

COVID-19

PROTOCOLS FOR COMMUNITY-LED FINDING, TRACING, PROTECTING.

Developed by Sambhavna and Chingari Clinics, Bhopal

The Bhopal Medical Appeal

ABOUT THIS BOOKLET

The situation in Bhopal, like everywhere, is changing all the time and this booklet is a snapshot of our work to date. It will be reviewed and updated and numbered updates published, until the virus is contained.

The edition offered for download will always be the latest one. Earlier versions will be available from links on the page, to help anyone who wants to follow the progress and unfolding results of the work in Bhopal.

We offer this work as a gift to those fighting Covid-19 all over the world. The plan and as given here obviously applies to Bhopal and the protection of the Bhopal survivors, whose medical care and relief is the purpose of our organisation.

Many experts and organisations have contributed to these ideas, which can be adopted and adapted to any community, large or small.

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25 years of the Bhopal Medical Appeal



We shared the tragic story behind this terrible and tender image in our first appeal. It was taken by Magnum photographer Raghu Rai on the morning after that night of prodigious horror in Bhopal, December 3rd, 1984, when 16 square miles of the city were engulfed by a cloud of poison gas that gushed, without warning, from a factory belonging to Union Carbide Corporation.

Thousands died in the most hideous ways. As the sun rose on streets full of corpses, Raghu found himself in a stony graveyard where a man was burying his young daughter. The father had covered the tiny body but then, unable to bear parting from her, brushed the earth away for one last look.

For the Bhopalis this photo has come to symbolise 35 years of unimaginable suffering, an injustice that has never been righted, crimes that continue to go unpunished, and a community that most of the world has forgotten.

Today in Bhopal well over 100,000 people are still chronically sick. Another 100,000 live in communities where wells and standpipes are contaminated by chemicals leaking from toxic wastes dumped in and around the same accused factory, which remains derelict and full of poisons.

Of 574,366 survivors of that night, more than nine in ten were awarded compensation of £380 for lifelong injuries. Union Carbide and its owner Dow Chemical continue to deny responsibility for the water poisoning, and refuse to clean up the factory, pay more compensation, or appear in court where charges of manslaughter, among other crimes, remain pending.

Our first appeal was funded on a promise and a prayer. It told the story of the first decade of the disaster: the chaos, lack of proper care for more than half a million injured, disdain for the poor, the wrecked lungs, cancers, horrifying births.

Survivors were typically prescribed expensive drugs they did not need and which in some cases actually harmed them. Being mostly very poor, they were often treated rudely. Government doctors would refuse to touch them. Over those first ten years, every day Bhopal suffered on average three gas-related deaths.

Betrayed by every authority, the survivors turned to each other, and to us. The generous response to our first appeal enabled them to buy a building, hire medical staff and begin training. In 1996 the Sambhavna Clinic opened its doors, offering a combination of modern medicine, ayurvedic herbal treatments, yoga and massage. All consultations, treatments, therapies, and medicines at Sambhavna are absolutely free, and our Clinic has now given medical care to around 65,000 people who would have had little or no help. Many of the clinic staff are themselves gas or contaminated water-affected.

In 2004, two Bhopali women were awarded the prestigious Goldman Environmental Prize. They gave their entire \$125,000 prize money to help children of parents exposed to Carbide's poisons. Their Chingari Children's Centre offers over 250 damaged kids therapies and special education each day. We are proud to support Chingari. Our work has won many major humanitarian awards, but the suffering and the need in Bhopal continues to be intense. 120,000 people are still chronically ill. Babies are still born damaged.



Sambhavna Clinic staff gather together in 2019



Chingari staff and children celebrate the Centre's 10th anniversary (2016)

No us & them. All of us, together

The Bhopal Medical Appeal is an effort of ordinary people round the world to bring free medical help to victims of the gas and water disasters. Who are we? We're survivors, Sambhavna and Chingari staff in Bhopal, donors, volunteers, supporters and organisers in the UK and elsewhere. We're all equal, all together, and all together we're the Bhopal Medical Appeal.

To join us, visit www.bhopal.org/donate

At the mercy of another invisible killer

Preface

The December 2nd/3rd 1984 gas tragedy left behind what may currently be the most at-risk population on earth.

Exposure to Union Carbide's gas left over half a million Bhopal survivors with permanent injuries that greatly heighten their vulnerability to the SARS-COV2 virus and increase the likelihood of critical illness.

General rates of illness are 63% higher among gas survivors, and are especially pronounced in those exposed to Union Carbide's gases as children, whom most commonly suffer breathlessness, chest pains, and panic attacks.

Thirty-five years on over one-in-two suffer lung and cardiovascular problems, whereas one-in-six have diabetes. A recent study by Sambhavna Trust medical researchers finds survivors three times as likely to die of kidney disease, and twice as likely of cancer and illnesses such as TB due to impaired immune systems that are likened by doctors to a form of 'Chemical Aids'.

Possession of two co-morbidities, according to recent research, increases the risk of fatality from Covid-19 by two and a half times. As the majority of gas survivors present multiple co-morbidities, and as it emerges that Covid-19 – like MIC gas – commits a multi-systemic assault upon the body, medical workers insist that Bhopal gas survivors are at least five times more vulnerable to Covid-19.

The most severely gas-affected live in some of the planet's poorest communities. Characterised by cramped, makeshift housing squeezed within narrow, overcrowded alleys, entire families often inhabit single rooms. Inside these communities there is next to no access to clean running water, and more than half depend upon hard manual labour for daily income.

Here, the novel coronavirus has the potential to race through uncontrollably, like wildfire through a parched forest.

Survivors of the world's largest industrial massacre thus are now, in the shadow of this pandemic, facing a second monumental disaster.



Doctors at the Chirayu Cancer Hospital in Bhopal examine an X-ray of a patient with chronic respiratory problems who lives in one of the neighbourhoods outside the walls of the abandoned Union Carbide chemical plant.

©Judah Passow/
Bhopal Medical
Appeal



When one depends upon all

Introduction

The novel coronavirus pandemic impacts every community on earth. Normality is upended, security imperilled, and wellbeing violated.

The crisis has also brought rediscovery and renewal of our feelings of common connection and of care for each other. This booklet is offered in the same spirit. It describes community-led actions undertaken to protect the most vulnerable from COVID-19. The mobilisations have proven so successful that health authorities local to these same communities have been persuaded to follow their lead, and to work alongside them.

Lacking the natural defences to stave off the virus, Bhopal survivors knew that personal safety depended upon collective action. They share this booklet freely, with the hope that their experiences offer practical insights that may be adapted, and adopted, at negligible cost and utilising existing tools and strengths, to help others working to build a community shield against COVID-19.

Weeks of shoe-leather and shoestring work across local communities, linking scores of volunteers with experienced community health workers has, at time of writing, prevented even a single case of COVID-19 from reaching any of the 15 neighbourhoods participating in this unified effort. 'Protection from the spread of Coronavirus', says Sambhavna and Chingari's second action plan, 'is within everyone's reach.'

A decentralised form of public health intervention is now widely recognised as essential for safely easing lockdown measures while suppressing secondary waves of infection. A clue to the success of this approach in Bhopal perhaps lies within the word community itself, which derives from two roots. The first, 'with, together', the second 'fortify, strengthen, defend'.

Among familiar, friendly faces trust grows readily, and with it a deep sense of collective responsibility. 'Key to the wellbeing of one,' says the Bhopal communities' action plan, 'is the participation of all.'

No plan, no information, no reason

COVID-19 Bhopal timeline

With almost 2.5 million people, Bhopal's population is twice as large as the UK city of Birmingham. Half a million are gas survivors. Of those, 350,000 are registered for treatment at local hospitals.

January 30th: First coronavirus case reported in India

March 12th: First Covid-19 death reported in India

March 16th: Chingari Children's Centre closes for all but essential cases

March 17th: Total cases in India pass 150

March 18th: Measures are implemented by Sambhavna, including installation of homemade handwashing stations in local communities

March 19th: Sambhavna sets up local volunteer network to educate residents on coronavirus, distribute information leaflets and report and monitor symptoms

March 21st: Survivor groups in Bhopal write a letter to the state government requesting intervention to safeguard survivors

March 21st: Sambhavna and neighbourhood committees setup their first WhatsApp group for sharing local news, reporting individual symptoms and quickly mobilising support

March 22nd: First coronavirus case identified in the city of Bhopal

Continued on page 6

Survivors tried to warn of the impending health catastrophe in Bhopal. Shortly after the first Covid-19 death in India, their organisations wrote to local and national health ministers urgently emphasising the looming danger to some 574,375 people left damaged by Union Carbide's gases.

Just one day after survivors wrote to officials the first novel coronavirus case was identified in Bhopal.

