

## Effect of Common Diseases Prevention Campaign on behavior

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### Abstract

This project was focused on creating awareness about the importance of Lab test to the public. This project will help doctors, healthcare professionals and patients. The aim of this study was to analyze the blood screening habit of people and design some creative campaign to develop the sense of self examination and regular health checkup. Regular health exams and tests can help find problems before they start. They also can help find problems early, when your chances for treatment and cure are better. By getting the right health services, screenings, and treatments, you are taking steps that help your chances for living a longer, healthier life. Your age, health and family history, lifestyle choices (i.e. what you eat, how active you are, whether you smoke), and other important factors impact what and how often you need healthcare.

The study carried out regarding this project was based in Lahore and I studied audience of both genders and of ages between 25 to 60. The current study expands on that evaluation in a variety of diagnostic settings and patient populations, at government hospitals. The samples included routine diagnostic blood samples and blood donation samples. We have also come to know a large number of samples were having serious diseases related to liver, kidney and heart etc.

In this project I prepared a campaign which created awareness through different unconventional methods. I studied the day to day routine of a common man and made several art works for the normal things which a person is using in daily life.

I made the following items with creatives of human organs which could be exposed to a disease.

- An ordinary table cut in the shape of human organ
- A mirror with internal body part like heart and liver placed in their respective position
- A backlight poster of similar creatives
- A t-shirt showing the positions of the internal body parts

Many researches and awareness programs have been conducted before. So, I have tried to come up with some of innovative ways to communicate information. This campaign will focus on using the internal organs creatives to make people familiar to the most common diseases.

**Keywords:** Awareness, Importance of Lab test, Blood screening habit, Regular health checkup, Common diseases

### Introduction

Chughtai Lab is one of the leading pathology labs in Pakistan. The lab was founded by Dr. A S Chughtai in 1983 as 'Lahore Lab'. With the passage of time Chughtai Lab becomes a field player in the field of diagnostic testing.

Over a period of 33 years, the lab has grown to a nationwide network of 7 testing locations and more than 160 collection centers. The lab has a nationwide network with presence in more than 50 cities.

Chughtai Lab has always focused on quality in order to earn the trust of patients and doctors. The lab uses only the latest automated and integrated instruments from manufactures of international repute. The instruments are interfaced with our custom built lab software, which in turn delivers results. The lab is staffed by 20 pathologists and more than 70 BSc/MSc/MPhil lab technologists. Chughtai Lab is ISO 15189 certified, and also participates in the College of American Pathologists External Quality Assurance program.

The Chughtai Lab team has a mission to deliver accurate results, on time. More than 70% of medical decisions are based on lab tests, and that is why it is important for lab results to be accurate and timely. The lab operates 24 hours a day, every day of the year. The lab uses fully automated instruments on a 'test as your go' principle,

without any requirement for batch testing. This enables the lab to report test results quickly without ever compromising on quality. It is because of this reputation of uncompromising quality and quick reporting time that Chughtai Lab is the reference lab of choice for more than 50 different hospitals and labs.

Why people trust Chughtai Lab? They ensure to deliver lab reports with three crucial qualities that make it best in Pakistan. The first quality is accuracy. For any illness to be diagnosed and managed, lab test must be accurate otherwise they are not just useless, they are harmful. They do lab reports with accuracy because of qualified, skilled and experienced pathologists and technologist with the most advanced and top tier instrumentation. Chughtai Lab has installed most expensive technology to make sure our reports are accurate.

Their core focus is on quick reporting time because lab tests must be delivered on time so that there is no delay in diagnosis and treatment. Chughtai Lab run central lab 24 hours' day to ensure reporting round the clock without any delay. Among the test menu, 98% tests do not have any batch system. As soon as sample arrives, they go in process it. In addition to accuracy and reporting time, services are delivered with the right attitude. It is important that every lab team member treat the customer with an attitude of respect and courtesy. It is believed that only way to progress in our field is to deliver accurate results on time with respect to every customer, every time.

As soon as results are approved, they can be viewed online at our website [www.chughtailab.com](http://www.chughtailab.com). Results can also be viewed on your smart phone using the Chughtai Lab app. Chughtai Lab offers number of value added services to its customers in order to facilitate them and provide them convenience.

