An Insight

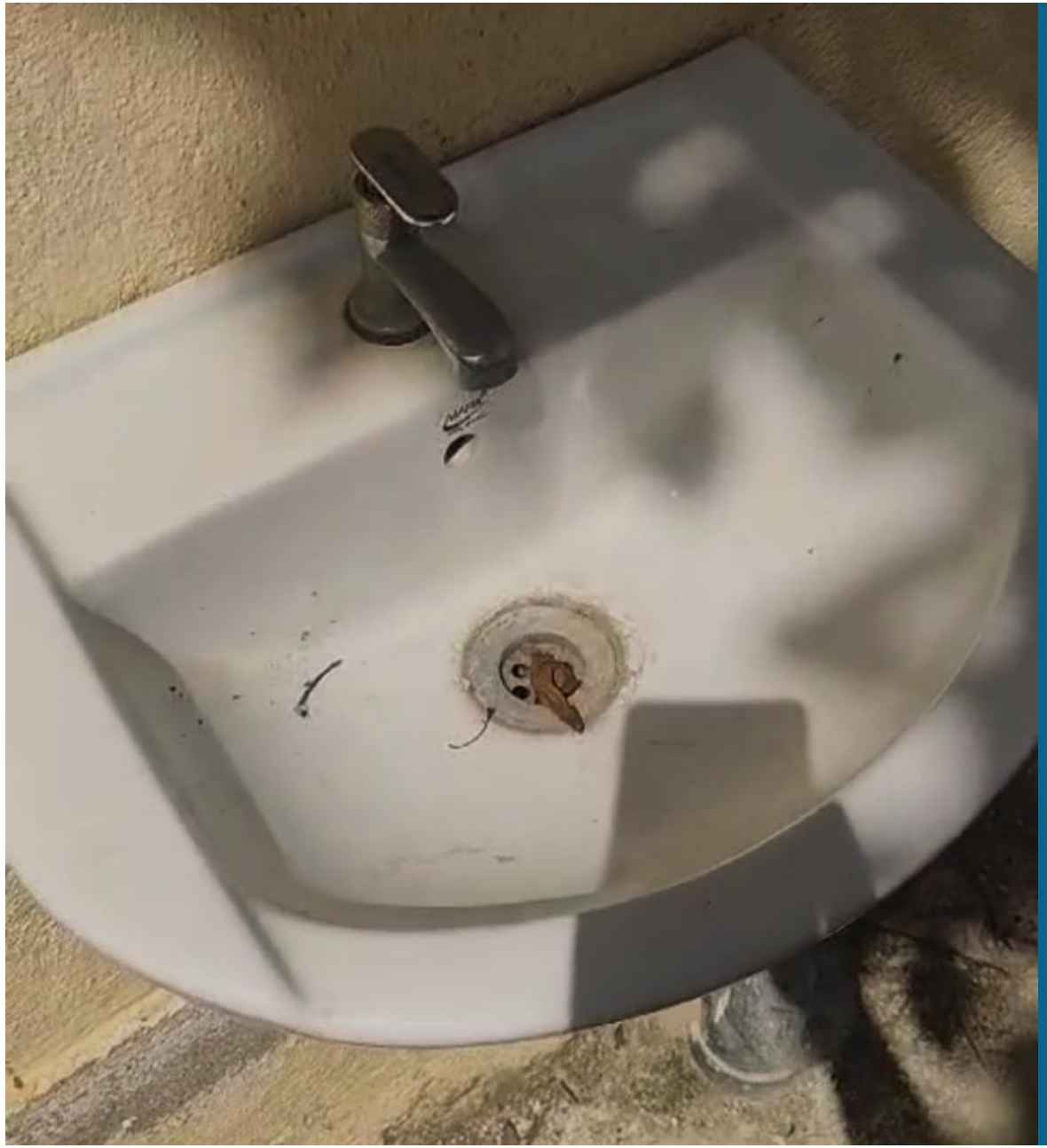
Government Hospitals

CONTENTS

1

FIRST IMPRESSIONS

Our team visited the Government Hospital of Kannur, and came up with a bunch of observations. This section highlights what we noted upon our first visit to this hospital.



UNAVAILABILITY OF WATER AND A VERY UNHYGIENIC APPROACH

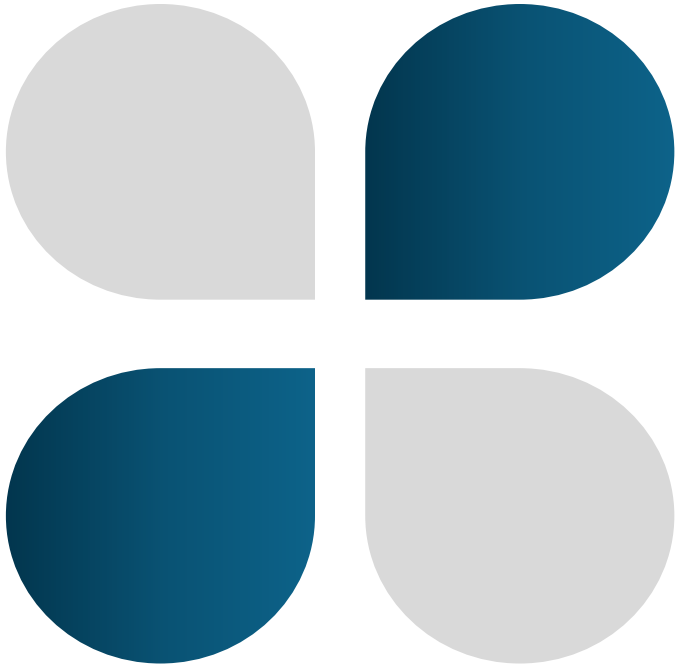
In spite of the presence of a tap, there was no running water in it. Furthermore the pipe line itself was broken forcing the dirty water to fall at the feet or the ground making it very unhygienic. In addition to that, the sink itself looks as though it hasn't been cleaned/sanitized in a very long time.

Other things we saw

Upon arriving at the hospital, we were greeted with silence, and there weren't any doctors or nurses around to guide us. The building itself was abandoned the first time we visited.

LANGUAGE BARRIER

The one person who was willing to talk to us only knew Kannada. Moreover, they weren't aware of the whereabouts of the nurses & doctors.



DESERTED

There was no doctor/patient/nurse/ security in sight. Only upon venturing deep inside the premises, did we find one person willing to talk to us.

WHAT IF EMERGENCY?

It's not uncommon for maids & janitors to only be able to communicate in the local language, but in such a scenario, what if at least one staff member who can converse in the national language is recruited?

WHAT IF EMERGENCY?

As much as the healthcare providers deserve a holiday, there could also be emergencies during said holidays. What if the hospitals recruited more staff so everyone can get a holiday and no one's health is compromised?

2

PRIMARY RESEARCH

Upon interviewing the patients who have previously visited, or are currently visiting, and the doctors and nurses present, our team gathered various insights. We spent few days at various hospitals, and came up with various observations. This section highlights those.

Questionnaire pattern

We organised the interview questions into five sectors, for a more organised and efficient approach at getting answers.

Treatment

Is the treatment efficient?
Is it effective?
Are there any side effects?

Infrastructure

Was the ambulance on time?
Are there apt equipment for necessary procedures?

Hospitality

Hygiene?
Food?
Staff?

Administration

Communication?
Safety?
Efficient management of time?

Finance

Was the treatment affordable?
Apt payment methods?
Friendly policies?

66.67 %

23

Treatment received

In accordance with the interviews conducted, and the observations noted, the treatment itself has been effective, with very negligible side effects. The efficiency of providing treatment was low as seen in the photos, with primary concern being the magnitude of queues.

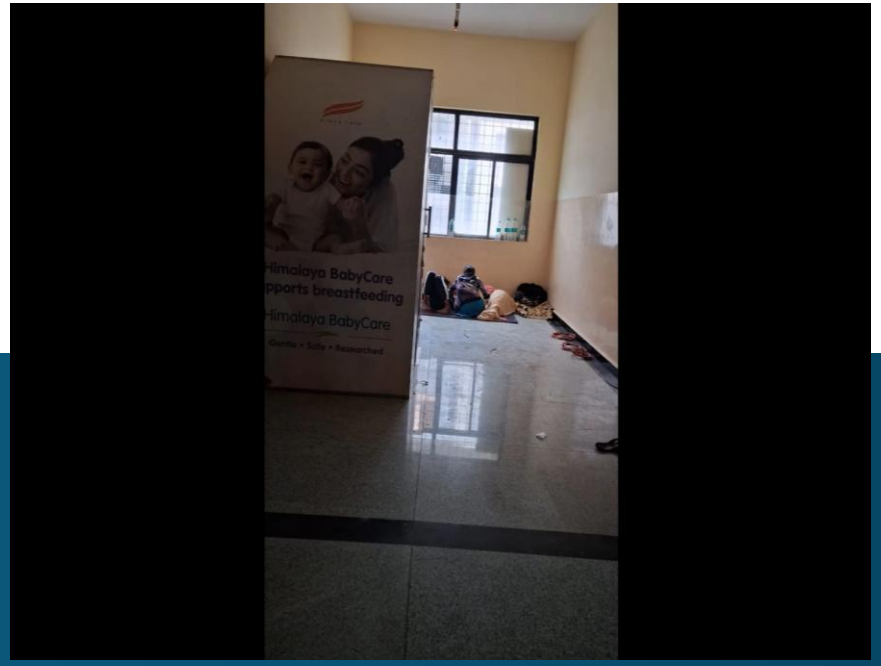
15%

16

Infrastructure Available

In accordance with the interviews conducted, and the observations noted, there are a few points that need urgent acknowledgment. There weren't enough beds or an organised resource for navigation within the campus. Most of the data was being handled manually due to lack of a computerised database. Most elevators were out of service, most electronic gadgets seemed dangerous to operate, and construction/repair work was being conducted in the middle of the road. The hospital lacked a proper canteen and had a strange smell, which felt suffocating.