Among the city's seven gas relief hospitals and eight community units, the letter observed, there were no social distancing measures or hand-washing facilities. Only two offered any form of advice on coronavirus. It urgently recommended a program of public health education, identification, testing, tracing and treatment, and proposed conversion of an existing 50 bed Pulmonary Medicine Centre into an intensive care unit.

The most vulnerable groups should be properly identified, the letter said. They included over 60's with existing health conditions due to gas exposure, such as diabetes, hypertension, COPD, heart and kidney problems, and cancers. As the majority were already computer-registered with gas relief hospitals the work could be completed in a week.

Protection should be provided in the form of safe isolation, either at home or in community-based quarantine spaces. Food and water should be supplied as needed and a helpline established for rapid medical assistance. Those suffering chronic health conditions should be given prompt medical care without the need to visit hospitals, thereby risking exposure and infection. State medical teams should be mobilised for home care.

The intensive care unit required isolation wards, ventilators, medicines and oxygen dedicated to the treatment of survivors critically ill with symptoms of Covid-19. Other needed steps included increased testing and reporting of symptoms and deaths, rations for the vulnerable, loss of livelihood payments and pensions for widows and the bereaved.



Homemade hand washing station in a water-restricted area ©Biju Nair/Sambhavna

Timeline (continued)

March 23rd: Madhya Pradesh government requisitions Bhopal Memorial Hospital and Research Centre (BMHRC) for treatment of Covid-19 patients; first survivor patients discharged

March 24th: With four hours notice the government of India announces 21-day national lockdown

March 24th: remaining survivor patients discharged from BMHRC, including ICU

March 24th: first positive case of Covid-19 confirmed in Bhopal

March 25th: First death in Madhya Pradesh (Indore)

March 28th: First patient discharged from BMHRC passes away at Hamida Hospital from untreated pre-existing condition

March 30th: Patient Munni Bee and activist Rachna Chingra file a petition on behalf of survivors to re-open BMHRC; Bee allowed to remain in BMHRC ICU

April 2nd: Second patient discharged from BMHRC dies at home from pre-existing condition without access to critical care

April 2nd: Community WhatsApp groups pass 50,000 members in first week

April 6th: Third patient prematurely discharged from BMHRC becomes first to die from Covid-19 in Bhopal

April 8th: Petitioner Munni Bee passes away at BMHRC as India's Supreme Court defers on her petition

The letter sent by survivors received no official response. Instead, within two days local health officials shut down the only super-speciality hospital for gas victims in the city, designating it for the exclusive use of Covid-19 patients. No explanation was given, and no warning. Over the next few days more than eighty survivors were systematically evicted from intensive care.

The great majority of the evicted patients were from the city's poorest communities. One critically ill survivor, Munni Bee, subsequently filed a petition in India's Supreme Court arguing for immediate restoration of the BMHRC hospital, absent of which avoidable deaths were inevitable.

By denying critical care to those most in need of it and exposing acutely vulnerable people to additional dangers, the panicked, thoughtless actions of local health authorities allowed the virus to claim its first victims in Bhopal without even having to infect them.

Left without appropriate medical care, two desperately ill gas survivors perished. When the death of a third discharged patient was investigated, they were confirmed to have become the city's first official victim of COVID-19.

In the three weeks before her suit was presented in court, Munni Bee—who had remained on a ventilator in a now otherwise empty hospital ward—also died. Hours before her posthumous petition was finally heard health officials restored the super-speciality BMHRC hospital to the care of gas survivors. During the three weeks they were barred from using it the hospital did not treat a single coronavirus patient. To the families of those who suffered and died, no apology has yet been forthcoming. Such avoidable tragedies, foreseen and forewarned, reinforce the experiences of 35 years.

Repeatedly failed by all of those holding a duty of care, Bhopal survivors learned instead to trust in each other. As this report is being written there are 2,283 cases in the city. 73 are dead, of which at least 50 are gas survivors. More than 80% of those investigated suffered gas-related co-morbidities such as hypertension, lung disorders, kidney dysfunction, and cancer.



A gas survivor meets with doctors at the Chirayu Cancer Hospital ©Judah Passow



Raising a community shield

Timeline (continued)

April 6th: Sambhavna implements 4-step Community Action Plan to safeguard survivors

April 14th: Prime Minister Modi extends lockdown for two weeks

April 17th: Bhopal death count reaches 7; all are gas survivors

April 20th: BMHRC re-opens to gas survivors after a U-turn by the Madhya Pradesh government

April 22nd: In response to Munni Bee's petition testing of gas survivors for Covid-19 begins at BMHRC

April 23rd: Survivor organisations write a second letter to officials requesting immediate intervention and detailing steps to prevent further survivor deaths

On the day of Bhopal's first Covid-19 death some of the poorest people on earth, lacking adequate protective equipment, testing kits, financial or other resources embarked upon a demanding and dangerous plan of action designed to monitor and suppress the spread of the virus within their own communities.

Deprived of guidance or support from the authorities Sambhavna and Chingari staff joined with neighbourhood committees to develop and agree upon a four-part mutual aid plan. Steps were begun while only a handful of cases were known across India. Decades of first-hand experience of public health work informed every decision.

By mid-March, design and production of homemade handwashing stations was already underway to provide accessible hygiene within communities with little or no access to clean running water. Essential health information on COVID-19 largely absent from state-run medical centres was printed and delivered across city wards covering upwards of 100,000 people. Teams formed to deliver medicines, coordinate Whatsapp networks and stimulate the homemade production of personal protective equipment.

Painstaking door-to-door surveys began collecting health information, check-listing co-morbidities and symptoms, and testing temperatures. The teams planned isolation of those displaying symptoms via common facilities arranged within communities, where they could closely monitor contacts. Data was carefully recorded to be fed to local health care systems.

All of this activity depended upon teams led by seven Community Health Workers, ten Community Research Workers, and most importantly of all, over 100 Community Health Volunteers.

Timeline (continued)

April 28th: Clinic staff and volunteers carry out a door-to-door census to identify vulnerable individuals – those over 60 or with underlying health conditions

April 29th: Bhopal death count stands at 12, all are gas survivors

April 29th: Bhopal relief efforts by clinic staff and survivors featured in ALNAP report giving advice to humanitarian agencies on responding to Covid-19

May 1st: Indian Government announces second two-week lockdown extension

May 2nd: Madhya Pradesh Government responds to survivor group's request for intervention and holds series of meetings on course of action to protect survivors

May 4th: Sambhavna updates Action Plan to co-ordinate with local government efforts

May 6th: Madhya Pradesh Government sets up 21 Health Centres for Covid-19 screening of gas survivors in Bhopal

May 7th: Total confirmed cases in Bhopal climb to 561; total deaths stand at 19, of which 17 are gas survivors

May 12th: Prime Minister Narendra Modi announces third extension to lockdown with new rules

May 13th: Total cases in India stand at 74,281 with 2,415 deaths; cases in Madhya Pradesh stand at 3,986 with 225 deaths; cases in Bhopal stand at 786 with 33 deaths

Dedication, experience, togetherness, joy

Tens of thousands of people live in colonies bunched around the rusting skeletal pipework of Union Carbide's abandoned factory, from which poisons seep even now. Every monsoon flushes the dumped toxic chemicals through porous soil into underground channels and pools tapped by tubewells from which local families draw drinking water. In these localities, in which large numbers of survivors of the 1984 gas disaster and succeeding generations live, sickness is all around.

Nearly 25 years of public health work in these neighbourhoods by Sambhavna's community workers has inspired a network of over 100 health volunteers committed to giving their time freely, lovingly to do what they can to help their friends and neighbours. Their experience in health education, medical check ups, in community data collection makes them better prepared for the virus.

Coordinated by six health workers via two screening centres, the volunteers are carefully trained in health monitoring, in testing blood pressure, in taking blood and urine samples for examination in Sambhavna clinic's laboratory. They are knowledgeable on anaemia, female health issues and seasonal diseases like diarrhea, typhoid, jaundice and measles.

The volunteers are able to identify and prescribe simple remedies for problems common in their communities such as joint pain, fever, coughs and body aches. Their efforts have helped to greatly reduce local transmission of diseases such as TB and malaria.

As the virus moved toward Bhopal this tightly coordinated network helped distribute 16,000 leaflets in 81 separate localities, explaining dangers, the precautions to be taken, and how to recognise, report and monitor symptoms of COVID-19.

On page 11 if you search carefully you will find a photograph of Raisa Bee of Rajgarh Colony. Since the advent of the virus she has been working tirelessly to protect the people in her community. Raisa was once asked what her motivation was:

'I work as a community volunteer in my area telling people about Sambhavna and that all treatment is free. Often they don't believe me or say that free care must not be very effective. Then they come and their lives change.'

The happiness of selfless service is greater than all happiness. In each other we find strength and joy of friendship. Yes, we are poor, but working together we can achieve unimaginable things.'