The spirit of innovation has been the signature of Chughtai Lab from the very beginning. Many of the best doctors and hospitals across Pakistan trust Chughtai Lab for its robust service.

As a socially responsible corporate entity Chughtai Lab has been actively involved in several welfare projects over the years focusing on education of young pathologists, awareness of general public on various health issues and natural disaster relief in order to be part of the development of our local communities. In back-to-back years, Chughtai Lab sets the example of community service during Dengue Fever outbreaks. In 2011, over a period of two months, more than 100,000 CBC tests performed for free or at Dengue Crisis rate. Chughtai Lab also conducts medical camps for marginalized children and provides them doctor's consultation and free diagnostic services.

By combining the efforts of many, it has been progressing to new heights and achieving new goals along the way.

Leading with a mission to provide "Accurate results on time" here are top 5 reasons why Chughtai Lab is the choice of people.

- Quality
- Convenience
- Affordable
- Education
- Community Service

### **Quality**

Chughtai Lab has always focused on quality in order to earn the trust of patients and doctors. The lab uses only the latest automated and integrated instruments from manufactures of international repute. The instruments are interfaced with our custom built lab software, which in turn delivers results. The lab is staffed by 20 pathologists and more than 70 BSc/MSc/MPhil lab technologists. Chughtai Lab is ISO 15189 certified, and also participates in the College of American Pathologists External Quality Assurance program. Chughtai Lab participates in various quality assurance programs to provide best Lab tests to the customers. Chughtai Lab Latest Technology, Qualified Staff has enabled Chughtai lab to stand out among different labs. (Why Chughtai Lab, 2017)

## Convenience

Chughtai Lab provide below mentioned innovative ways to provide Lab tests services and reports.

- Free Home Sample Collection
- Text Message Alerts
- Fast Reporting Time
- Online reports
- Smartphone
- App | 24/7 Customer Support

## Affordable

Chughtai Lab offer various Discount to the customers i.e.

- Corporate Discounts
- Senior Citizens Discount.

## Education

Chughtai Lab provide fresh graduates an opportunity to enhance their skills under the supervision of professionals and Highly qualified and experienced Pathologists.

- FCPS Residency Programs
- In-House Phlebotomist
- Training Program
- MPhil & Ph.D. Research Projects

## Community Service

Chughtai Foundation seeks to serve humanity by taking on innovative initiatives in the healthcare and education sectors of Pakistan. With a focus on prevention, our vision is to empower those in most need, particularly children and the elderly, in ways that lead towards sustainable change in their standards of living.

Our project teams comprise of diverse sets of experts and practitioners who develop strategies that are both comprehensive in design and achievable. The foundation aims to care for the communities in which we serve and to treat them with respect in our efforts to create a positive change in their lives. Key initiatives of the Chughtai Foundation include: Chughtai Public Library (CPL), with a collection of more than 7000 books and 1000 digital resources. (Chughtai Foundation, 2017)

- CPL Reading Rooms, which serve as satellite locations for the library providing free public space to read and study. These are housed in various
- Chughtai Lab centers across several locations.
- Sponsored home for the elderly
- Medical camps for marginalized children

## Marketing in Health Sector

When it comes to the decisions in health care that are as complicated and personal as health care attitudes and behaviors. It can be quite challenging to identify and choose the precise role played by designing and advertising techniques. It's not only because consumers are frequently unwilling to admit that advertising convinces them to change, in fact they often don't even recognize the role played by sponsored messages in how their attitudes and behaviors have been shaped. (Smith, How Advertising Changes Consumer Behaviors in Healthcare Marketing , 2017) Especially in health care when they can get disturbed and stressed while talking about health. If we talk about advertising in health care particularly in Pakistan, then it has taken a completely different approach.

We understand the fact that when the messages are right based on facts and the creative executions are on the right target audience, advertising can actually produce significant changes in both relatively trivial actions like deciding which brand of pain reliever to buy and, more importantly, in attitudes and behaviors that affect public health in general. (Smith, How Advertising Changes Consumer Behaviors in Healthcare Marketing, 2017)

