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Review Article

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Post-COVID 19 Superbug Infection Threat to Manual Workers and Farmers

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Abstract

COVID-19, may come and go but Superbugs are here to stay. Humanity is not threatened by the pilot fish that pay the ways for sharks that arrive. This has happened before, and so will happen again. We must be prepared to identify infected individual initially and isolate them to prevent spread in the farming community.

Increasing population has resulted in shortages of food and water in poor nations. If we do not address the issue, right now and think lockdown has helped us win the war with germs, you are living in cuckoo land. The bacteria are stronger, more intelligent and well adapted to survive. Scientists have struggled to understand and find a drug to fight these infections for more than thirty years and failed.

This article explains the problem and offer a solution to manage the crisis.

How to Prevent 21st Century Crisis

The tiny microscopic enemy is known as "Coronavirus" ripped apparat families, communities and paralyzed work in the farming community. Now known as COVID-19, continue to create havoc in India and USA, killing thousands of people day after day. People are now scared and migrating back to villages from towns and cities, taking infections along with them. The impact on the health of farming communities will result in a devastating consequence. The short-term effect is likely to be acute shortages of food, but the long-term effect is one that we cannot imagine.

Majority of doctors did not have the knowledge or experience managing critically ill patients at home nor have seen how the emerging and treatment-resistant bacterial and fungal infections inflict pain, suffering and kill. Diagnosing emerging and treatment-resistant infections are likely to be complicated.

Chinese authorities treated dozens of cases of pneumonia of unknown cause. On Dec. 31, the government in Wuhan, China, confirmed that health authorities were treating dozens of cases. Beijing was racing to identify the organism causing the new pneumonia-like infection that had sickened fifty-nine people. Chines doctors were not familiar with clinical signs or symptoms to help differentiate the emerging infection nor knew the infection could spread rapidly, resulting in a pandemic.

A few days later, researchers in China identified a new virus and initially called this as Coronavirus and now well known as COVID-19. At the time, there was no evidence that humans readily spread the virus. Health officials in China said they were monitoring it to prevent the outbreak from developing into something more severe.

On Jan. 21, the New York Times published an article saying "The new Coronavirus doesn't appear to be readily spread by humans, but researchers caution that more study is needed. In 21 days, the virus had spread all over that shocked the world resulting in quarantining infected along with contacts in hospitals. Soon, the authorities-imposed lockdown to prevent people from Wuhan to help contain the infection. This knee jerk reaction was the beginning of a spiral meltdown that will be remembered by people who survive.

Let me remind the last words of Jesus' Father, forgive them, for they do not know what they are doing'. When the world is a turmoil caused by war, natural calamity and now pandemic, people are looking up for a solution, to help them survive. Six months on, no person or leaders of government knows what they are doing, why they are doing and how to stop the spread of this virus that has infected 11,125,245 cases and killed 528,204 people.

Why are we in this situation?

I started my journey in 1989 and ever since warned members of my profession about a "War that we may never win". To help slow down the threat, I identified causes, invented devices to change minor surgical procedure and published article. As a doctor working in paediatric intensive and critical care, I was finding it hard to manage children with treatment-resistant bacterial infections. I could not stand by and watch doctors and nurses infecting successfully resuscitated children die because infections were introduced via an intravenous cannula.

The situation we are in now is because we allowed these bacteria that is stronger, more intelligent and well adapted to survive, multiply and spread in hospitals and community. The bugs you cannot see have survived on the planet for more than five billion years. They

have lived on and in us, thrive on us and understand the genetic vulnerability with lethal precession. These microscopic enemies are threatening our profession and our very existence.

As a "Brahmin" I feel proud but sad because our ancestors created "The Untouchables" to protect us from germs that kill us. Gandhi, campaigned for the removal of untouchability in all its forms and practices, eighty-five years ago.