20%



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Hospitality shown

In accordance with the interviews conducted, and the observations noted, most patients received poor hospitality. As shown in the photos, most patients had to wait for such a long duration of time to receive treatment. Furthermore, majority didn't have an apt space to rest while waiting. It was also observed that sensitive equipment weren't appropriately sanitized and thus hygiene was compromised. While some staff members were friendly, others neglected their duties.

30 %

13

Administration

In an interview, a person had mentioned that the doctors were unavailable despite an appointment. Female staff expressed safety concerns, stating they feel unsafe, especially during night shifts. When the staff were questioned about these issues, they mentioned facing such problems daily. There also weren't proper measures implemented to insure adherence of rules.

50%

14

Financial Issues

During the interviews conducted at BR Ambedkar Hospital, people mentioned that medicines were more expensive than in other hospitals, insurance policies were rejected, and they had to stand in long queues to pay even small bills of ₹50-₹100. In contrast, Bowring Hospital provided free medicines and accepted insurance policies.

3

SECONDARY RESEARCH

We individually took to the internet and other sources of information—such as newspapers, articles, etc., to come up with our own views about the government hospitals. This section is an overview of the most important information we came across.

Articles

- The Lokalyukta's surprise visit to government and BBMP-run hospitals has unearthed poor maintenance and low hygiene standards. Source
- Because of the unavailability of a doctor in a government hospital in Rajasthan, a staff member attempted to perform a cardiac operation by referring to an online source, which resulted in the death of the patient. Source
- A 31-year-old trainee doctor, who was raped and murdered at Kolkata's RG Kar Medical College and Hospital. The family said they were told that their daughter had died by suicide and were made to wait outside the hospital for three hours before they could see her body. Source

Articles

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Articles

- A hospital staffer was once arrested in Thalassery for allegedly attempting to sexually abuse a class 10 boy who was undergoing treatment. Source
- The medical staff of a government hospital in Molakalmuru, Chitra Durga District has been facing significant challenges due to power outrages. Source
- Since the 2000s, India has launched many government-funded health insurance (GFHI) schemes to help poor families avoid heavy medical costs. However, research in South India shows these schemes often fail because people don't see their value the way the government expects. Instead, the poor coverage and broken promises leave many feeling disappointed and undervalued. Source

4

PROBLEM DEFINING

A summary of the primary and secondary research we conducted, and finally, defining the problems.

Hygiene
Compromised sanitary procedures

Maintenance
Poor/lack of maintenance of already existing resources

Management
Poor management/administration

Efficiency
Lengthy & time-consuming procedures

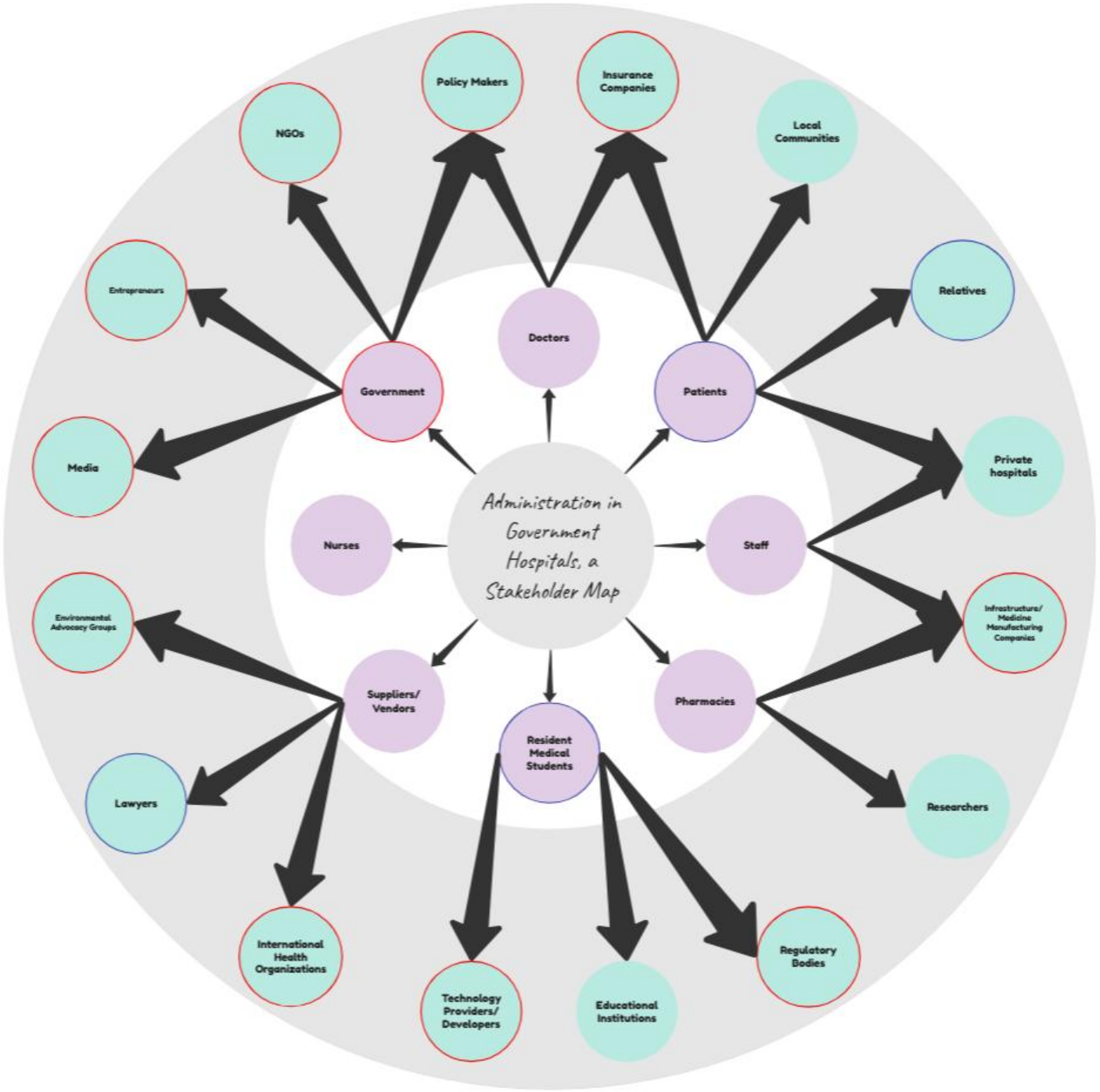
Infrastructure
Lack of apt equipment/technology