As in any category, the impact of advertising rarely occurs based on experience to a single ad. Rather, true change results from numerous exposures via various communication platforms to multiple complementary messages that build up over time to produce changes in how the consumer thinks and acts. Whatever campaign is designed it's taken into account that what effective means can be used that can be the possible point of connection with the customer. The concept of hammering and recalling is gaining more weightage in the industry of advertising. It is also applied in health care because it is complicated and at the same time challenging to leave an impact on consumers in health care who are already disturbed because of certain health conditions of them and their loved ones. The fact that consumers can't tell us about advertising's role in changing their attitudes and behaviors—along with the complex mix of messages required to produce change—presents researchers with challenges in terms of measuring how well advertising actually works against a defined set of objectives. Marketing mix models can provide support when the objective of the advertising is to produce a specific and measurable behavioral outcome. However, even these models, which have become quite sophisticated over the past few years, cannot typically be used to identify attitudinal shifts caused by advertising. Further, they generally come up short when the advertising campaign is complex and the marketer's goal is to identify how the various elements within the program combine to amplify the effects of each other.

### **Visual Communication in Health Sector**

With the passage of time and evolving nature of advertising and marketing, the trends in designing are changing rapidly. More and more health care organizations are discovering the added value of design in order to address the challenges they face. In order to get the message right on point, designers have to use the dedicated tools and techniques in order to cater the evolving needs of various stakeholders in health care for example patients, medical professionals, policy makers and insurance companies.

Similarly, when it comes to designing Chughtai Lab health awareness campaign, it was important to get the complete overview of the market segments, understanding the profiles of patients, their needs and requirements in order to get the desired result of my designed campaign.

### **Background of Chughtai Lab Advertising Campaigns**

Chughtai lab has made phenomenal progress in the field of diagnostic testing by introducing new technology and state of the art technology. One of the most important aspect of Chughtai lab marketing is to spread awareness across the nation regarding different diseases and health related issues. Chughtai Lab as the leading pathology lab in the field of diagnostics, it is striving and working hard to improve general public health and in order to improve the quality of individual's life. Being a reliable and quality assured lab, Chughtai Lab owns the responsibility of guiding patients at every possible level through their 24/7 customer support. Doctor is also available at their customer support to answer all of their test related concerns. It includes dealing with all kinds of patients at front desk ranging from heart patient, diabetes, cancer, hepatitis and list goes on. No one can help in changing the health of individual all of a sudden; it requires key focus on targeting health sectors based on prevalence of particular disease and who the target audience should be. Chughtai Lab is very efficient lab for participating in multiple awareness campaigns. For example, Breast Cancer awareness, Vitamin D, Hepatitis and list is long.

If we analyze the previous data of Chughtai lab campaigns, I have experienced different facets of conveying health education. One of the best ways is targeting hospitals, colleges and universities. The young audience at these institutions can be brand ambassadors of health and can give it an extra boost with their involvement. In addition, I would suggest getting it reported by news channels to have the maximum eyeballs and seek the attention of those who are still living in demise. There is still part of audience out there who are looking for such educational campaigns but not know where to start and if they know they could not join any awareness campaign directly.

In my awareness campaign, there will be a team of doctors with basic medical setup. The idea is to have the students get through the process of checkup that can motivate them to be word of mouth by spreading awareness and getting themselves tests and checked regularly. The doctors will be available for any kind of support and medical assistance. They will guide students about common health issues. They will be briefed not only about how to keep themselves secured, but also how the people around them can be saved from any dreadful disease from their small piece of advice. The session will also invite the patients suffering from particular disease to share their experience of disease and how their negligence made them suffer. The family

members of the patients (who could not fight for long and died because of disease) will also join the session to share their experience.

### **What is Aap ki sehat ka number?**

Aap ki sehat ka number is a UAN number of Chughtai Lab that is open 24/7 for its customers for any kind of support and guidance regarding tests. Anyone from nationwide can call at Aap ki sehat ka number and can ask test related query, reports discussion and can also book free home sample collection from anywhere in Pakistan. Chughtai Lab Sehat ka number is also available on WhatsApp to make the communication easy and possible as at every possible means of communication.

### **Literature Review**

The literature review is focused on the tools and techniques that are prevalent for the patient's care and safety. The set of colors are also researched that is again an important element in healthcare sector. The goal was to design a campaign that can enhance the health awareness. The literature review involved several steps and approaches.

Regular health exams and tests can help find problems before they start. They also can help find problems early, when your chances for treatment and cure are better. Which exams and screenings you need depends on your age, health and family history, and lifestyle choices such as what you eat, how active you are, and whether you smoke. To make the most of your next check-up, here are some things to do before you go are to review your family health history, find out if you are due for any general screenings or vaccinations, write down a list of issues and questions to take with you. (Health checkup, 2017).

