

Project Happy Birthday: Improving Access to Colorectal Cancer Screenings

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Background & Purpose

This research project was completed as part of the 8th Annual Cleveland Clinic Case Competition. The Cleveland Clinic Case Competition offers graduate students in health administration the opportunity to apply their coursework to help solve a real-world problem in health care and the chance to share their recommendations with a team of executives at a recognized health system. Our team was given one weekend to develop recommendations to be reviewed by a team of Cleveland Clinic physicians and administrators.

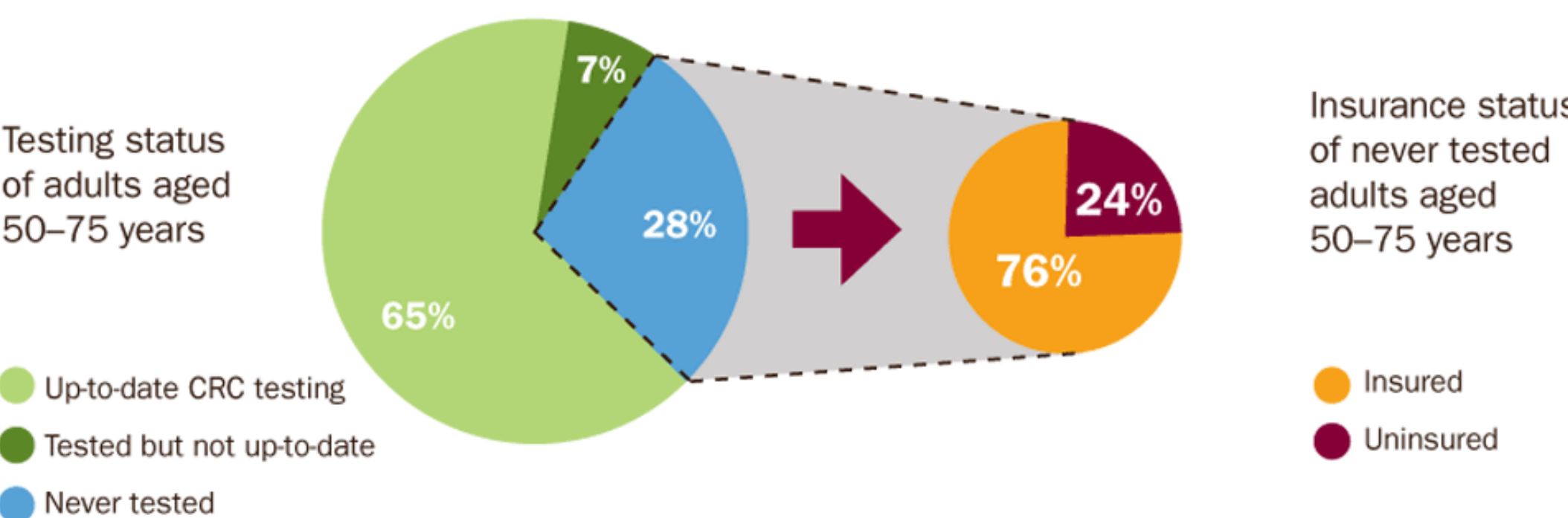
We were tasked by the health system's executive leadership team to develop a plan for resuming the Clinic's colonoscopy screening program and expanding access to the program to disadvantaged and uninsured members of the surrounding community. As per our case objective, we developed an integrated growth plan that included a short-term (12 month) strategy that addressed deferred care in the colonoscopy screening program due to COVID-19 and a long-term growth strategy (3 years) that detailed how to further grow the program after the short-term strategy is implemented.



Current Healthcare Environment

Currently, about one in three adults aged 50 to 75 years have not been tested for colorectal cancer as often as recommended by the United States Preventive Services Task Force. This has left many individuals unable to obtain early treatment in the event they are diagnosed with cancer and has led to thousands of preventable deaths. Now, because of the disruption caused by the COVID-19 pandemic, even fewer people are willing to travel to a hospital to receive their much needed colorectal screenings.

Many adults are not being tested



28% of adults have never received a colorectal cancer screening, while 7% have been tested, but are not up to date on their screenings.

At the start of the COVID-19 pandemic, Cleveland Clinic Endoscopy Centers saw huge numbers of cancellations and the center is struggling to convince patients to reschedule their appointments. Now, as cancellations are beginning to level out and a return to normal life is in sight, Cleveland Clinic's Endoscopy Centers have the opportunity to be proactive and implement all they have learned from the COVID-19 pandemic into their future practices.