In 1934, he travelled over 20,000 kilometres collecting money propagating the abolition of untouchability in all its forms and practices and urging social workers to go to the villages for the social, economic, cultural and political uplift of the 'Untouchables'. Untouchability was one of Gandhi's central concerns.
Unfortunately, Brahman living in India endowed pain and suffered since independence. Our ancestors knew bacteria and fungus colonized in and on their hands and body of people who work as farmers, clean night soils, work as shepherds or cowherds carry germs. Humans would not have accepted their intuition and so put the fear of GOD.

They knew children of untouchable would be colonized with the bacteria from birth until death. The untouchables were not allowed to enter temples, home, use rivers or wells, not because of personal vendetta or intentionally inflict pain and suffering to fellow human, but to protect family, community and the nation. This was "Social Distancing" implemented based on intuition and not providing scientific evidence.

In this mortal world, life has been a struggle between the weak coward and the strong warrior. When the world is in a turmoil, the coward will create a "Fantasyland" and seek to live under an illusion (Maya), believing this is heaven. The strong warrior will stand his ground and fight his way out and work to make life better where he is. When the going gets tuff, the warrior will not go on his knees, beg GOD for mercy nor ask for pity, but find a solution that can change the world.

I have done all that I can to avert the situation, paid a considerable price and failed because people in power in the National Health Service (NHS) in the U.K., imposed a punitive sanction to protect their institution and healthcare industry. I have warned members of my profession, pharmaceutical companies, device manufacturers, about pandemics that threaten our profession and our very existence since 1989.

With pride, I share the intuition in me article "Superbug Pandemics and How to prevent them" published in The American Interest (2017). This article explains the problems and offer a solution to the problem we are in now. I hope India will accept my offer and implement the system to protect my friends, family living in India. This is my offering to the nation, with gratitude to people living in India.

The Problem

The era of inflicting pain and suffering by kindling the fear of death has come to an end. The doctors who knew drugs seldom cured are now clinging on to the last straw to help resuscitate their profession. COVID-19 has made people understand the gravity of the situation our profession is in. The culture of dependency on doctors is rapidly vanishing, and people are searching for an alternative method to help prevent getting infections. Doctors too, are now beginning to understand what I have been saying and trying hard not to abuse antibiotics.

Unfortunately, the people in power have not given any support or protection to doctors who refuse to prescribe and so the number of patients prescribed antibiotics during COVID-19 pandemics has escalated to catastrophic proportion.

The situation has been made worse because of the knee jerk reaction by imposing lockdown and quarantine. This was the right strategy that I opposed knowing contact tracing and quarantine healthy adults and children in the same hospital will help viruses and bacteria spread faster, resulting in pandemics.

About Health and Safety in Agriculture and Animal Husbandry

In the last ten years, almost one person a week has been killed as a direct result of agricultural work in the U.K. Many more have been seriously injured or made ill by their work.

People have a right to return home from work safe and sound. Good farmers and employers recognize the benefits of reducing incidents and ill health among their workers and are aware of the financial and other reasons to aim for and maintain excellent standards of health and safety.

Health and safety is a fundamental requirement of a sustainable farming business and should be regarded as an essential part of farm business management. Unwise risk-taking is an underlying problem in the industry and those working on their own are especially vulnerable.

The personal costs of injury and ill health can be devastating. Life is never the same again for family members left behind after a work-related death, or for those looking after someone with a long-term illness or severe injury caused by their work.

Sensibly managing risks to protect farmers, their family, workers and farming business and can reduce ill health and the resulting financial and personal costs; Improved productivity, good morale and a happier, healthier workforce will help develop a sustainable farming business; By reduced loss of output resulting from experienced and competent workers being off work, by minimising travel to get medical advice or treatment when they are unwell.

Injury and Illness in Farmers

Farming is a hazardous industry. Farmers and farm workers work with potentially dangerous machinery, vehicles, chemicals, livestock, at height or near pits and silos. They are exposed to the effects of bad weather, noise and dust. The risks also include family members working at the farm and children living at the farm.

Agricultural work can also be physically demanding, and the repetitive nature of the work causes a range of health problems, including severe back pain. With high numbers and rates of fatal injury, agriculture, forestry, and fishing are the riskiest industry sector. Just over one in a hundred workers (employees and the self-employed) work in agriculture, but it accounts for about one in five fatal injuries to workers.