RAISA, COMMUNITY HEALTH VOLUNTEER

A Community Of Courage & Care



Ruby Ali
(Annu Nagar)



Sakeena Shah
(Annu Nagar)



Sana Shah
(Annu Nagar)



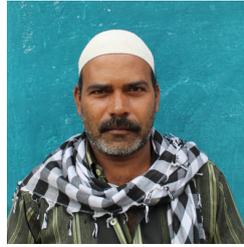
Saraswati
(Annu Nagar)



Shaheen Bee
(Annu Nagar)



Shahida Bee
(Annu Nagar)



Haseeb Khan
(Blue Moon Colony)



Naseer Khan
(Blue Moon Colony)



Shakeela Bee
(Blue Moon Colony)



Tarannum
(Blue Moon Colony)



Akash Vairagi
(Gareeb Nagar)



Anjali Panthi
(Gareeb Nagar)



Megha Panthi
(Gareeb Nagar)



Monica Vishwakarma
(Gareeb Nagar)



Rahul Kushwaha
(Gareeb Nagar)



Vijeta Rajput
(Gareeb Nagar)



Gauhar Baaji
(Kargill Colony)



Hemant Yadav
(Kargill Colony)



Jitendra Vishwakarma
(Kargill Colony)



Pawan Singh Karan
(Kargill Colony)



Ritik Vishwakarma
(Kargill Colony)



Rohit Thakur
(Kargill Colony)



Nasreen Nawab
(Nawab Colony)



Rizwan Qureshi
(Nawab Colony)



Saafiya Baji
(Nawab Colony)



Salamat Qureshi
(Nawab Colony)



Zameer Khokhar
(Nawab Colony)



Asma Tahir
(New Arif Nagar)



Muzammil
(New Arif Nagar)



Sarfaraz
(New Arif Nagar)

Local understanding works

Days after Bhopal survivors began their work against COVID-19, 50 leading UK scientists urged Ministers that to suppress transmission of the virus they needed to utilise an army of volunteers, operating within local teams and coordinated through local action plans.

The call echoes the approach taken in Bhopal, which is fully detailed in the appendices of this booklet, beginning on page 14.

On April 28th a network of key international humanitarian organisations and experts (ALNAP) published a report titled 'Responding to Covid-19: Guidance for Humanitarian Agencies'. The report's recommendations – informed by interviews with Bhopal health workers, among others – conclude that, "Pressures on international and national capacities mean that a community-led action, facilitated and enabled by local actors, will be the mainstay of the COVID-19 humanitarian response – from planning to detection to prevention, and eventually case management."

Clamour is growing for similar local mobilisations and partnerships in the UK and elsewhere. "You need the shoe-leather epidemiology, you need people on phones. Apps are simply supports for contact tracing," said Allyson Pollock, a professor of public health at Newcastle University. "You need people on old-fashioned things like telephones or going door to door and they need to be local teams because they need to understand the local communities." (Guardian, April 28)

"Communities and civil society organisations should have a voice, be informed, engaged and participatory in the exit from lockdown. This pandemic starts and ends within communities...." according to independent UK scientists. "There is an urgent need for government to demonstrate such active participation from communities from around the country." (Independent Sage report, May 12)

Six weeks after survivor organisations first sounded the alarm, on May 3rd Bhopal authorities agreed to comprehensively support their initiatives with a mass program of monitoring, testing and treatment for those most at risk due to existing co-morbidities. Every part of the survivors second action plan, contained in the appendices, was accepted and agreed. Health authorities have collaborated with, and been guided by the survivor organisations in the weeks since.



Sambhavna community workers build model handwashing stations for local education ©Biju Nair

A Community Of Courage & Care



Shahrukh Khan
(New Arif Nagar)



Nandraj
(Odiya Basti)



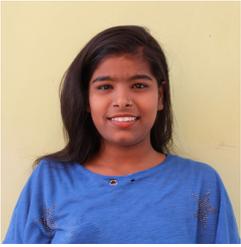
Sunil Kumar
(Odiya Basti)



Triveni Sunani
(Odiya Basti)



Veeru Bhatt
(Odiya Basti)



Anjali Vishwakarma
(Preet Nagar)



Neha
(Preet Nagar)



Nikita
(Preet Nagar)



Shubham Vishwakarma
(Preet Nagar)



Varsha
(Preet Nagar)



Chanda Khan
(Rajgarh Colony)



Iram Khan
(Rajgarh Colony)



Jainab Khan
(Rajgarh Colony)



Lucky Jatav
(Rajgarh Colony)



Raisaa Bee
(Rajgarh Colony)



Chandni Ahirwar
(Sundar Nagar Lal Tanki)



Kajal Prajapati
(Sundar Nagar Lal Tanki)



Naveen Vishwakarma
(Sundar Nagar Lal Tanki)



Sheetal Ahirwar
(Sundar Nagar Lal Tanki)



Yogesh Mali
(Sundar Nagar Lal Tanki)



Anita
(Shankar Nagar)



Durga
(Shankar Nagar)



Paramjit
(Shankar Nagar)



Rani Ahirwar
(Shankar Nagar)



Shivani Sen
(Shivshakti Nagar)



Anil Thakur
(Shivshakti Nagar)



Avadhesh Shukla
(Shivshakti Nagar)



Hemant Sahu
(Shivshakti Nagar)



Manoj Rathore
(Shivshakti Nagar)



Prakash Ojha
(Shivshakti Nagar)

Don't be afraid

Above the roaring, grinding, crashing of rubbish trucks a woman's voice soars. The coronavirus may seem terrifying, the voice reassures, but if we listen it's easy to deal with. We don't need to be afraid.

Written and sung by a Sambhavna researcher, refuse workers have decided to play it from their cabs as they move around Bhopal. It's one of many creative ways Bhopalis are soothing and persuading their communities to respect the virus and protect against it.

An early step was the setting up of Whatsapp groups as information and advice centres to report symptoms, or seek help. The groups are rigorously policed to exclude the inevitable flood of jokes, self-serving quacks and crackpot cures. They are a hydroxychloroquine-free zone.

Posters of local politician's faces plague the buildings and highways of Bhopal. Bhopal's volunteers have an antidote. On banners hoisted up in their communities they display their own faces to let people know who they are, and perhaps to feel a little heroic too. After all, that's exactly what they are.



Community volunteers stand proudly before a coronavirus educational banner ©Biju Nair

A Community Of Courage & Care



Deepak Lohmare
(Shriram Nagar)



Gayatri Chaurey
(Shriram Nagar)



Kapil Shakya
(Shriram Nagar)



Omprakash Chaurey
(Shriram Nagar)



Akeela Bee
(Subhash Nagar)



Ashok Pathrol
(Subhash Nagar)



Imran Ali
(Subhash Nagar)



Omprakash
(Subhash Nagar)



Shahrukh Khan
(Subhash Nagar)



Waseem Khan
(Subhash Nagar)



Devendra Ahirwar
(Sundar Nagar)



Jatin Thakur
(Sundar Nagar)



Pradeep Ahirwar
(Sundar Nagar)



Shubham Rawat
(Sundar Nagar)

A song for all

WE CAN DEAL WITH IT

The coronanavirus seems so scary
but we'll make it seem ordinary

Dry cough, cold, fever, pulses racing
breathless, scared of what you're facing

With signs like these get yourself tested
thus the risk may be arrested

Your eyes, nose, mouth you mustn't touch
but cannot soap your hands too much

If you always wear a mask
beating corona's an easier task

If you see someone who's not okay
take care, but please be sure to say

That to hospital they must go
and you'll make sure that they do so

While this disease spreads every way
in our houses we must stay

Stay three yards from one another
and you'll be safe and free from bother

Brother, sister volunteers
your loving work calms people's fears

Keep good watch over our friends
you'll see how quick this crisis ends

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*Analysis of 60 Covid-19 deaths showing disproportionate impact on
Bhopal gas victims.* In Hindi with charts and figures in English, will
be translated for v.2 of this booklet.



EVOLUTION OF A PLAN

People & Planning

The virus burst onto the scene rather in the manner of the Spanish Inquisition in a Monty Python sketch.

‘No one expects the novel coronavirus!’

We in Bhopal were as surprised as anyone else, but we had a unique reason for alarm, and for immediately starting to plan for a possible epidemic. The reason was the large population of gas-survivors and victims of contaminated water that our clinics were opened to serve.

Preparing for the worst

There was little to no time, not much was known about the novel coronavirus, except that it was a close relative of SARS, therefore likely to be both highly infectious and dangerous.

What we did know for sure that our people would be more vulnerable than most. (We were not wrong.)

On January 30th came news that the virus was in India. By March 2nd it was closing in on us. India’s first COVID victim died on the 12th.

In mid-March we began trialling a four-part plan to defend 21 vulnerable communities against the virus and started pre-emptive work to slow it down when, inevitably, it arrived.