Resources
Lack of enough resources to improve/maintain

Communication
Inadequate methods of communication/navigation

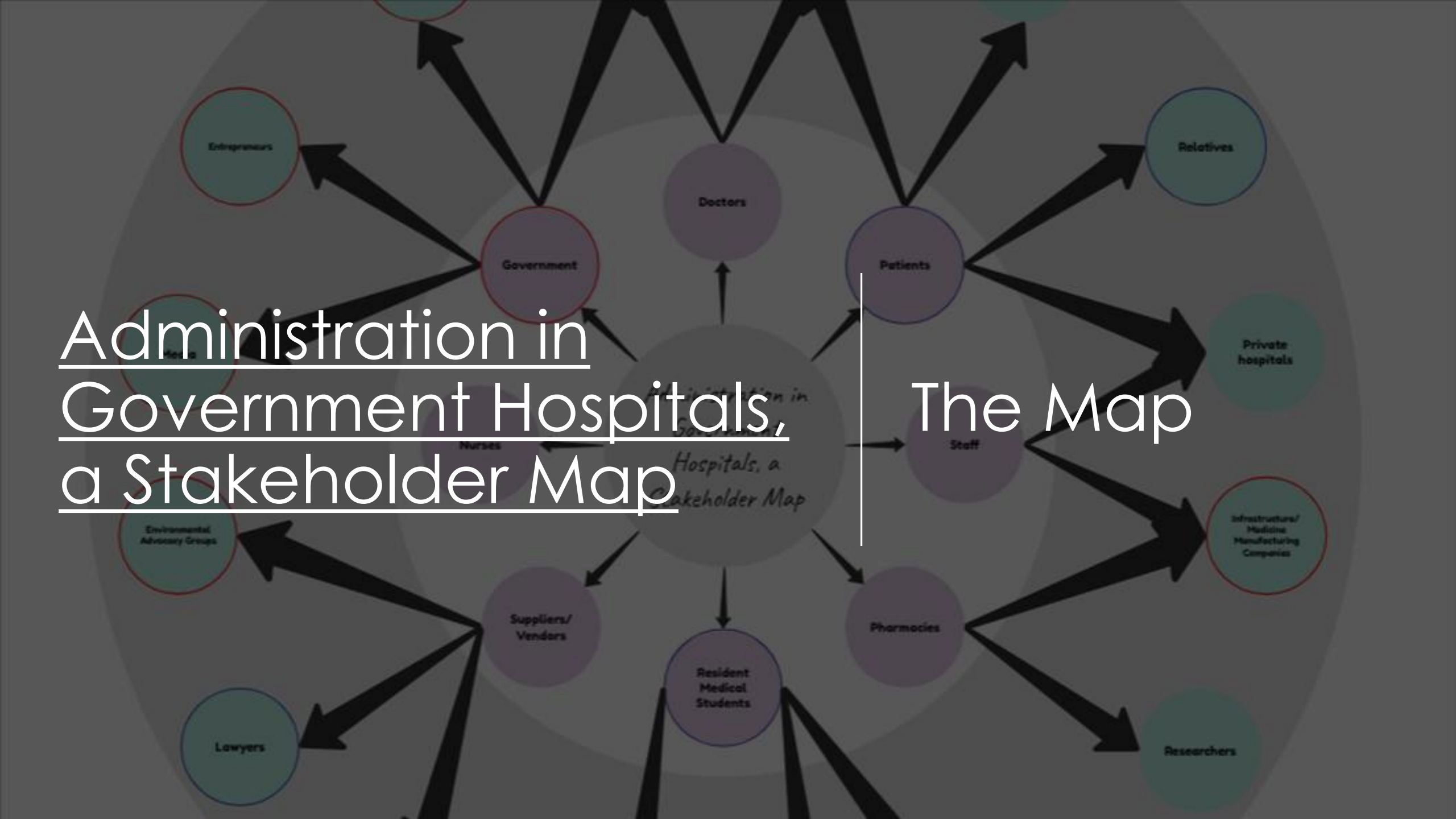
Safety
Concerns regarding safety of all

Stakeholder Map



Administration in Government Hospitals, a Stakeholder Map

The Map



Description and Elaboration

Doctors: They have an employer/employee relationship with the administration. They are involved with the secondary stakeholders- *Insurance Companies* and *Policy Makers* as they are financially dependent on them.
Patients: Patients are the clients coming into the hospitals. They are involved with- *Insurance Companies* (financial dependence), *Local Communities* (which influence masses of patients with their reviews and comments), *Relatives* (who they have a relationship with), and *Private Hospitals* (which are a competition to the government hospitals, as advancement in infrastructure and increase in numbers of private hospitals will result in patients migrating to those instead of conventionally going to government hospitals).
Nurses: Similar to doctors, they have an employer/employee relationship with the administration.
Government: The government, specifically the health ministry, BBMP, etc., is directly related to the administration of the government hospitals as they are the primary governing authority. The government is financially dependent on *Policy Makers* and *NGOs*. The government is also dependent on the *Media* who influence politics and *Entrepreneurs* who influence the market, and also, politics.
Suppliers/Vendors: They have a manufacturer-client relationship with the hospitals. They are involved with *International Health Organizations* (that influence the market), *Lawyers* (who they have an attorney-client relationship with), and *Environmental Advocacy Groups* (who also influence the market).
Resident Medical Students: The resident medical students studying at government hospitals are directly affected by the administration of said hospital. They are involved with secondary stakeholders, namely- *Regulatory Bodies* (who make laws/conduct examinations/determine syllabi, which influences the influx of students), *Educational Institutions* (which act as competition, as students will choose universities with better opportunities), and *Technology Providers/Developers* (who create a good/bad educational environment).
Pharmacies: The pharmacies connected to government hospitals also have an employer/employee relationship with the administration. They are involved with the secondary stakeholders, namely- *Infrastructure/Medicine Manufacturing Companies* (who they have a supplier/consumer relationship with) and *Researchers* (who design the drugs that are used in pharmacies)
Staff: The entirety of the hospital staff also has an employer/employee relationship with the administration. They are involved with the secondary stakeholders, namely *Private Hospitals* (competition) and *Infrastructure/ Medicine Manufacturing Companies* (who they are dependent on for the technology they use and the medicines they will prescribe).

Identifying Creators and Victims

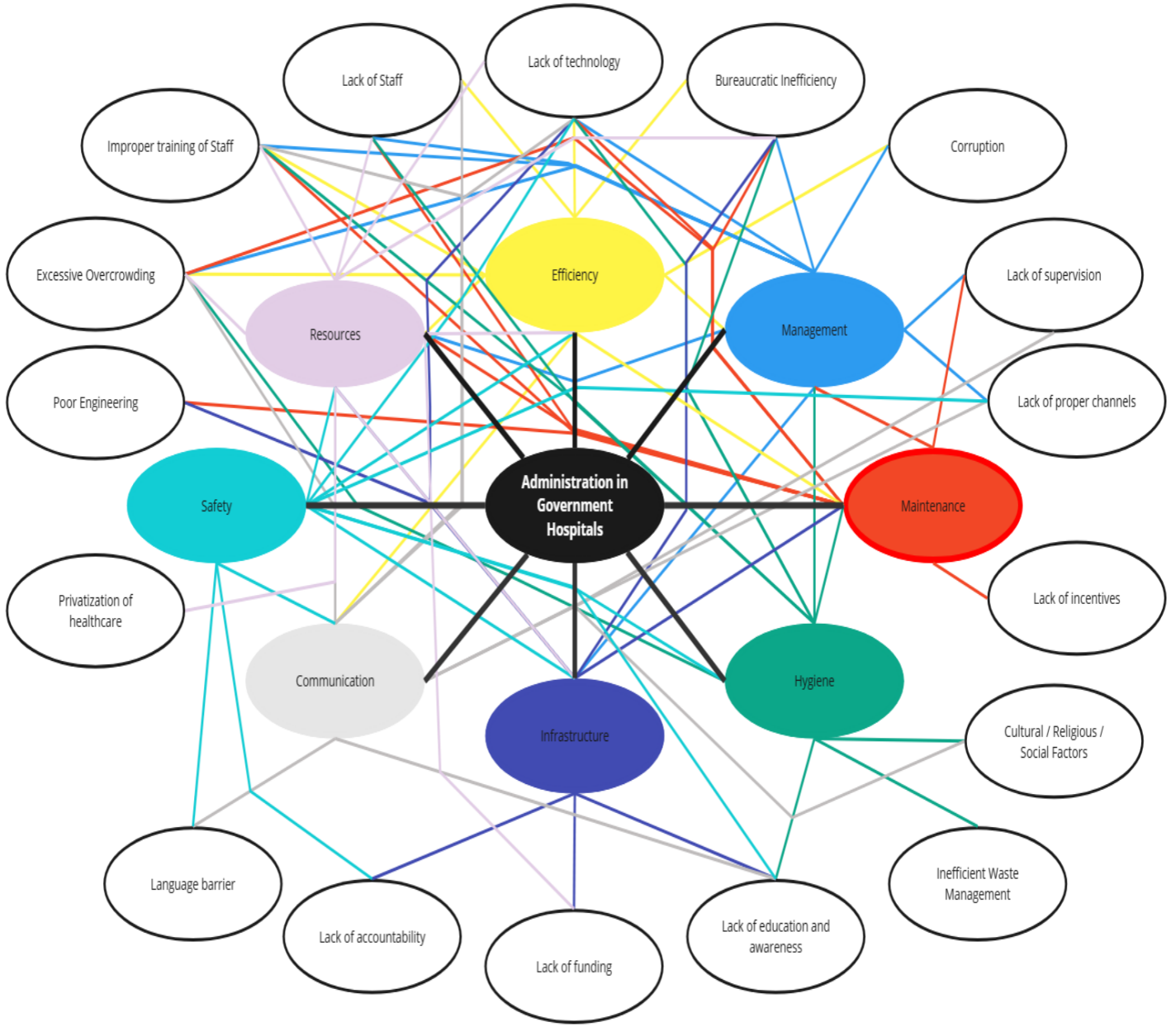
Primary Stakeholders: The creators of the problems include stakeholders like the government and the victims include stakeholders like Patients and Resident Medical Students. Stakeholders like Doctors, Nurses, Suppliers/Vendors, Pharmacies, and Staff are both creators and victims.

Secondary Stakeholders: The creators of the problems include stakeholders like Insurance Companies, Policy Makers, NGOs, Entrepreneurs, Media, Environmental Advocacy Groups, International Health Organizations, Technology Providers/Developers, Regulatory Bodies and Infrastructure/Medicine Manufacturing Companies. The victims include stakeholders like Relatives and Lawyers. Stakeholders like Private Hospitals, Local Communities, Educational Institutions, and Researchers are both creators and victims.