Regular health exams and tests can help find problems before they start. They also can help find problems early, when your chances for treatment and cure are better. By getting the right health services, screenings, and treatments, you are taking steps that help your chances for living a longer, healthier life. Your age, health and family history, lifestyle choices (i.e. what you eat, how active you are, whether you smoke), and other important factors impact what and how often you need healthcare. (Checkups are important, 2017)

Regular medical checkup is crucial for the benefit of general well-being and overall health. All you need to do is just visit your doctor regularly. It can be quarterly or twice a year. This would help you to detect any possible or upcoming health issues to be diagnosed and treated properly.

Moreover, they also help to diagnose the disease at an early stage, when the chances for treatment and cure are higher and better. (Health checkup, 2017). Depending upon the results of your blood tests, the doctor or healthcare provider might warn you about various habits based on your family history, age, and health conditions. For example, many people usually ignore dental health and are completely unaware of oral care. However, if some are aware, they do not practice it completely. You might not be brushing your teeth twice a day. But, with regular reminders from your doctor, you might start doing it. This change in your habit reduces the chances of advent of various dental problems. This is just a small example. There are many such areas that we do not take proper care of, in spite of it being most crucial. Regular checkups make your doctor guide you to follow proper care routine for these areas and health aspects. (Checkups are important, 2017)

When you visit a doctor for regular health care checkup, you can also ask for a blood test. This can be helpful to eliminate the risk of various diseases associated with blood as well as conditions that are incorporated into the bloodstream, including cholesterol, diabetes, cancer, high blood pressure, anemia, HIV/AIDS, and coronary artery diseases. Moreover, a blood test also helps the doctor to properly evaluate the functioning of various body organs, like liver, kidneys, heart, and thyroid. (Checkups are important, 2017)

There are several advantages of regular health checkup with a doctor. One of the most important benefits is the prevention of disease. Preventive health checks are important especially for individuals with risk factors for different health conditions. A master health checkup can also aid in the early detection and treatment of a health problem, which is valuable especially in cases of cancer. The examinations and laboratory tests that will be done during a health checkup vary depending on an individual's age, sex, family history, and lifestyle.

Health checkups also promote better patient-doctor relationships and allow the doctor to promote healthy habits through patient education. (Anand Diagnostic Laboratory, 2017)

If we can take a look at some of the previous marketing campaigns and marketing material of Chughtai Lab, we can see the traditional methods of marketing being used. There are multiple campaigns being run that leave a good positive impact in the field of providing general health and awareness. If we talk about medical field, there are different strategies being used. There is information available that can leave a good impact in term of adding and hammering people with lot of information. However, if we look and analyze the impact in a longer run, we can reevaluate that they can be constructively recreated using creative strategies for a long lasting impact on the person.

Designing and creativity has the power to involve the individual level. There can be strategies that can start the chain to spread information in a creative manner. Some of the traditional methods being used are flexes, banners, mugs, flyers, test menu and coupons. These all are distributed at different events, collection centers and pick up points for marketing. Despite of all the creativity used in content and design, the idea of being remembered as a big brand name is still missing.

Pakistani population has one of the highest risks of coronary heart disease (CHD) in the world. In Pakistan, 30 to 40 per cent of all deaths are due to cardiovascular diseases (CVD). The CHD deaths in Pakistan has reached about 200,000 per year that is 410/100,000 of the population. Children are vulnerable too; the risk for CVDs can begin before birth during fetal development, and increase further during childhood with exposure to unhealthy diets, lack of exercise and smoking. The major risk factors are tobacco use, alcohol use, high blood pressure, high cholesterol, obesity, diabetes, physical inactivity, stress and unhealthy diet. "The more risk factors you have the greater is the likelihood that you will suffer heart disease, unless you take action to modify your risk factors and work to prevent them compromising your health. (Cardiac Disease in Pakistan, 2017).