On March 16th Chingari, our clinic devoted to treating damaged children, closed for all but urgent cases.

On 18th Sambhavna’s community teams set about installing hand-washing stations in areas without piped water.

Our volunteer network mobilised and distributed throughout the city information leaflets describing COVID-19’s risks, dangers, precautions to be taken, and how to recognise, report and monitor symptoms.

On the 21st we opened Whatsapp groups as online information and advice centres. 50,000



signed up. The groups are carefully policed to exclude self-serving quacks and crackpot cures and the inevitable flood of jokes.

They are a hydroxychloroquine-free zone.

A change of plan

Our plan launched on April 2nd. (Appendix A following.) There had been no infections and no deaths in any of our communities.

The plan ran a week and a half before we realised that we had been too ambitious. It was necessary to concentrate on areas where we could deliver a first class service.



The revised plan, also published here in full, also had four parts, and after talks with the neighbourhood committees we chose 15 areas.

Each was home to numbers of volunteers who had worked with us for at least five years.

(Map and detailed information about the volunteers and their works follows.)

A constant evolution

As you'll see from the descriptions and data, in these pages, we collect a lot of information and constantly assess how we are doing.

If something needs changing, it is changed.

Staff and volunteers are constantly coming up with new ideas.

They designed our handwashing stations. It's not glamorous. just plastic containers hung from pole frames, but easy for people to use and refill. You step on a pedal which pulls a string and tilts the container till it pours.

The song on page 13 was composed by a staff member and is sung by his sister. The health workers and volunteers got dustcart drivers to play it as they go around the streets. There is so much ingenuity, and fun, even, in working together and for each other.

Action Plan for Protection from and Caring of COVID-19 in 21 Communities (Population. 50, 000) where Sambhavna's Community Health Workers are Active (April 2, 2020)

This Action Plan is in four parts.

1. Effective communication for raising awareness.
2. Door to door survey for identifying persons with symptoms indicative of COVID-19
3. Isolation of persons with symptoms of COVID-19
4. Treatment and care of persons with COVID-19.

1. Effective communication for raising awareness.

1.1. To ensure that the information leaflet published by Sambhavna and Chingari reaches each family in different communities and to organize reading out the leaflet for those with no literacy. A large part of this work will be carried out by children, particularly those who assist the Community Health Workers (CHW).

1.2. To make Whatsapp groups of all families in the community (one member from each family) and post selected and most relevant information.

1.3. To make one hand washing contraption for every four families in the community. (*In places where is no water supply*)

1.4. To get families in the community to make paper masks.

Most of the above work will be carried out by 100 Community Health Volunteers (CHV) (many of who have been working with the Community Health Workers (CHW) for the last 5 years) with support and guidance of 7 CHWs from Sambhavna.

CHVs are expected to recruit at least 5 new Health Volunteers from among the people they work with.

Other staff of Sambhavna such as 10 Community Research Workers (CRW) will join the CHWs in this work. Coordination of the work will be carried out through three field centres. This part of the work will be completed by April 12, 2020.

2. Door to door survey for identifying persons with symptoms indicative of COVID-19

2.1. Collect information on health complaints (including mental health) of every member of every family in the community through door-to-door visits and through phone calls. Administer the Checklist (by NCDC) to score persons with complaints related to COVID 19.

Include the absence of smell and taste (if only on grounds of familiarity) a condition reported by large numbers following toxic exposure in December 1984.

This would be done twice in a week.



Appendix A – Evolution of the current plan

2.2. Measure temperature of every person complaining of fever. CHVs will counsel them to stay apart and ask them to seek support of CHVs in charge of Isolation. This will happen on the same day.

2.3. To tally up scores from the check-list and identify those in need of isolation and organize their counselling and isolation. This will also happen on the same day.

2.4. To follow-up on vulnerable members of the community including children, pregnant women, persons above 60 and those with respiratory, cardiovascular, renal problems or are diabetic every other day.

3. Isolation of persons with symptoms of COVID-19

3.1. In houses with 2 or more than 2 rooms, ensure that one room is prepared in advance for isolating a person or persons identified with symptoms of COVID-19.

3.2. Arrange for common isolation facility (a large tent set up in open area a little away from the community) persons identified with symptom of COVID-19.

3.3. Arrange for safety of volunteers and family members looking after persons isolated at home and those in common isolation facility.

3.4. Arrange food and water for those in common isolation facility and volunteers and family members taking care of them.

4. Treatment and care of persons with COVID-19.

4.1. To send information on name, age, sex, history of symptoms and their severity to the Health care system set up by the government and arrange for their testing and treatment through the government health care system.

4.2. Arrange for consultation with volunteer doctors (through video conferencing) regarding treatment of persons identified with symptoms of COVID-19.

Names of the Communities where the Sambhavna Action Plan will be implemented

1	JP Nagar	8	Atal Ayub Nagar	15	Chhola Mandir
2	Karim Buksh Colony	9	New Arif Nagar	16	Odiya Basti
3	Risaldar Colony	10	Annu Nagar	17	Sundar Nagar
4	Rajgarh Colony	11	Blue Moon Colony	18	Sundar Nagar (Lal Tanki)
5	Kainchi Chhola	12	Nawab Colony	19	Shankar Nagar
6	Shriram Nagar	13	Ganesh Nagar	20	Kalyan Nagar
7	Prem Nagar	14	Navjeevan Colony	21	Shiv Nagar



Action Plan for a Community Based Response to COVID 19 in the population severely and moderately affected by the Union Carbide disaster in Bhopal.

A. The following are the Objectives of this Action Plan

1. To reduce deaths caused by COVID-19
2. To reduce load on hospitals
3. To slow down spread of infection

B. The following are the Aims of this Action Plan:

1. Increase awareness regarding protection from and care of COVID-19 patients
2. Provide facilities for implementing of protection measures.
3. Provide screening and testing facilities to persons in high risk category*
4. Provide medical care, food and other immediate needs of persons in high risk
5. Provide facilities for home & community quarantine

C. The following activities are proposed under this Action Plan

1. Effective communication for raising awareness and allaying apprehensions.

1.1. To reach all parts of the city with an information leaflet in Hindi and Urdu stating the following

- a. The District Admin and State Government is aware of the increased vulnerability of Bhopal Gas Victims and is making special efforts to provide assistance towards protection and care.
- b. The authorities have earmarked the 50 bed PMC centre as a exclusive centre for medical attention to gas victims with COVID-19.
- c. That authorities have decided to provide special assistance to begin with in the severely and moderately affected populations.
- d. The special assistance will be provided through help centres set up close to the affected localities, 3 in each ward.
- e. The authorities are carrying out this plan with help of NGOs and they welcome the voluntary participation of the members of the local community.
- f. The authorities assure the community that no one will be tested or moved from their homes without their informed consent.
- g. Special efforts have been made to record & redress public grievancesn in this regard and a special helpline is created.

1.2 To use social media and local TV channels to communicate the following messages:

- a. That it is possible to face the Novel Coronavirus with proper information and thoughtful response.
- b. Participation of all is key to the wellbeing of one
- c. Protection from the spread of Coronavirus is within everyone's reach
- d. One needs to be beware of false information particularly with regard to protection from and treatment of COVID-19 particularly those on WhatsApp.
- e. That there are several opportunities for young people and others to volunteer in facing the challenge of the Pandemic.

2. Prompt and focused help through 21 Help Centres in 7 Municipal Wards (1984) identified as severely and moderately affected by the December 1984 Union Carbide disaster.

2.1 Provide medical care to those with diagnosis of DM, HTN, Dialysis, Cancer, COPD & TB in the community. These persons would be identified from records provided by, to begin with Sambhavna Trust Clinic & BMHRC, NIREH & state run gas relief hospitals as they are made available on priority. 2.2 Provide screening through measurement of temperature with thermal scanner and oxygen level in blood through pulse oximeter for those in need of testing and or special care.

2.3 Provide facilities in the community through mobile teams for sample collections from persons in different risk categories.

2.4 Provide support to persons who need quarantining in their homes and if that is not possible in community based quarantine facilities.

2.5 Provide food to those in need.

2.6 Provide assistance to persons needing special attention such as pregnant women in their last trimester or people with disabilities.

2.7 Provide transport and referral facilities for prompt medical care.

2.8 Ensure safety and well being of all persons involved in COVID-19 response.

3. Quarantining of persons with symptoms of COVID-19

3.1 Persons will be quarantined within the community based on the work of Point 2.2 above either in their homes (where possible) or in quarantine facilities set up near the community.

3.2 It is advisable that tents are set up on open grounds with adequate protection from the elements and provision of food, drinking water & primary care at these facilities.

3.3 Arrangements must be made for PPE of all personnel including volunteers working in the community quarantine facilities.