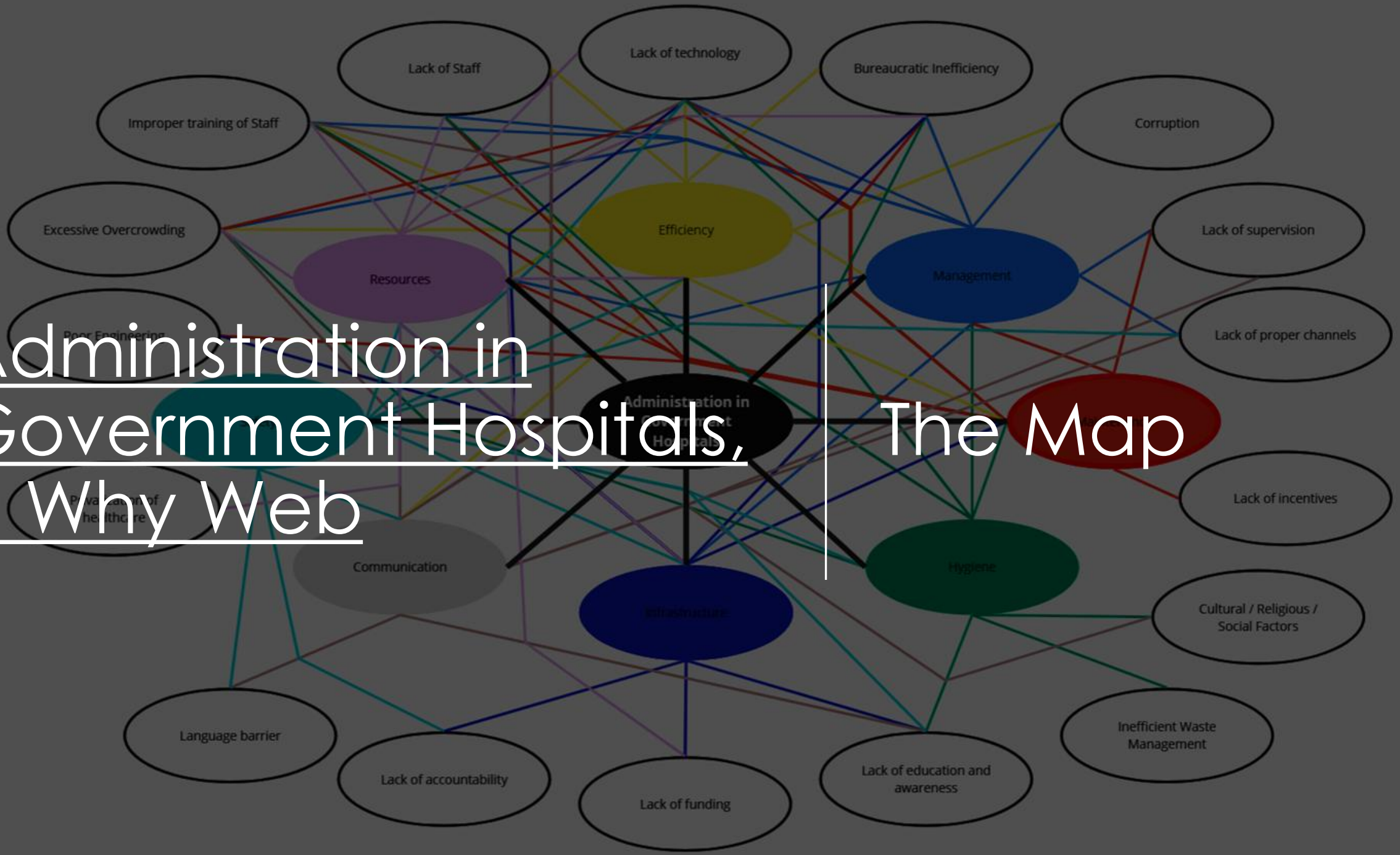
Doctors: Source elaborating how insurance policies affect doctors and their abilities to treat patients, here. Furthermore, citing a source regarding how policymakers have the power to positively and negatively impact professional medical fields, here.
Patients: A source elaborating on how insurance companies affect patients here. Furthermore, a source about how local engagement affects patients' mindsets is here. Last but not least, a source about how the presence/absence of private hospitals in the vicinity of government hospitals affects patients can be found here.
Government: Source1 and Source2 discuss how NGOs influence healthcare on a national level. Here is a source on the interdependence of policymakers and the health sector, here is a source on how media affects the health sector, and, last but not least, here is a source on how entrepreneurs influence government hospitals.
Suppliers/Vendors: A source regarding how International Health Organisations influence suppliers and vendors of a government hospital can be found here. Furthermore, sources regarding how environmental advocacy groups influence the market can be found in Source1 and Source2. Lastly, a source elaborating on the many laws concerning healthcare can be found here. Lawyers help suppliers and vendors navigate the law.
Resident Medical Students: A lot of regulatory bodies like UGC, AICTE, NMC, DCI, PCI, RCI, ICAR, NCTE, BCI, INC, etc., directly affect higher education in India. Out of these, NMC and INC directly affect medical education in India. So indirectly, they also affect the administration of institutions with access to said higher education. Articles that talk about this can be found in Source1 and Source2. An article talking about the effect of educational institutions on resident medical students can be found here. Lastly, an article talking about the effect of technology developers on students training to be medical professionals can be found here.
Pharmacies: A source talking about the dependency of pharmacies acquainted with government hospitals and medicine manufacturing companies can be found here. Sources elaborating on how researchers influence pharmacies can be found in Source1 and Source2.
Staff: Sources talking about how private hospitals influence the staff of government hospitals can be found in Source1 and Source2. Lastly, a source talking about the dependency of healthcare personnel on infrastructure, and subsequently, on infrastructure manufacturing companies can be found here.

What sources we'd used to back our Map with

Why Web


Lack of Staff
Lack of technology
Bureaucratic Inefficiency
Improper training of Staff
Corruption
Excessive Overcrowding
Efficiency
Lack of supervision
Resources
Management
Poor Engineering
Lack of proper channels
Safety
Administration in Government Hospitals
Maintenance
Privatization of healthcare
Lack of incentives
Communication
Hygiene
Infrastructure
Cultural / Religious / Social Factors
Language barrier
Inefficient Waste Management
Lack of accountability
Lack of funding
Lack of education and awareness

Administration in Government Hospitals, a Why Web



The Map

Efficiency: The efficiency of processes occurring in government hospitals is very low, which results in extremely poor overall time management. The identified reasons for this appear to be a lack of appropriate technology, bureaucratic inefficiency, lack of staff, inadequate staff training, corruption, *lack of communication*, *poor management*, *lack of maintenance*, excessive overcrowding, and *lack of resources*.

Management: The overall management of government hospitals is very poor. This is the result of a *lack of resources*, bureaucratic inefficiency, *infrastructure*, technology, staff, inadequate training, excessive overcrowding, corruption, lack of proper channels, and lack of supervision.

Maintenance: The already existing infrastructure and constructed buildings have been maintained very poorly. This is because of a lack of supervision, poor engineering, inadequate training, lack of staff, lack of incentives, bureaucratic inefficiency, *lack of resources*, *lack of efficient management*, lack of apt technology, and excessive overcrowding.

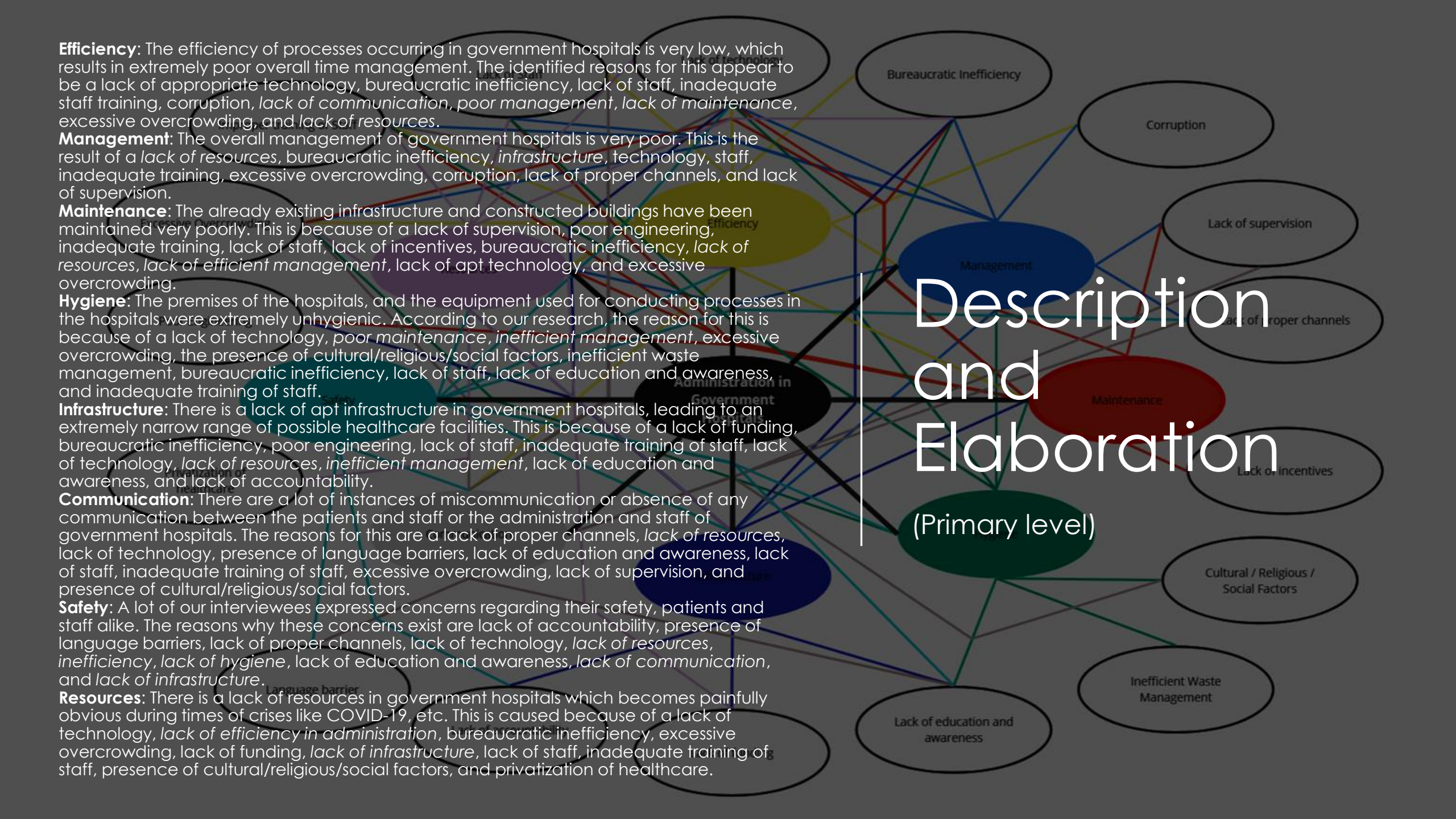
Hygiene: The premises of the hospitals, and the equipment used for conducting processes in the hospitals were extremely unhygienic. According to our research, the reason for this is because of a lack of technology, *poor maintenance*, *inefficient management*, excessive overcrowding, the presence of cultural/religious/social factors, inefficient waste management, bureaucratic inefficiency, lack of staff, lack of education and awareness, and inadequate training of staff.