Kidney related complications are on rise throughout the world and every 5th person in the American and European countries were victims of the disease. In Pakistan presently more than 20 million people are facing this disease. The basic awareness about kidneys is necessary for everyone, therefore media must play its role in this regard, he said. The speakers said that medical research conducted throughout the world health proved that obesity not only affect kidneys but also causes high blood pressure and diabetes. The function of kidneys in the human body is to clean the blood, to keep balance among minerals and to control acidity in the human stomach. About 18 per cent male and 21 per cent female population can fall prey to obesity up till 2025. They said that major reason for the kidney problems in Pakistan were diabetes and blood pressure. They observed that diabetes, blood pressure, infection, obesity were the factors which must be controlled to overcome kidney diseases.(The Nation, 2017)

## **Methodology**

The screening of blood and the quantity of blood and blood components represent critical processes that should be followed to ensure that blood units are safe. All tests on blood samples should be performed and recorded in accordance with standardized procedures in laboratories that are properly equipped to undertake them.

## **Research Design**

Research design for this campaign is analysis of previous marketing campaign. In the research the analysis of all the available marketing material was made that includes all kinds of printing (brochures, pamphlets, flexes, banners, visiting cards) website, and online (posts, ads, cover photos) and all other material designed so far.

## **Data Collection**

Data was collected through primary data, a collection resource that is marketing department and its key team members. The idea of getting data from marketing department is to have the information about the previous marketing briefs and set objectives accordingly. Secondary data collection and other information was made possible by using two following resources.

## Primary Data

Primary data collection was made through interviews and observation and it was done with Marketing team of Chughtai Lab. It includes one to one discussion in order to get an understanding of current designing strategy and what marketing techniques are being used constantly used to make the image of Chughtai Lab in educational sector effective.

## Secondary Data

Following are the resources which were used as secondary data collection sources:

1. Chughtai Lab Facebook page
2. Chughtai Lab website
3. Chughtai Lab app
4. Offline marketing material
5. Flexes
6. Banners
7. Flyers
8. Newsletters
9. Test menus

## Method and Instrument of data collection

Instrument that has been in order to conduct this research is interviews and following is the method chosen for data collection.

## Observation

First of all, observation was made. The current working protocols of designing are observed. It is observed that what were the steps involved in finalizing the design and campaign idea. What are the basis of research, who approves the idea for further designing? Observation is made about data collection for campaign and how they are implemented from various means and techniques to get the desired result.

The roles of different team members were also observed digital media executives, designers, videographer and the role of marketing manager to see who is involved to what extent.

## Interview

The data was collected through responses from marketing manager and regional managers when interview was conducted with them. The questions that were included in the questionnaire are based on the success parameters of previous marketing campaign and understanding of designing & evaluation of marketing campaigns being conducted by team Chughtai Lab. The interviews were conducted to get an understanding of the different dynamics of Chughtai Lab marketing, as its network is nationwide. Chughtai Lab since its existence is providing quality services nationwide and with the passage of time made a great progress. It is currently operating nationwide and is operational at all 4 provinces of Pakistan. Being a leader in its industry it becomes important to get the idea of bigger picture of Chughtai Lab marketing strategies.

## Interview with Marketing Manager

Following questions were asked to get an understanding of previous marketing campaigns of Chughtai Lab

1. What are the basis of designing a campaign?
2. Do you customize your campaign according to dynamics of different regions?
3. How the campaign is being adapted for different regions?
4. What are the success parameters for the campaign?

## **Results:**

Based on the questions asked from the marketing manager, I get the following answers that were helpful in getting the initial information about Chughtai Lab previous marketing campaigns.

The campaigns are generated according to different health related days for example World Heart Day, World Diabetes Day, World Hepatitis Day and list goes on. The different means for advertising are used to get the messages encompass across masses. It usually depends on the defined scope, diversity of audience and particular standards of discount allowed.

The campaigns have usually two objectives one to increase the number of patients for particular test while other one is health and awareness about that disease. In order to get more people to get themselves checked, offers have been designed usually that include offering particular percentage of discount. At the same side creative for social media and flyers are designed to give general awareness about disease.

For example, for New Year, a campaign is designed that promoted importance of Vitamin D and 30% discount offer was provided on testing of Vitamin D. The campaign was pushed on multiple platforms. The means of advertising included, magazines ads, posters and social media. However, you can check on number of times people have used particular offer for Vitamin D. This can be success parameter for the campaign. Similarly, for remote areas campaign is being pushed in Urdu language, while regions that are modern and posh areas English is usually preferred mean of communication.