4. Treatment and care of persons with COVID-19.

4.1 To the extent possible common complaints such as cough, dry or productive, fever, loose motions, pain in throat, headache and others could be treated with appropriate symptomatic and supportive medicines.

4.2 It must be ensured that systems are put in place for no delay communication in cases of aggravation of symptoms despite treatment.

4.3 Basic facilities for providing oxygen should be available at the community quarantine facilities

4.4 There must be facilities for safe and quick transportation to appropriate facility for prompt treatment.



D. Persons in different risk categories

Risk Category	Age	History of gas exposure	Co-morbidity
Highest	>60 years	Yes	Hypertension, dialysis, cancer, COPD, and other respiratory diseases, diabetes mellitus, cardiac & kidney ailments
High	<60 years	Yes	Hypertension, dialysis, cancer, COPD, and other respiratory diseases, diabetes mellitus, cardiac & kidney ailments
High	>60 years	Yes	None
Moderate	>60 years	No	Hypertension, dialysis, cancer, COPD, and other respiratory diseases, diabetes mellitus, cardiac & kidney ailments
Above average	>60 years	No	None
Above average	>60 years	No	Hypertension, dialysis, cancer, COPD, and other respiratory diseases, diabetes mellitus, cardiac & kidney ailments

E. Special Help Centres (Vishesh Sahayata Kendra)

It is proposed that the different activities listed from 2.1 to 2.8 are carried out through 3 Special Help Centres (Vishesh Sahaayataa Kendra) each for the Municipal Wards categorized as severely and moderately affected by the ICMR in 1984.

Each Special Help Centre (SHC) will have 7 teams with 10 team members in all. 2 of the 10 members in each team would be from NGOs. It would be good to induct two members from the locality into the team.

Members of the team could be drawn from BMHRC-, BGTRRD-run healthcare centres, NIREH and others.

The physical location of SHC should be so distributed that people in different areas have equal access. The demarcation of population under a specific SHC has to be very clear.

Appendices – Evolving a plan

Name of Team	Team composition	Work responsibility
Medical Care	1 doctor, 1 paramedic & 1 assistant	2.1
Screening Team	2 paramedics	2.2
Sample Collection Team	As per government norm	2.3
Quarantine Team	2 Field workers	2.4
Food & Special Assistance	1 Field worker	2.5 & 2.6
Transport & Referral	1 Field worker	2.7
Safety & Wellbeing Team	1 Field worker	2.8

F. Resources

1. Information on the most vulnerable person to be made available from Sambhavna Trust Clinic & BMHRC, NIREH & state run gas relief hospitals at the earliest.

2. Software for entering data in android devices and facility for real time response before the end of day.

3. This Action Plan to be executed in 7 wards (2 severely affected & 5 moderately affected). A total of 3 help desk/ward and each help desk will have a team of 10 members. A total of 210 personnel are needed to carry out this action plan. 21 doctors, 21 paramedic & 126 field workers. Sambhavna will provide 4 paramedics & 30 field workers

4. Equipment needed – Thermal Scanners: 21, Pulse Oximeters: 21, Glucometers: 21, BP instruments: 21, PPE (Personal Protection Equipment) for all health workers.

5. Arrangements for ambulances for transport of vulnerable patients to COVID-19 centres or for their chronic care

6. Arrangement for food donors & tent associations for tents& beds needed for community based quarantine facilities

7. Medical consultation from voluntary doctors through video conferencing

G. NGO's offer to provide

1. Qualified and trained human power
2. Contact with medical & other professionals
3. List of several thousands residents of the severally & moderately affected wards with specific co morbidities
4. Training & Research Support
5. Designing online & offline formats and database support
6. Developing social media content



The Union Carbide factory and surrounding neighbourhoods

The triangular piece of ground in the centre of the map is the Union Carbide pesticide plant from which deadly gases began leaking shortly after midnight on 2nd-3rd December 1984.

It was bitterly cold that night in the city and those who were obliged to be out late stood around braziers, warming chilled hands. There was no warning.

A wind from the north rolled clouds of gas over the neighbourhoods south of the plant, killing thousands, injuring more than half a million, condemning many to a life of wrecked lungs, liver and kidney damage, immune disorders and cancers.

Those living to the north of the factory didn't escape, because the groundwater drained to the north and north-east.

Soon people living in those areas were horrified to learn that for years before the leak Carbide had been routinely dumping thousands of tons of toxic waste into their drinking water. What's more they knew exactly what they were doing. Huge 'solar evaporation ponds' the size of lakes had been constructed against the advice of Carbide's own engineers, who warned that the ponds, which were waterproofed with polythene sheet as flimsy as black dustbin-liner would leak with disastrous consequences for people living nearby .

So it proved. For years poisons known to cause cancers and birth defects had been freely flowing into soil, wells, blood, wombs and breast milk, and wherever these filthy chemicals were found there also were found birth defects and cancers.

When the novel coronavirus blew into India, it was the people still ill from the injuries they suffered thirty-six years ago, who are again bearing the brunt of the disaster. Please turn over for the facts.



Map of areas where our plan is operating



1. Work began on 16/03/2020. Total no. of workdays – 83 till 06/06/2020

2. No. of staff who worked

Month	Sambhavna staff	Chingari staff	Total
March	7 (Community Health Workers)	0	7
April	25	13	38
May	25	18	43

3. Details of testing of staff for Corona Virus

Staff	Total	April	May	Result
Sambhavna	60	20	20	Negative
Chingari	47	01	27	Negative

4. Distribution of pamphlets

16,000 pamphlets in 81 localities

Nawab Colony, New Arif Nagar, Blue Moon Colony, Sundar Nagar (Lal Tanki), Gareeb Nagar, Sundar Nagar, Prem Nagar, Odiya Basti, Navjeevan Colony, New Block Kainchi Chhola, Chhola Mandir, Railway Coach Factory, Karariya Farm, Rajendra Nagar, Intercity, Hari city, Vindhyachal valley, Kainchi Chhola, Karim Baksh, Risaldar Colony, Rajgarh Colony, Dwarka Nagar, Khushipura, Semra, Khajanchi Bag, Shubhash Nagar, Vinayak Campus, Railway Colony, Vijayanagar, Kapda mill chawl, Chandbad, Hinoutia, Pushpa Nagar, Krishna Nagar, Ashoka Garden, Aishbag, Bag Umrao Dulha, Aishbag stadium, Rani Aman Bai Colony, Jinsi, Bank Colony, Jehangirabad, Bhopal railway station, Phoota maqbara, Dharam kaantaa, Kabadkhana, Ghoda nakkas, Mangalwara, Lalwani Press road, , Itwara, Chowk Bazar, Lakherapura, Marwadi Road, Azad Market, Jumerati, Laxmi Talkies, Ibrahim ganj, Puttha mill colony, Bal vihar, Noor Mahal Paayga, Bag Munshi Hussain Khan, Gangoronwaali Baavdi, Sindhi colony, P&T Colony, Nagar Nigam Colony, Putlighar, Indira Nagar, Shahajehanabad, Motia Talab, Bhopal gate, SBI Chouraha, Shaheed Nagar, Taazul masjid, Royal market, Hamidia Hospital, Kamla Nehru Hospital GPO Chouraha, Noor Mahal Road, Shubhash Nagar

5. Social media

a. Whatsapp

b. Facebook

Details of WhatsApp Groups Created by Sambhavna Trust Clinic for Awareness on Novel Corona Virus Pandemic		
Cordinator	Name of Group	Description of Members
Ashutosh	COVID 19 Sambhavna Hospital	Persons taking care at the Clinic
	COVID 19 Sambhavna Trust	Persons who are part of Research
Ankit	COVID 19 Sambhavna Hospital	Persons taking care at the Clinic
Rajni	COVID 19 Sambhavna Hospital	Persons taking care at the Clinic
	Preet Nagar	Residents of Preet Nagar
Nitesh	COVID 19 Sambhavna Hospital	Persons taking care at the Clinic
Tabassum	Sambhavna Sundar Nagar	Residents of Sundar Nagar Lal Tanki
Rahul	Shivshakti Nagar COVID 19	Residents of Shivshakti Nagar
Chandrasekhar	COVID 19 Sambhavna Hospital 1	Persons taking care at the Clinic
	COVID 19 Sambhavna Hospital 2	Persons who are part of Research
Sudhir	COVID 19 Sambhavna Hospital	Persons taking care at the clinic
	COVID 19 Sambhavna Hospital	Persons taking care at the clinic
Rohit	COVID 19 Sambhavna Hospital	Persons taking care at clinic
	COVID 19 Sambhavna Hospital	Persons who are part of Research
Bhagwan Singh	COVID 19 Sambhavna Hospital	Persons who are part of Research
	COVID 19 Sambhavna Hospital	Persons who are part of Research
Radhe Lal	Go Corona	(Mix) Clinic, Research, 20 community
	COVID 19 Sambhavna Trust	(Mix) Clinic, Research, 20 community
	COVID 19 Sambhavna Hospital	(Mix) Clinic, Research, 20 community
	COVID 19 Sambhavna Trust	(Mix) Clinic, Research, 20 community
	Sambhavna Hospital Corona	(Mix) Clinic, Research, 20 community