Infrastructure: There is a lack of apt infrastructure in government hospitals, leading to an extremely narrow range of possible healthcare facilities. This is because of a lack of funding, bureaucratic inefficiency, poor engineering, lack of staff, inadequate training of staff, lack of technology, *lack of resources*, *inefficient management*, lack of education and awareness, and lack of accountability.

Communication: There are a lot of instances of miscommunication or absence of any communication between the patients and staff or the administration and staff of government hospitals. The reasons for this are a lack of proper channels, *lack of resources*, lack of technology, presence of language barriers, lack of education and awareness, lack of staff, inadequate training of staff, excessive overcrowding, lack of supervision, and presence of cultural/religious/social factors.

Safety: A lot of our interviewees expressed concerns regarding their safety, patients and staff alike. The reasons why these concerns exist are lack of accountability, presence of language barriers, lack of proper channels, lack of technology, *lack of resources*, *inefficiency*, *lack of hygiene*, lack of education and awareness, *lack of communication*, and *lack of infrastructure*.

Resources: There is a lack of resources in government hospitals which becomes painfully obvious during times of crises like COVID-19, etc. This is caused because of a lack of technology, *lack of efficiency in administration*, bureaucratic inefficiency, excessive overcrowding, lack of funding, *lack of infrastructure*, lack of staff, inadequate training of staff, presence of cultural/religious/social factors, and privatization of healthcare.



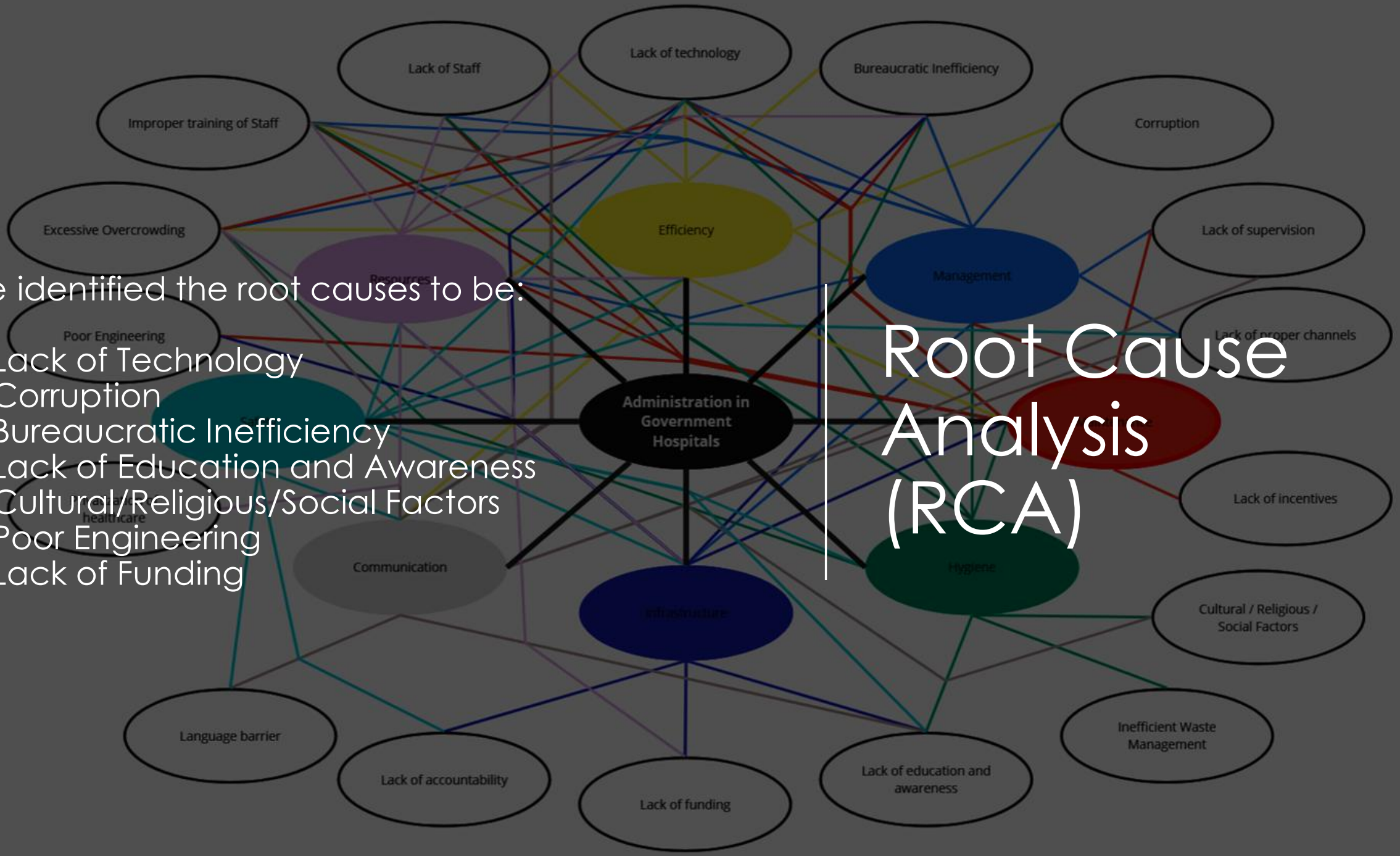
Description and Elaboration

(Primary level)

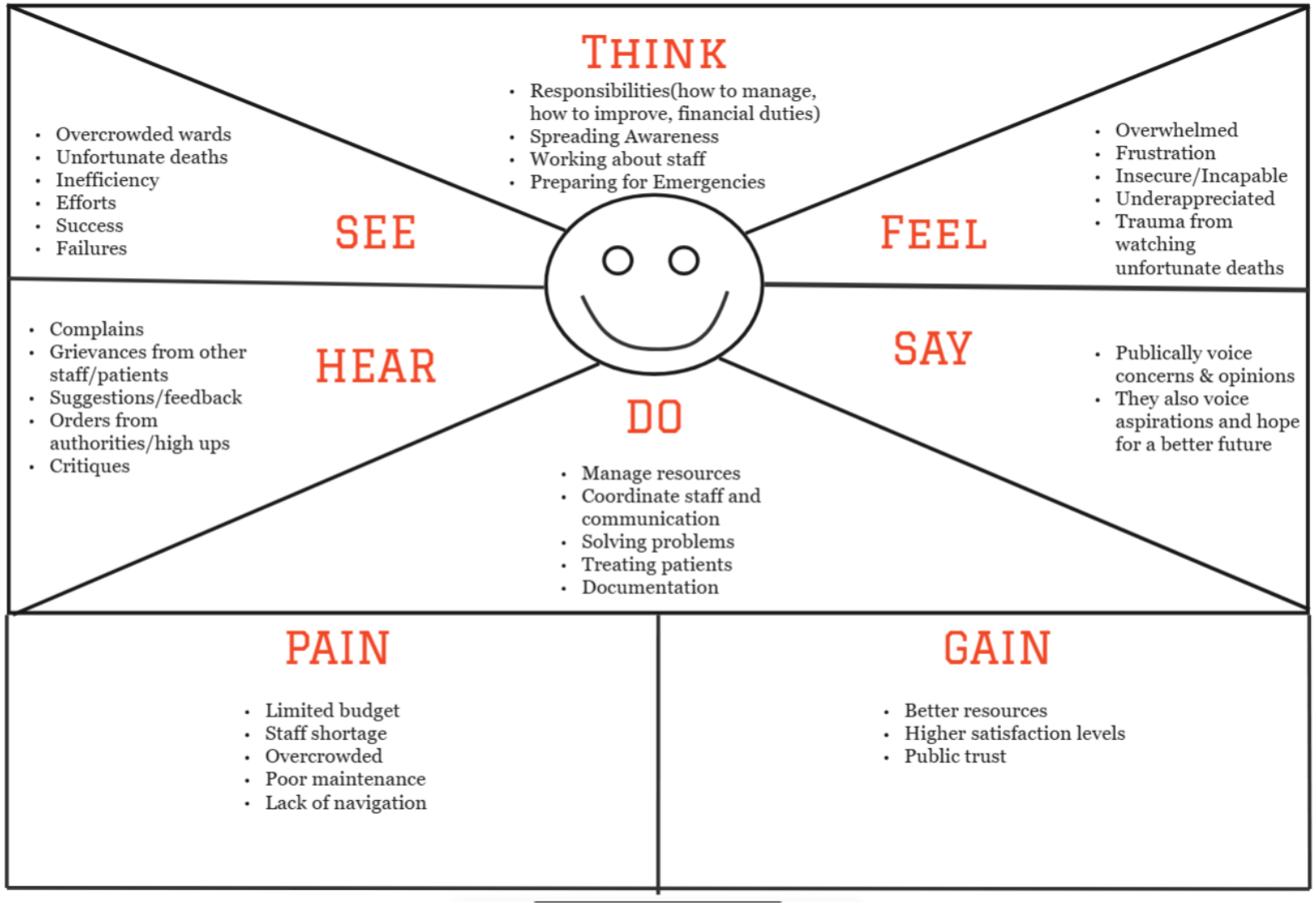
Root Cause Analysis (RCA)