Our Solution

Short-term Solution:

Our solution to revitalizing Cleveland Clinic's colonoscopy screening program is to implement our patient-centered initiative: Project Happy Birthday. Project Happy Birthday is a direct-mail, screening program that allows patients to receive colorectal testing from the comfort of their home and empowers individuals to take charge of their health. Each year on their birthday, patients will receive a:

- Fecal Immunochemical Test (FIT) Kit
- Personalized Birthday Card
- Informational Packet About Colorectal Cancer

To encourage the return of FIT kits, patients will be entered in drawings for gift cards and other prizes to reward them for returning tests. This program primarily targets patients over the age of 50 with no preexisting conditions or familial history of colorectal cancer, but birthday cards can also be sent to high-risk individuals to remind them to schedule their colonoscopy appointments.

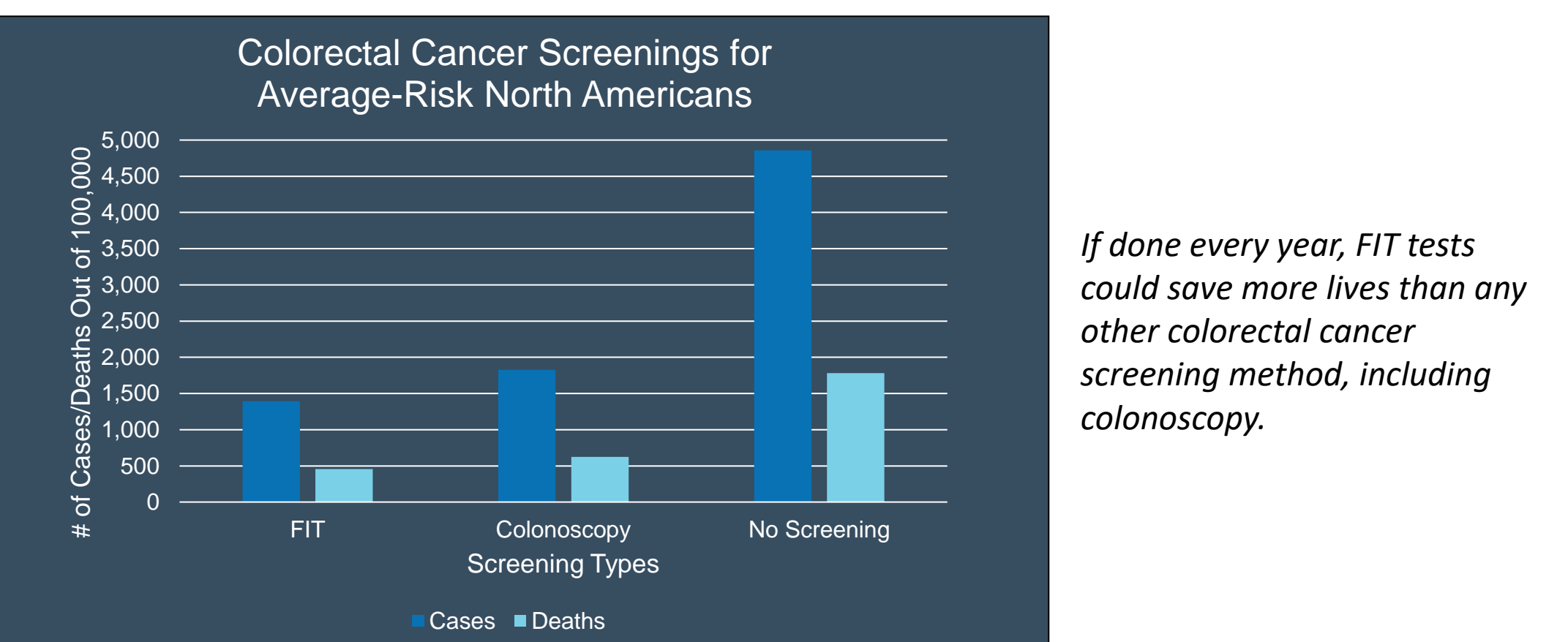
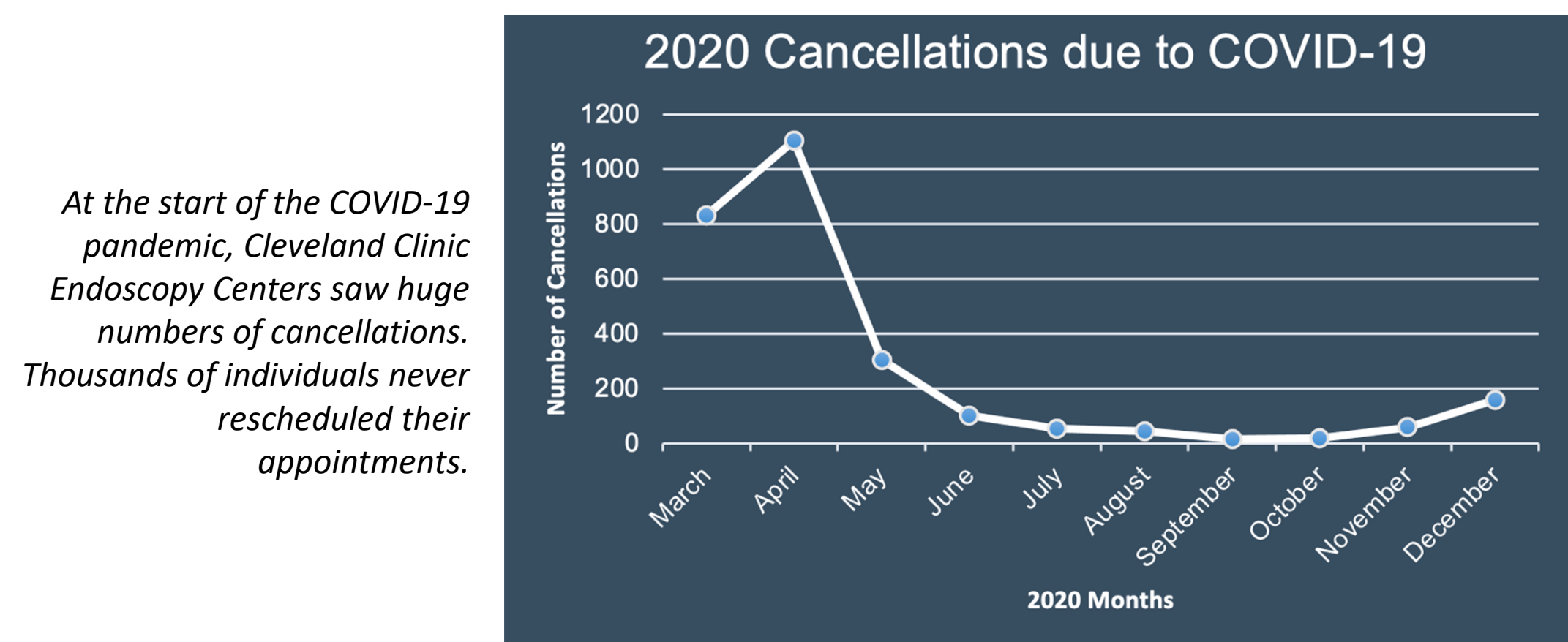
We decided to use FIT kits as our primary screening tool for the following reasons:

- Affordable, Less than \$25 per Test
- Readily Accessible
- Covered by Most Insurance Providers
- Detects Cancer with 79% Accuracy
- Only 5% False Positive Rate
- Includes Return Envelope
- Requires No Preparation
- Medicine and Food Do Not Interfere with the Test
- Easy to Administer

Long-term Solution:

Once the mailing of yearly FIT kits is proven to be an effective colorectal cancer screening method, a more long-term solution can be implemented to reach disadvantaged and uninsured individuals. To better serve the overall mission of Cleveland Clinic, we suggest the creation of mobile health units that provide free FIT kits to underserved populations in and around Northeast Ohio.

Mobile units will park in easily accessible places around the community, such as malls, large bus stations, grocery stores, and religious centers. A trio made up of two registered nurses and one licensed practical nurse will work with these mobile health units and give onsite educational talks on the benefits of screenings and the potential risks of dismissing cancer screenings.



Financial Data

Cost Savings with FIT Kits:

In terms of average cost, FIT remains the clear winner over colonoscopies. We found that the average cost of implementing a direct-mail intervention program was about \$40 per kit returned, which includes the costs of patient selection, mailing the FIT kits, participating in the clinics, following up with patients who had abnormal test results, and other indirect costs. In comparison, the average cost of a colonoscopy in 2010 was \$2,146 among the commercial population and \$1,071 among the Medicare population. Even though FIT kits require yearly intervention, their use results in greater cost savings in the long run.