See overleaf: *Others includes persons posting good morning and good night, religious stuff, irrelevant comedy videos, tiktok videos, sensational and incorrect information

Table continues across next two pages

mic

Started on	Max no. / Min no.	Abusers	Active members	Recruiters
25/03/2020	190 / 73	0	0	0
25/03/2020	280 / 87	0	0	0
27/03/2020	154 / 86	0	12	2
30/03/2020	25 / 15	0	2	0
15/04/2020	91 / 51	0	5	0
28/03/2020	123 / 71	0	5	1
16/04/2020	133 / 102	1	12	10
17/04/2020	127 / 83	0	2	21
27/03/2020	130 / 75	0	2	0
27/03/2020	95 / 38	0	0	0
26/03/2020	252/131	0	0	0
26/03/2020	189/39	0	0	0
27/03/2020	89/67	0	4	0
28/03/2020	60/30	0	2	0
29/03/2020	94/46	0	5	1
29/03/2020	43/22	0	3	1
25/03/2020	135/61	0	4	0
24/03/2020	135/77	0	5	0
21/03/2020	200/121	5	5	0
27/03/2020	63/31	0	3	0
29/03/2020	80/67	0	2	0

*Others includes persons posting good morning and goodnight, religious stuff, irrelevant comedy videos, sensational and incorrect information

Others*	Drop outs
0	117
3	193
7	61
3	10
5	40
2	50
23	31
7	44
2	45
4	57
8	121
0	150
4	22
2	30
1	48
0	21
15	74
9	58
22	79
8	32
10	13

Coordinator

Ashutosh

Ankit

Rajni

Nitesh

Tabassum

Rahul

Chandrasekhar

Sudhir

Rohit

Bhagwan Singh

Radhe Lal

6. Community Health Volunteers in different communities

Community	Total No of volunteers	Female	Male
S h r i r a m Nagar	11	6	5
N e w A r i f Nagar	12	8	4
Annu Nagar	16	14	2
Blue Moon Colony	13	9	4
N a w a b Colony	12	7	5
Sundar Nagar	6	1	5
Preet Nagar	21	8	13
Shivshakti Nagar	8	1	7
Sundar Nagar (Lal Tanki)	24	13	11
S h a n k a r Nagar	08	08	00
Odiya Basti	08	03	05
G a r e e b Nagar	18	09	09
R a j g a r h Colony	08	06	02
S u b h a s h Nagar	09	03	06
Kargill Colony	6	1	5
Total	180	97	83

Age of CHVs

No of CHVs	Age 15 to 30 years	Age 31 to 60 years	Age above 60 years
180	138	38	04

Occupation of CHVs

Students	Housewives	Private job	W a g e worker	Total
67	37	36	40	180

7. Safety gear and equipment to CHVs

Safety gear : Surgical Masks, Aprons, Surgical Caps

Equipment : Thermometer, Pulse-oxymeter, Thermal scanner, BP Instrument

8. Information on Communities

S N	Communities	No. of Families	Population
1	Shriram Nagar	34	157
2	New Arif Nagar	341	1847
3	Annu Nagar	294	1564
4	Blue Moon Colony	254	1315
5	Nawab Colony	398	2105
6	Sundar Nagar	97	475
7	Preet Nagar	136	676
8	Shivshakti Nagar	293	1476
9	Sundar Nagar (Lal Tanki)	206	1007
10	Shankar Nagar	245	1136
11	Odiya Basti	118	512
12	Gareeb Nagar	370	1885
13	Rajgarh Colony	183	864
14	Subhash Nagar	153	809
15	Kargill Colony	60	294
	Total	3182	16122

Occupations and Economic condition of different communities.

The majority of residents of the 15 communities are Daily wage workers, Load carriers and porters, Auto drivers, Mechanics, masons, Rag-pickers, lower level employees in shops and businesses, beggars, vegetable and fruit vendors etc.

Economic condition

Except Shivshakti Nagar, Preet Nagar and Nawab Colony where about 30% are in lower-middle and middle class, in all the other communities, well over 90% are in the low income lower economic class category.

9. Persons in need of special monitoring different communities

Communities	People in High risk category	Over 60	Co-morbidities	Pregnant and in 3 rd semester
Shriram Nagar	45	39	06	06
New Arif Nagar	47	43	16	16
Annu Nagar	83	32	09	41
Blue Moon Colony	67	58	52	07
Nawab Colony	60	56	28	28
Sundar Nagar	33	30	08	13
Preet Nagar	100	84	36	05
Shivshakti Nagar	104	76	35	03
Sundar Nagar (Lal Tanki)	68	36	23	09
Shankar Nagar	102	71	13	22
Odiya Basti	35	27	7	06
Gareeb Nagar	172	103	68	08
Rajgarh Colony	49	36	17	06
Subhash Nagar	45	26	9	06
Kargill Colony	38	19	23	14
Total	1048	736	350	182

10. Persons who came from out of the state and were quarantined in different communities

Communities	N u m b e r s quarantined
Subhash Nagar	04
Odiya Basti	09
Gareeb Nagar	16
Shivshakti Nagar	02
Preet Nagar	01
Sundar Nagar	03
Blue Moon Colony	01
Total	36

11. People in different communities who were given primary care through different systems

Communities	No of persons provided primary care	M o d e r n medicine	Ayurveda	Herbcar e
Shriram Nagar	67	29	15	23
New Arif Nagar	25	07	08	10
Annu Nagar	30	19	03	08
B l u e M o o n Colony	59	14	20	25
Nawab Colony	35	17	04	14
Sundar Nagar	36	09	13	14
Preet Nagar	28	05	10	13
Shivshakti Nagar	13	08	03	02
Sundar Nagar (Lal Tanki)	75	36	18	21
Shankar Nagar	59	21	14	24
Odiya Basti	77	30	22	25

Gareeb Nagar	108	45	30	33
Rajgarh Colony	64	33	10	21
Subhash Nagar	75	33	13	29
Kargill Colony	27	08	05	14
Total	778			

12. Persons sent for testing (for corona virus) and those who could get themselves tested.

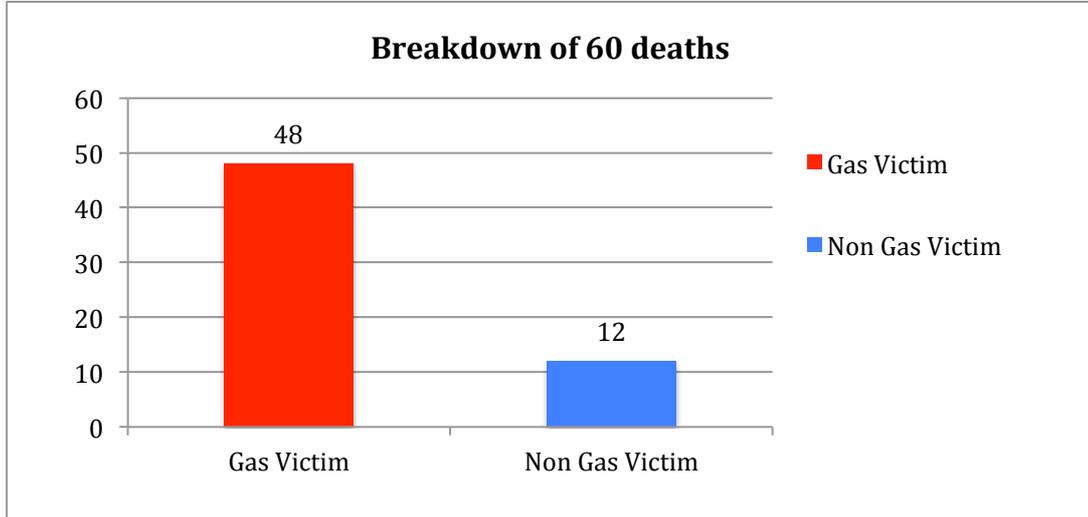
Communities	Sent for testing	Tested	Result
Shriram Nagar	59	44	A negative
New Arif Nagar	17	08	A negative
Annu Nagar	42	17	A negative
Blue Moon Colony	07	03	A negative
Nawab Colony	06	04	A negative
Sundar Nagar	33	08	A negative
Preet Nagar	60	22	A negative
Shivshakti Nagar	92	29	A negative
Sundar Nagar (Lal Tanki)	50	16	A negative
Shankar Nagar	35	11	A negative
Odiya Basti	43	10	A negative
Gareeb Nagar	95	47	A negative
Rajgarh Colony	20	07	A negative
Subhash Nagar	40	23	A negative