We identified the root causes to be:

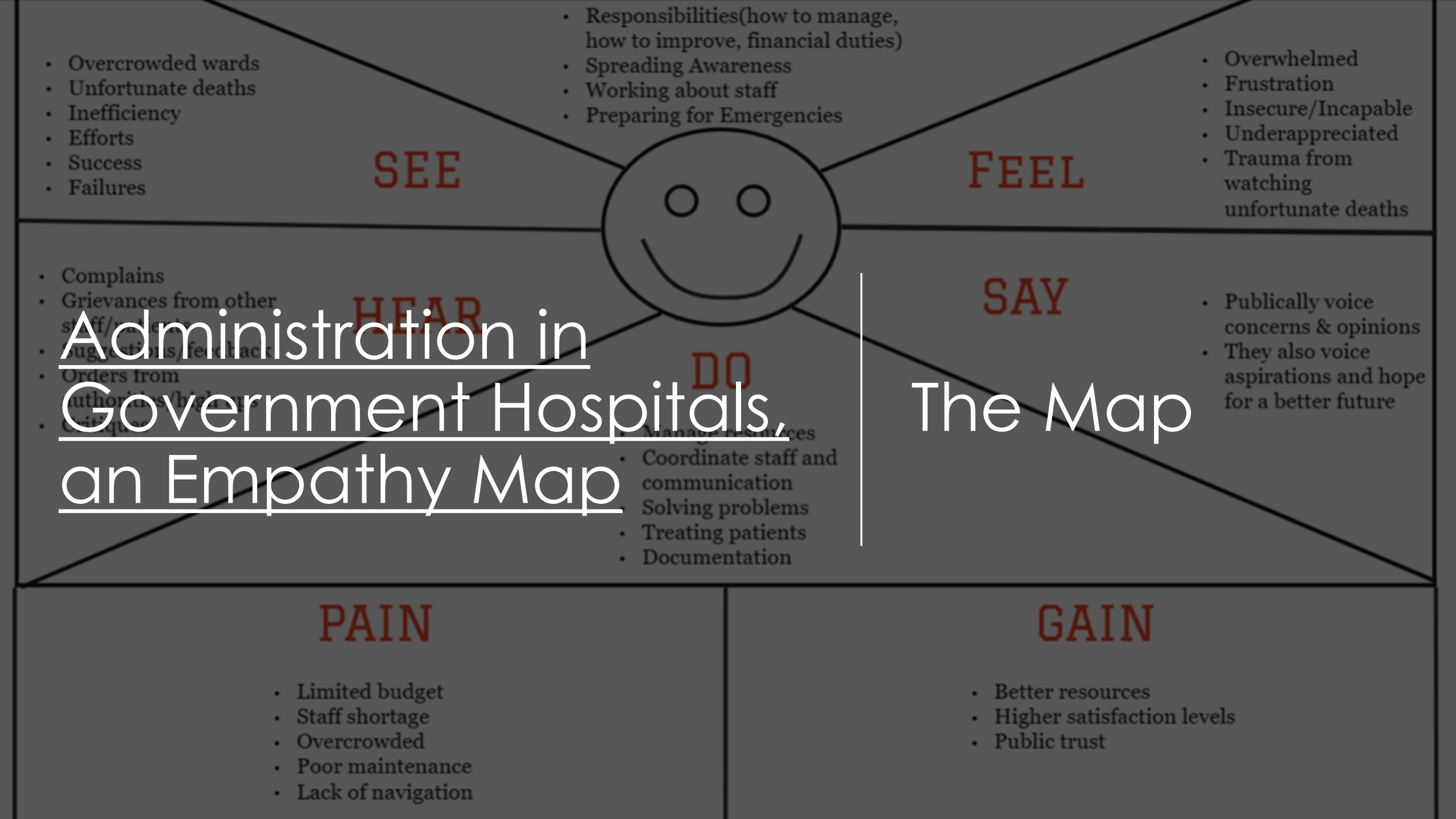
1. Lack of Technology
2. Corruption
3. Bureaucratic Inefficiency
4. Lack of Education and Awareness
5. Cultural/Religious/Social Factors
6. Poor Engineering
7. Lack of Funding