With our solution, Cleveland Clinic can spend less time and money on managing inventory because they will not have to pay for supplies that would otherwise be used to deliver nonessential colonoscopies. By performing fewer colonoscopies, doctors will have time to treat more serious cases or improve clinical procedures. Additionally, because a greater percentage of the population will be receiving FIT screenings, individuals that otherwise would not have known their colorectal cancer status can be reintroduced into the patient pool. Some of the loss of income that would have otherwise resulted from performing fewer colonoscopies will be negated by having more individuals coming into the clinic with positive FIT results.

Financial Analysis:

Before Project Happy Birthday's full implementation into the colonoscopy screening program, we will first target the 2,703 individuals at Cleveland Clinic that cancelled and did not reschedule their colonoscopy appointments because of the COVID-19 pandemic in 2020. We estimate that the initial launch of this project, will cost around \$74,400 and generate a total revenue of \$70,700. This includes the cost of the FIT kits, lab testing, postage, and the birthday cards. If successful among this population, Cleveland Clinic will expand the program and the distribution of FIT kits to all current Cleveland Clinic patients 50 years or older.

The estimated cost of a mobile health unit partnership is around \$272,983, while revenues are estimated to be \$132,993 in the first year. To keep costs low, Cleveland Clinic Endoscopy Centers can partner with other departments or even other medical institutions that already operate mammography buses or mobile blood donation centers to achieve greater community outreach. The program will be partially funded by the cost savings that result from Project Happy Birthday. Other types of tests and the delivery of more complicated care can be provided as the program grows.

Total Projected Costs for Project Happy Birthday	Costs	Benefits - Project Happy Birthday	
Cost of FIT mailing w/ patient return	\$ 43,248	Projected increase of Colonoscopies- Private	\$ 96,845
Cost of FIT mailing w/o patient return	\$ 30,425	Projected increase of Colonoscopies- Medicare	\$ 48,332
Birthday cards	\$ 736	Money Saved	\$ 145,178
Total Costs	\$ 74,409		

Cost and benefit analysis for Project Happy Birthday during the initial implementation stage.

Total Projected Costs for Mobile Health Units	Costs	Benefits - Mobile Health Units	
Cost of FIT distribution w/ mail return	\$ 50,708	Savings- reallocated staff	\$ 43,032
Marketing		Projected increase of Colonoscopies- Private	\$ 242,114
Flyers	\$ 195	Projected increase of Colonoscopies- Medicare	\$ 120,831
Bus ad	\$ 1,250	Money Saved	\$ 405,977
Staffing			
2 RNs	\$ 113,448		
LPN	\$ 43,032		
Partnership fee	\$ 64,350		
Total Costs	\$ 272,983		

Cost and benefit analysis for Project Happy Birthday's expansion into mobile health units.

Qualitative Reflexivity and Recommendations for Future Research

Our team utilized a case study approach to address the issue presented in the Cleveland Clinic Case Competition. Through our investigation of the screening program and reflexivity in completing a case competition, we gained valuable skills that helped foster our personal and professional development.

One major benefit we gained from participating in the case competition is that we, as MHA graduate students, had the opportunity to apply our team's diverse skill set to solve a real-world problem. Through our participation in a case competition, our team was able to practice strategic thinking, planning, and decision making in order to solve a real problem that affects today's healthcare environment. Through our participation in this competition, we also came to appreciate the value of teamwork. Soft skills like communication and interpersonal skills, played a vital role in helping our team communicate, set expectations, and work effectively with one another in order to achieve our goals. Learning and exercising these vital skills now will certainly help us when we make our transition from academia to a career in healthcare.

In terms of future research, we recommend a thorough investigation into less invasive colorectal screening options, ways to lower the cost of colorectal screening kits, and intervention opportunities to increase patient compliance with screenings. With proper testing and screening for colorectal cancer, patients will experience better health outcomes and Cleveland Clinic will better be able to promote the long-term health of the communities they serve.

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Acknowledgements and Contact Information

Thank you to the Cleveland Clinic Case Competition for allowing us to compete and showcase our work and thank you to our professor, Dr. Lee, for providing our team with guidance and support throughout the case competition process.

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