Kargill Colony	27	27	A negative
Total	626	276	A negative

COVID-19 की वजह से हुई 60 मौतों का आकलन (6 अप्रैल - 11 जून)

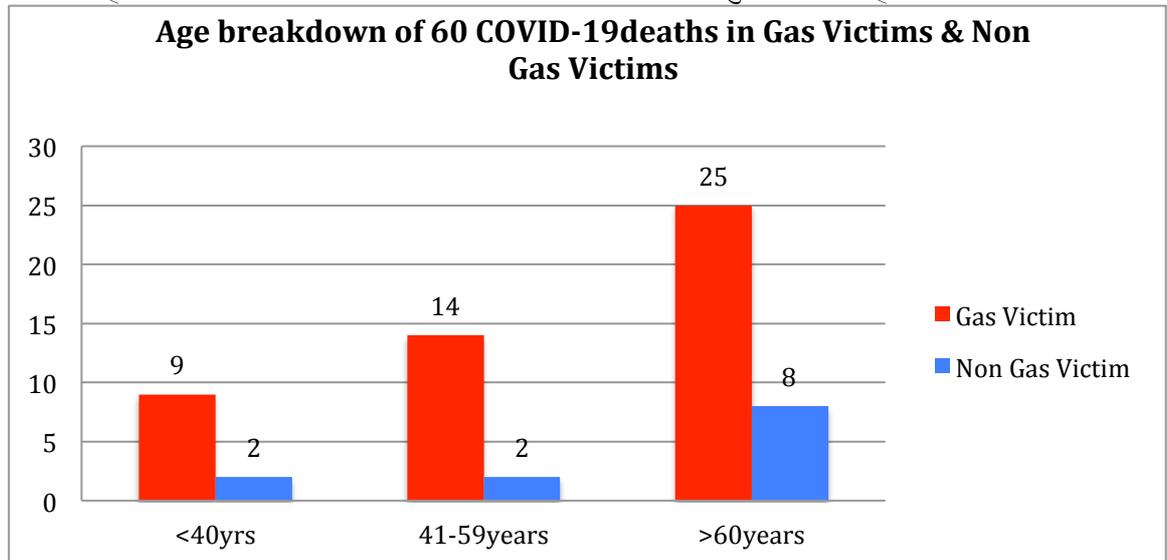
1. गैस पीड़ित Vs गैर गैस पीड़ित

शहर में हुई COVID-19 की मौतों में: 74% मौते (45) गैस पीड़ितों की है, 5% मौते (3) गैस पीड़ितों के बच्चे की है और 21% मौते (12) गैर गैस पीड़ितों की है



2. कम उम्र के COVID-19 मृतकों में बहुसंख्यक गैस पीड़ित

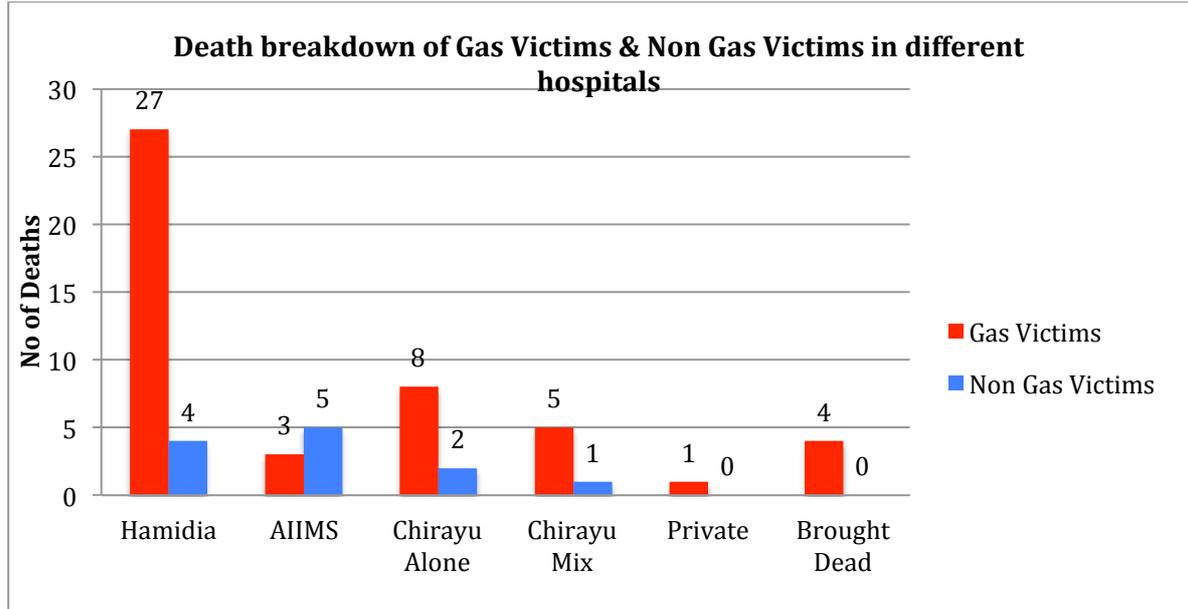
- 60 मौतों का आकलन करने पर यह भी सामने आया की 60 वर्ष की आयु से कम 27 लोग COVID-19 से खत्म हुए है और इनमे से 85% गैस पीड़ित है |
- 40 वर्ष से कम उम्र में खत्म होने वाले में 82% गैस पीड़ित और 18% गैर गैस पीड़ित है | कम उम्र में खत्म होने वाले गैस पीड़ितों की संख्या गैर गैस पीड़ितों से 4 गुना ज्यादा है
- 41-59 उम्र में खत्म होने वाले में 87.5% गैस पीड़ित और 12.5% गैर गैस पीड़ित है | कम उम्र में खत्म होने वाले गैस पीड़ितों की संख्या गैर गैस पीड़ितों से 7 गुना ज्यादा है



3. अलग अलग अस्पतालों में हुई मौतें

शहर की COVID-19 की (31) मौतें (55%) हमीदिया अस्पताल में हुई, (8) मौतें 14% AIIMS में हुई (5) मौतें 28.3% चिरायु अस्पताल में हुई, 11% चिरायु अस्पताल Mix (पहले हमीदिया या किसी प्राइवेट में भर्ती हुए और फिर चिरायु रिफर किया गया, जहां उनकी मौत हुई) और (1) मौत 1.7% Private में हुई

- हमीदिया अस्पताल में हुई 31 मौतों में से 27 मौतें (87%) गैस पीड़ितों की है।
- 100% मरीज जो अस्पताल में मृत लाए गए वह सभी गैस पीड़ित थे।



4. मृत्यु से पहले का अस्पताल भर्ती के आंकड़े (यह आंकड़ा 56 लोगों के अस्पताल स्टे पर आधारित है क्योंकि 4 लोगो तो मृत लाए गए थे)

A. भर्ती होने के 24 घंटे के अंदर की मौतें

अस्पतालों में भर्ती होने के 24 घंटे या उससे कम समय में हुई मृत्यु की संख्या 19 है। उसमें से 95% मृत्यु हमीदिया अस्पताल में हुई और 5% मौतें AIIMS में हुई।

- हमीदिया अस्पताल में 84% गैस पीड़ित और 11% गैर गैस पीड़ित में खत्म हुए
- AIIMS में 5% गैर गैस पीड़ित

भर्ती होने के 24 घंटे के अंदर हुई मौतों में 84% गैस पीड़ितों की है और गैर गैस पीड़ितों की मौतों की तुलना में 8 गुना ज्यादा है