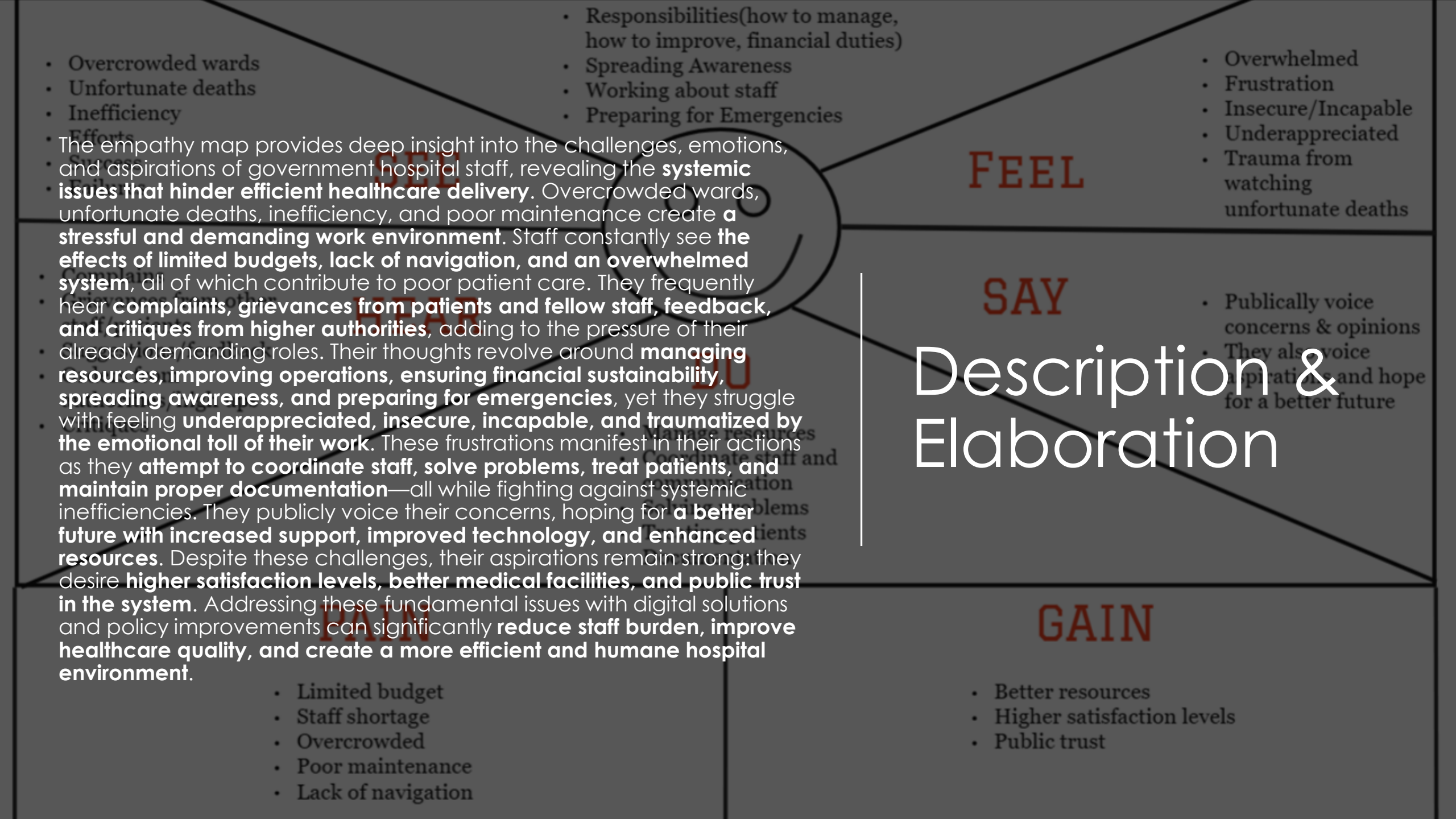
Empathy Map


THINK
Responsibilities(how to manage, how to improve, financial duties)
Spreading Awareness
Working about staff
Preparing for Emergencies
SEE
Overcrowded wards
Unfortunate deaths
Inefficiency
Efforts
Success
Failures
FEEL
Overwhelmed
Frustration
Insecure/Incapable
Underappreciated
Trauma from watching unfortunate deaths
HEAR
Complains
Grievances from other staff/patients
Suggestions/feedback
Orders from authorities/high ups
Critiques
SAY
Publically voice concerns & opinions
They also voice aspirations and hope for a better future
DO
Manage resources
Coordinate staff and communication
Solving problems
Treating patients
Documentation
PAIN
Limited budget
Staff shortage
Overcrowded
Poor maintenance
Lack of navigation
GAIN
Better resources
Higher satisfaction levels
Public trust

Administration in Government Hospitals, an Empathy Map



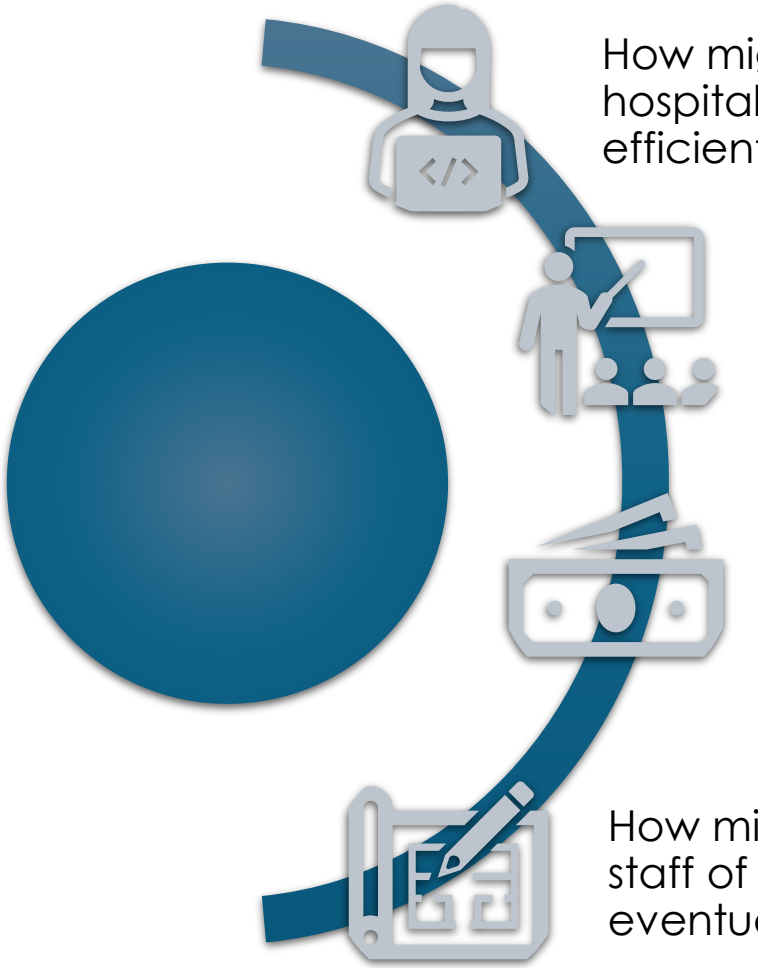
The Map



Description & Elaboration

The empathy map provides deep insight into the challenges, emotions, and aspirations of government hospital staff, revealing the **systemic issues that hinder efficient healthcare delivery**. Overcrowded wards, unfortunate deaths, inefficiency, and poor maintenance create **a stressful and demanding work environment**. Staff constantly see **the effects of limited budgets, lack of navigation, and an overwhelmed system**, all of which contribute to poor patient care. They frequently hear **complaints, grievances from patients and fellow staff, feedback, and critiques from higher authorities**, adding to the pressure of their already demanding roles. Their thoughts revolve around **managing resources, improving operations, ensuring financial sustainability, spreading awareness, and preparing for emergencies**, yet they struggle with feeling **underappreciated, insecure, incapable, and traumatized by the emotional toll of their work**. These frustrations manifest in their actions as they **attempt to coordinate staff, solve problems, treat patients, and maintain proper documentation**—all while fighting against systemic inefficiencies. They publicly voice their concerns, hoping for **a better future with increased support, improved technology, and enhanced resources**. Despite these challenges, their aspirations remain strong: they desire **higher satisfaction levels, better medical facilities, and public trust in the system**. Addressing these fundamental issues with digital solutions and policy improvements can significantly **reduce staff burden, improve healthcare quality, and create a more efficient and humane hospital environment**.

Final Problem Statements



How might we design apt technology for the staff and patients of government hospitals, to make the administration and management processes more efficient?

How might we educate and increase awareness for the staff in government hospitals, so that we can introduce proper channels of communications and ensure safety?

How might we increase funds for the staff of government hospitals, so that there is an improvement in the management and hygiene, and there is an apt distribution of resources?

How might we create an efficient waste management system for the patients and staff of government hospitals so that healthcare processes are more hygienic and eventually a broader range of treatment is developed?

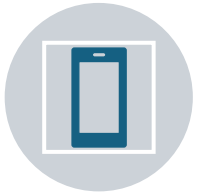
5

IDEATION & PROTOTYPE

A collection of ideas we came up with, and the idea we chose to pursue. Finally, a prototype of our solution.

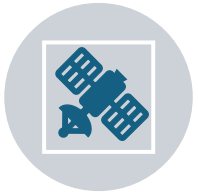
How might we design apt technology for the staff and patients of government hospitals, to make the administration and management processes more efficient?

Make better engineering colleges



Make an app

Larger database



Satellite navigation for rooms inside hospitals

Train staff about technology

Spread education and awareness

Free Internet

Automate processes

Walkie Talkie

How might we educate and increase awareness for the staff in government hospitals, so that we can introduce proper channels of communications and ensure safety?

Free libraries

Compulsory sex education in schools

Addressing issues with student loans

More medical colleges

Stricter rules

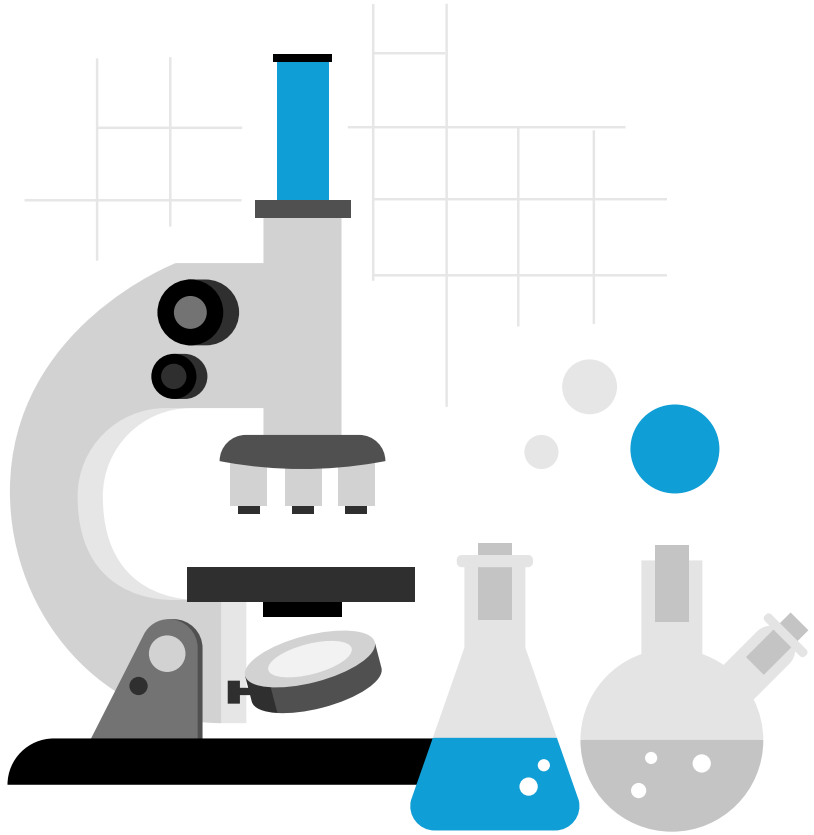
Awareness programs

Compulsory self-defense classes

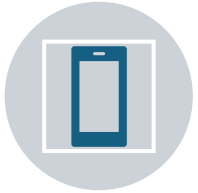
Free pepper sprays

Introducing easily accessible security channels

How might we increase funds for the staff of government hospitals, so that there is an improvement in the management and hygiene, and there is an apt distribution of resources?