However, all the campaigns designed were to get the action at certain period of time so it was a challenge for me to design a campaign that should not only increase the numbers at particular time slot but should develop an urge to get themselves checked.

## **Implementation**

Implementation of this advertising campaign is most important part in order to get the most out of the campaign designing efforts. The implementation of this campaign is a proposed setting based on idea and understanding of settings. It will include one project lead that will be marketing manager or any other team members designated by marketing manager.

However, talking to hospitals and agreeing them to have this campaign running in their hospital will be the major role of regional managers. Along with regional manager, the project head will work in close coordination with regional managers in order to set the time lines and implementation of campaign material in particular hospital setting. The regional manager will be assigned a role to designate a duty of particular center in charge to monitor the campaign in particular hospital regularly.

Checklist for each hospital will be finalized along with the designated regional manager. The requirements at each hospital will vary depends on the size of the hospital and foot traffic of possible areas chosen for campaign. There will be weekly rounds by marketing manager to monitor the flow of the campaign execution.

The campaign success does not have any defined set of parameters, however in order to have the idea of audience's response, feedback form will be available on the hospital reception. The question that will be asked for customer getting themselves checked for routine tests "Why are you getting yourself checked today?", the answer will help in understanding the outcome of the campaign as it will include the option Chughtai Lab campaign creative.

This is not the definite method of analyzing outcomes but this is one way of keeping a keen eye on the campaign flow and people response.

## **Conclusion**

Chughtai Lab being a big brand name in the field of lab diagnostics, the idea of informing customer in a creative manner is usually the rare case. In the field of medical and diagnostics such techniques of advertising have been never introduced. This kind of innovation can surely bring an innovation in health sector by giving awareness in much needed way. People who are visiting any health or medical center are little worried about their health or may be the health of their loved ones. In one way or the other you can't intervene their thought

process by hammering forced messages. They never want to get overwhelmed with the information that is only adding back in to their current stress. The design elements and creative used in this project are supposed to make them understand that early detection and diagnosis is a key. The objective will be achieved when they will never feel overwhelmed. They will never think that these messages are forced.

The idea of putting health facts are to make them realize the important of biyearly or yearly screenings being offered for the betterment of their health. Similarly, how timely diagnosis can make a real difference in their life. The campaign design will make them think about their health automatically. The final call completely depends on their perception and their next step of action. Chughtai Lab being service provider in most of the hospitals and serving there for years through this unique idea and creativity can play a vital role in changing the life style of people by sensitizing them about their health and taking them to the next step of working on making it their health better.

### **Bibliography**

*Anand Diagnostic Laboratory*. (2017, September 5). Retrieved from Is annual Health Checkups really necessary: <http://www.anandlab.com/blog/annual-health-checkup-really-necessary-useful-otherwise-healthy-person/>

*Cardiac Disease in Pakistan*. (2017, August 2). Retrieved from Shifa International Hospitals Ltd.: <http://www.shifa.com.pk/chronic-disease-pakistan/>

*Checkups are important*. (2017, September 10). Retrieved from Center of disease control and prevention: <https://www.cdc.gov/family/checkup/index.htm>

*Chughtai Foundation*. (2017, Jul 1). Retrieved from Chughtai Lab: <https://chughtailab.com/chughtai-foundation/>

*Health checkup*. (2017, August 10). Retrieved from Medicine plus: <https://medlineplus.gov/healthcheckup.html>

*Health checkup*. (2017, september 10). Retrieved from 5 benefits of regular health check-up: <https://www.healthcheckup.com/general/regular-medical-check-up-benefits/>

Smith, J. (2017, Jul 2). How Advertising Changes Consumer Behaviors in Healthcare Marketing. *Marketing Health Services*.

Smith, J. (2017, Jul 2). How Advertising Changes Consumer Behaviors in Healthcare Marketing . *Marketing Health Services*, p. 1. Retrieved from <https://www.ama.org/publications/MarketingHealthServices/Pages/elephant-in-the-room.aspx>

*The Nation*. (2017, July 1). Retrieved from 20 million people facing kidney disease in Pakistan.: <http://nation.com.pk/lahore/10-Mar-2017/20m-facing-kidney-disease-in-pakistan>

*Why Chughtai Lab*. (2017, July 03). Retrieved from Chughtai Lab: <https://chughtailab.com/why-chughtai-lab/>