B. भर्ती होने के 2-5 दिन के अंदर की मौतें

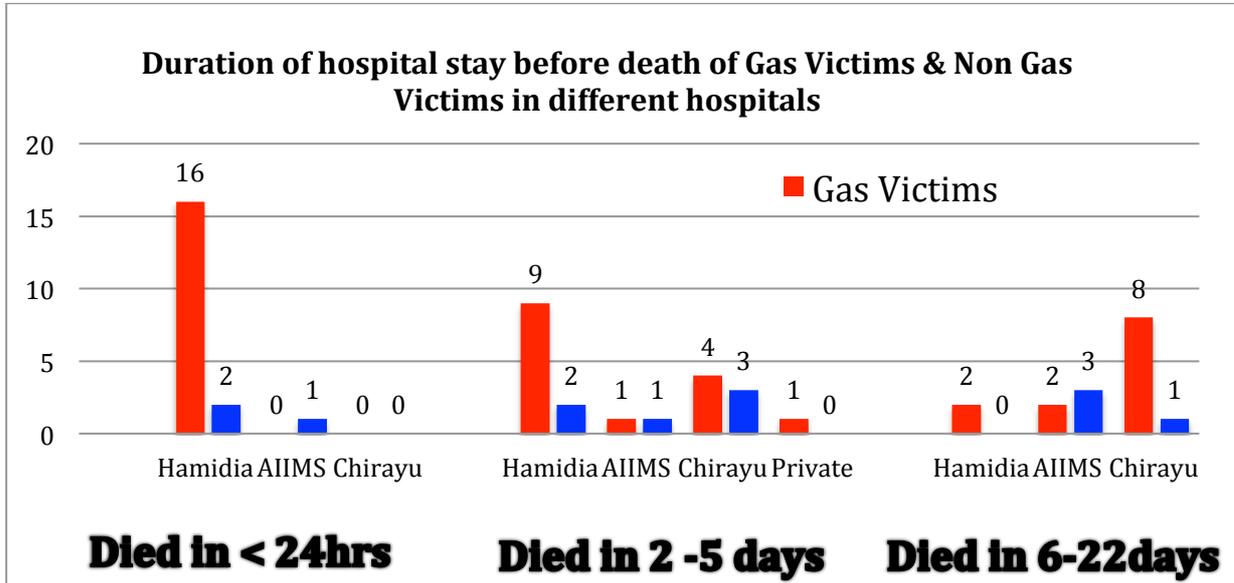
अस्पतालों में भर्ती होने के 2-5 दिन के अंदर में हुई मौतों की संख्या 21 है। उसमें 52% मौतें हमीदिया में हुई, 33.3% मौतें चिरायु अस्पताल में हुई, 9.5% मौतें AIIMS में हुई

- हमीदिया अस्पताल में 42% गैस पीड़ित और 10% गैर गैस पीड़ित में खत्म हुए,
- चिरायु अस्पताल में, 19% (9) गैस पीड़ित और 14% (2) गैर गैस पीड़ित खत्म हुए
- AIIMS में एवं प्राइवेट में 5% गैस पीड़ित खत्म हुए

भर्ती होने के 2-5 दिनों के अस्पताल स्टे के बाद हुई मौतों में 71.4% गैस पीड़ित है और गैर गैस पीड़ितों की मौतों की तुलना में 3 गुना ज्यादा है।

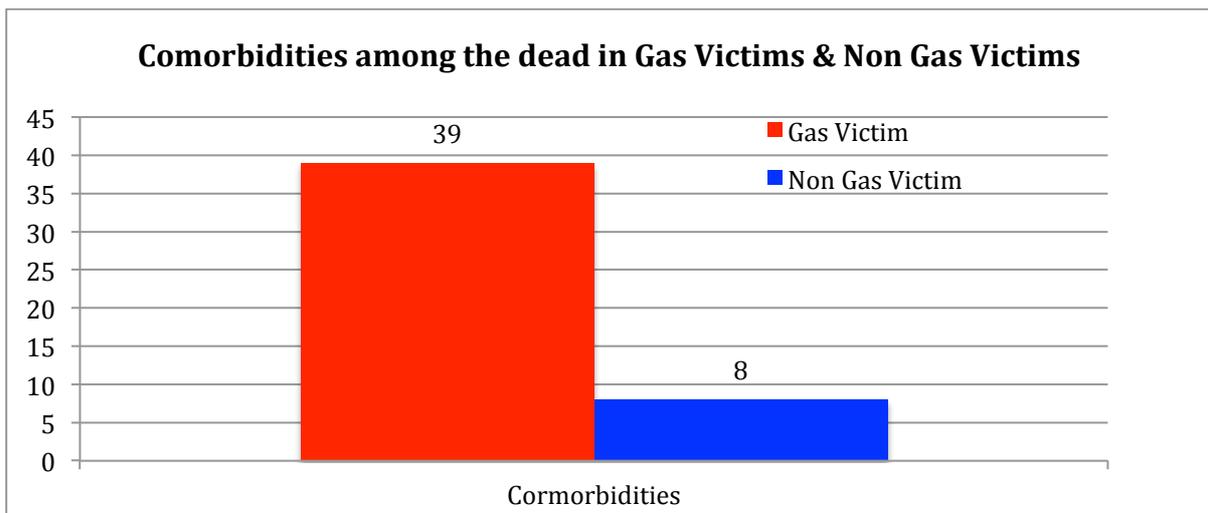
C. भर्ती होने के 6-22 दिन के अंदर की मौतें

- हमीदिया अस्पताल में 12.5% गैस पीड़ित और 0% गैर गैस पीड़ित मे खत्म हुए,
- चिरायु अस्पताल में 50% (8) गैस पीड़ित और 6% (1) गैर गैस पीड़ित खत्म हुए ,
- AIIMS में 12.5% गैस पीड़ित और 19% गैर गैस पीड़ित खत्म हुए
- 6-22 दिनों के अस्पताल स्टे के बाद हुई मौतों में 75% गैस पीड़ित है और गैर गैस पीड़ितों की मौतों की तुलना में 3 गुना ज्यादा है



5 मृतकों की पुरानी बीमारी (Comorbidities)

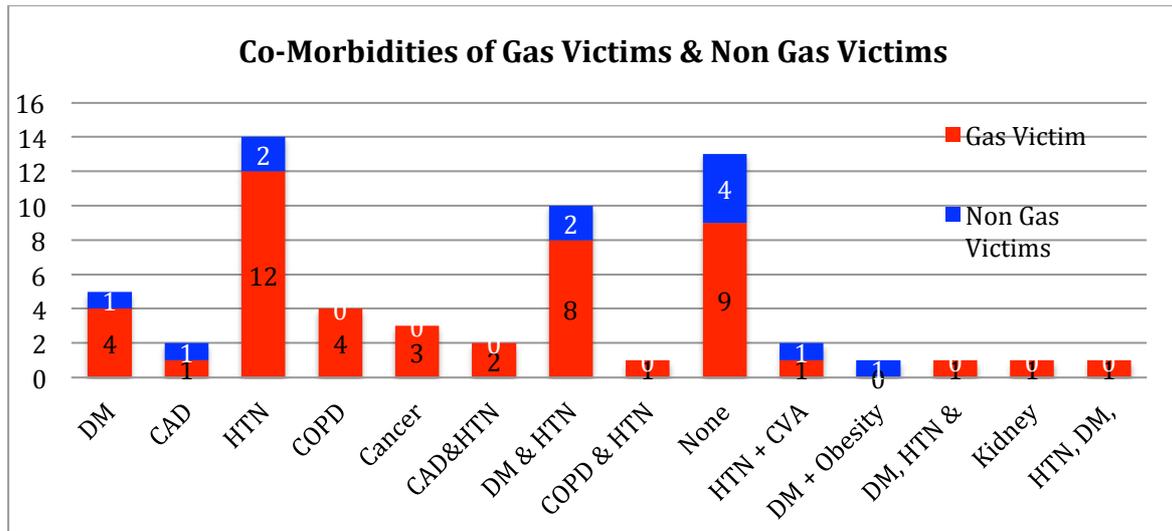
- COVID-19 से खत्म होने वाले 62% गैस पीड़ित पुरानी बीमारियों से पीड़ित थे और मात्र 13% गैर गैस पीड़ित पुरानी बीमारियों से पीड़ित थे |
- COVID-19 की वजह से पुरानी बीमारियों से ग्रसित गैस पीड़ितों की मृत्यु का दर गैर गैस पीड़ितों की तुलना में लगभग 5 गुना ज्यादा है।



6. मृतकों की पुरानी बीमारी के प्रकार

गैर गैस-पीड़ितों की अपेक्षा भोपाल के गैस पीड़ित फेफड़े, किडनी हृदय और मस्तिष्क की पुरानी बीमारियों से दो से तीन गुना ज़्यादा ग्रस्त थे |

- किडनी, हृदय और फेफड़ों की किसी एक तरह की बीमारी से 25 (42%) गैस पीड़ित ग्रसित थे और 4 (6.5%) गैर गैस पीड़ित ग्रसित थे
- किडनी और हृदय, हृदय और दिमाग, फेफड़े और हृदय जैसी 2 तरह की बीमारियों से 12(20%) गैस पीड़ित और 4(6.5%) गैर गैस पीड़ित ग्रसित थे
- किडनी और हृदय, हृदय और दिमाग, फेफड़े, दिमाग और हृदय जैसी 23 तरह की बीमारियों से 2(3.3%) गैस पीड़ित ग्रसित थे



DM -मधुमेह , CAD- कोरोनरी आर्टरी डिजीज (हृदय रोग), HTN- हाइपरटेंशन (उक्त रक्तचाप)
 COPD - क्रोनिक ऑब्सट्रक्टिव पल्मोनरी डिजीज (फैफडा रोग), CVA- सिरिबरो वैस्कुलर अटैक (मस्तिष्क रोग), CKD- क्रोनिक किडनी डिजीज (गुर्दा रोग), Obesity- मोटापा