Demand documents for usage of already existing funds



Social media campaigns

Hold fundraisers and charities

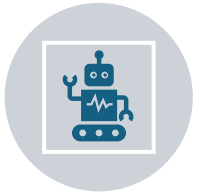
Find third party sources for funds, like merchandise

Train staff about technology

Spread education and awareness

How might we create an efficient waste management system for the patients and staff of government hospitals so that healthcare processes are more hygienic and eventually a broader range of treatment is developed?

Train engineers adequately



Make a robot

Address financial issues

Increase dustbins

Tissues that dissolve

Introduce stricter rules

Population control

Reward good work

Nanotechnology usage for stain-free and hygienic fabric in hospitals

DVF Analysis

Using Nanomaterials For Government Hospital Cloth

Desirability	Viability	Feasibility
Hospitals require hygienic and easy-to-maintain clothing for staff, patients, and bedding. Dirt-resistant and self-cleaning fabrics would reduce contamination risks, enhance hygiene, and improve the hospital experience.	The healthcare sector is willing to invest in solutions that reduce maintenance costs and improve hygiene. If your nanomaterial reduces laundry expenses and extends fabric lifespan, it can be financially sustainable.	Advances in nanotechnology have already enabled dirt-resistant and self-cleaning fabrics using coatings like silica, titanium dioxide, or graphene-based materials. With the right research and manufacturing, implementing this at scale is achievable.

DVF Analysis

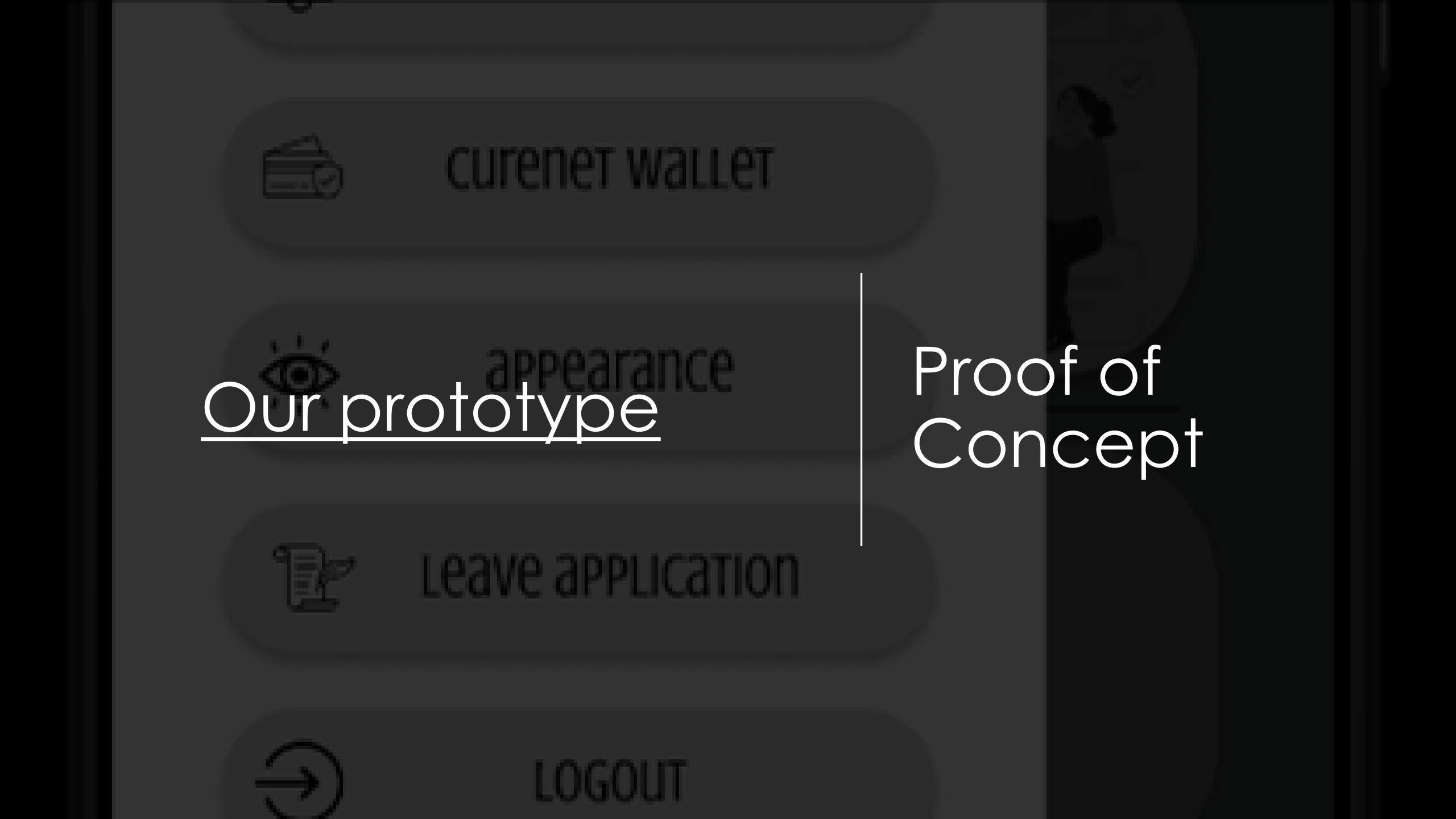
Making an app

Desirability	Viability	Feasibility
Government hospitals often face issues with record-keeping, long queues, and mismanagement of patient data. A digital system would improve efficiency, reduce paperwork, and enhance patient care.	The government is pushing for digital healthcare initiatives. If our app integrates with existing systems and offers secure, efficient record-keeping, it can be widely adopted and funded.	Cloud-based hospital management systems are already in use. With proper cybersecurity measures and government collaboration, developing and deploying such an app is practical and achievable.

DVF Analysis

Making a robot

Desirability	Viability	Feasibility
Government hospitals generate large amounts of biomedical and general waste. A robotic system would reduce human exposure to infectious waste, improve hygiene, and streamline waste management.	Hospitals already invest in waste management, but manual collection poses health risks and inefficiencies. A robot could lower labour costs, reduce infection risks, and ensure timely waste disposal, making it a valuable investment.	Autonomous robots with AI and navigation systems already exist in industries like logistics and cleaning. Implementing similar technology for waste collection in hospitals is technically achievable with proper design and funding.



Our prototype

Proof of Concept

Testing

Test the app with a small internal team of developers or a small internal team to detect bugs, glitches, and usability problems. Ensure all basic features (patient records, doctor scheduling, etc.) work smoothly.

Collaborate with a small government hospital or a department of a hospital for real-world testing. Train doctors, nurses, and administrative staff to operate the app and get feedback on usability and efficiency.

Implement the app in one or two government hospitals for a pilot run. Monitor its performance in real-time, checking for errors in data management, server load, and user experience.

Collect feedback from hospital staff and patients through surveys and interviews. Resolve any problems and enhance features based on user feedback.

Following rules and regulations according to national health agency security audits to ensure protection of sensitive patient data.

After successful testing, approach government health departments for official implementation.

Gradually roll out to more hospitals and integrate with existing health systems.

6

TEAM DISORDER

A little introduction to our wonderful team members, who came together to work on this project.

Team Disorder

A group of people from different backgrounds and stories, but can manage to have the best time together. Our team name pretty much manages to sum up what we are as a group. But whatever we do, we manage to create magic, whether it's the ability to keep laughing, or coming up with the best ideas for a project.

Bushra

Dattatreya

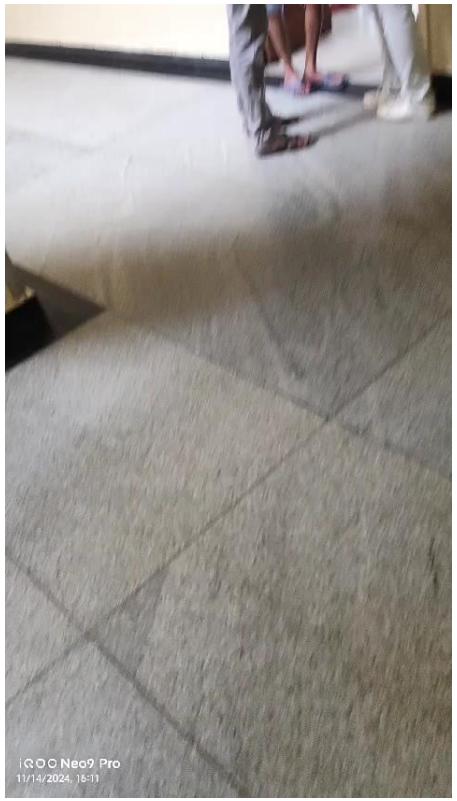
Chiran

Bibhash

Chetan

Vijay

Some interviews we conducted



Some interviews we conducted

Work log

Primary Research	Bushra, Bibhash, Dattatreya, Chetan, Chiran, Vijay
Secondary Research	Bushra, Dattatreya
Problem Identification	Bushra, Bibhash, Dattatreya, Chetan, Chiran, Vijay
Ideation	Bushra, Bibhash, Dattatreya, Chetan, Chiran, Vijay
Prototype	Dattatreya, Bibhash

Thankyou!

Any questions??