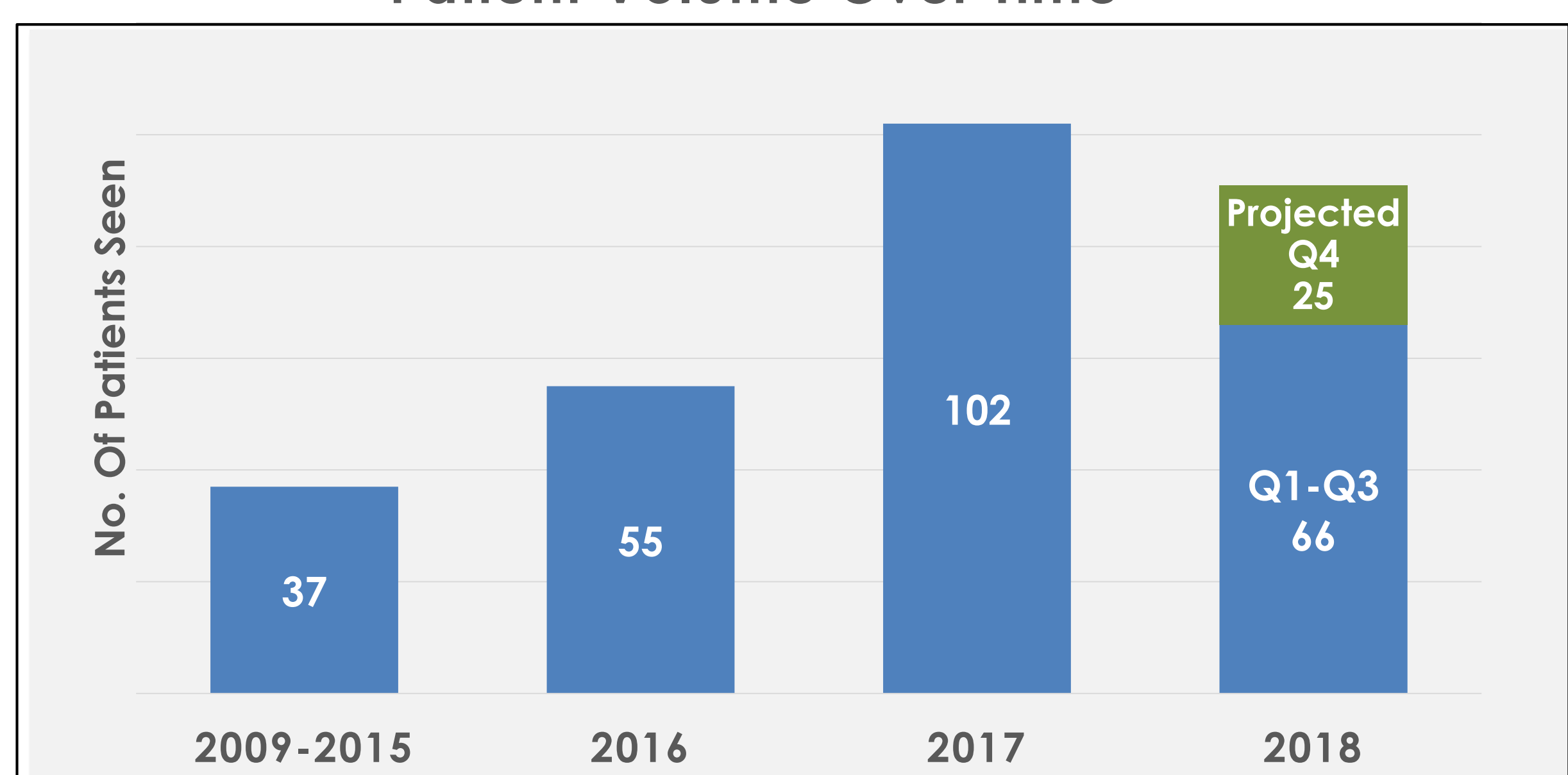


Figure 1. Timeline of Contracts

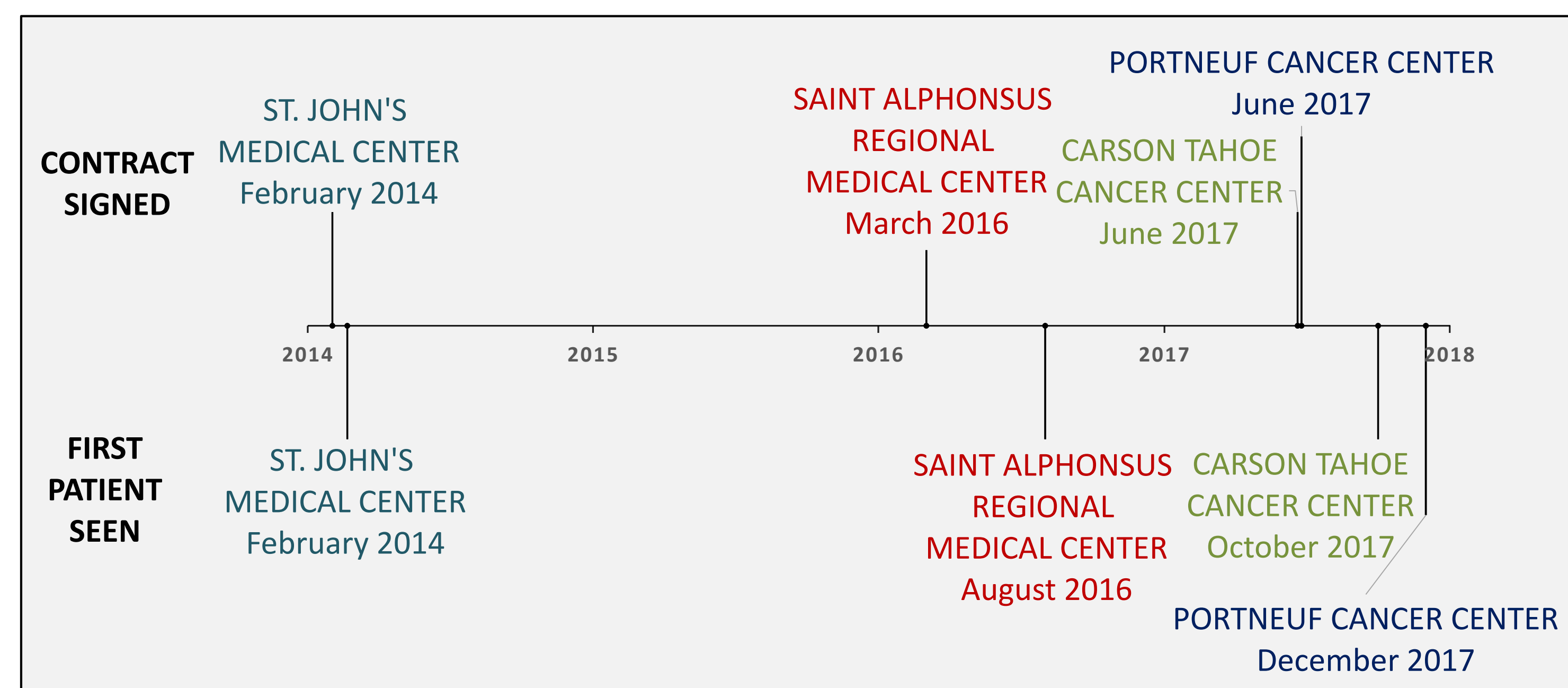


Table 1. Patient Referral Data

Primary Reason for Referral	# Referred	Average Age	% Counseled
Personal history of breast cancer	129	54	72%
Family history of breast cancer	56	53	68%
Personal history of colorectal cancer	20	56	65%
Family history of colorectal cancer	18	38	61%
Family history of gene mutation	17	46	76%
Personal history of ovarian cancer	17	65	88%
Personal history of genetic syndrome	14	46	50%
Family history of other cancers*	29	50	29%
Personal history of other cancers**	39	55	61%

* Brain tumor, lymphoma, melanoma, ovarian, pancreatic, prostate, and stomach cancers

**The tumors above plus carcinoid, GI, PGL, renal, thyroid, and uterine cancer, polyps, and ADH

CONCLUSIONS

- Demand for genetic counseling services is expected to increase as genetic testing becomes more readily accessible and less expensive with higher clinical utility.
- Offering telegenetic services in partnership with a hospital system can help increase patient volumes and expand appropriate referrals, starting with patients who have a personal or family history of breast and colorectal cancer and expanding to more complex high-risk diseases over time.
- Patients with a personal history of cancer are more likely to follow through with genetic counseling than those with a family history of cancer alone.
- Additional patient education about the utility of genetic counseling and the benefit of risk assessment is needed.

FUTURE PLANS

- We will continue to analyze long-term clinical outcomes and local adherence to recommendations for patients seen through our telegenetics program.



Huntsman Cancer Institute's Genetic Counseling Team

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