The total annual cost of injuries (in farming, forestry and horticulture) to society is estimated at £190 million (1), and around two-thirds of that is due to reportable injuries (£130 million), with fatalities

accounting for approximately another third (£55 million).
Surveys suggest that of those injuries to workers in agriculture (the most serious) which should be reported by law, only 16% are reported.

The most common causes of non-fatal injuries are due to slip, trip or fall on the same level. Being struck by moving, including flying or falling, objects, falls from height and contact with machinery. They are also prone to injured by an animal.

People working in the farming industry can also be permanently disabled by ill health. Breathing in dust, handling loads, being exposed to noise or vibration, using chemicals and working with animals can all cause ill health, with symptoms that can take years to develop. In some cases, this can result in premature death.

Many of those in the farming industry do not consult their Doctor in the U.K (2). Unless seriously ill and so levels of ill health are unclear. However, in agriculture:

- about 12 000 people suffered from an illness which was caused or made worse by their current or most recent job;
- musculoskeletal injury (back pain, sprains or strains) is over three times the rate for all industries;
- the number of people affected by asthma is twice the national average;
- about 20 000 people are affected by zoonoses (diseases passed from animals to humans) each year.

Workers may be exposed to extreme heat, cold, high humidity and radiation from direct and prolonged exposure to the sun (all of which imposes stress on the worker). (3) They may also be exposed to excessive vibration, noise, or may have to work in uncomfortable positions for long periods and handle a wide range of chemicals such as fertilizers or pesticides.

Infections in Farmers

Life was difficult at a time before antibiotics were invented when uncomplicated bacterial infections could kill a person if he or she were not immune enough. Microorganisms such as bacteria have a remarkable capacity to adapt and survive in adverse environments. Antibiotic resistance arises when such bacteria evolve mechanisms to withstand or resist the effects of antibiotics targeted to destroy them and fight infection by changing themselves.

Antimicrobial resistance happens when microorganisms (such as bacteria, fungi, viruses, and parasites) change when they are exposed to antimicrobial drugs (such as antibiotics, antifungals, antivirals, antimalarial, and anthelmintic). Microorganisms that develop antimicrobial resistance are sometimes referred to as "superbugs". As a result, the medicines become ineffective, and infections persist in the body, increasing the risk of spread to others. The causes of antibiotic resistance are complex and include human behaviour at many levels of society; the consequences affect everybody in the world. Scientists and doctors have made an effort to describe the many different facets of antibiotic resistance and the interventions needed to meet the challenge.

Antibiotics paved the way for unprecedented medical and societal developments, and are today indispensable in all health systems. Advances in modern medicine, such as significant Surgery, organ transplantation, treatment of preterm babies, and cancer chemotherapy, which we today take for granted, would not be possible without access to effective treatment for bacterial infections.

COVID-19 has shown us, how they have setbacks, medically, socially, and economically, unless real and unprecedented global coordinated actions are immediately taken. However, a concerted effort is mostly absent, especially at the political level in India.

There is a considerable dearth of cleanliness in India - open defecation is rampant; garbage management in most cities is in shambles; toxic hospital and industrial wastes and sewage are allowed to drain into water sources, and food products are laced with chemicals. The dangerous consequence of this continuous poisoning of our water, soil and environment and its impact on health and survival is due to superbugs.

Agricultural manure and sludge: While fertilizer is the natural or synthetic growth-promoter for crops, mud is the undissolved slurry that is generated from biological treatment of wastewater and is rich in microorganisms and un-degraded pharmaceuticals.

Owing to different sources of generation, the antimicrobial content of both is different. While manure has an abundance of drugs like oxytetracycline, doxycycline and sulphadiazine, sludge mainly contains medicines that are less water-soluble like ofloxacin, ciprofloxacin, norfloxacin and trimethoprim.

The situation is real, alarming! It is estimated that 58,000 neonatal deaths are caused due to drug resistance to first-line antibiotics each year in India, and the problem is growing.

"Carbapenems and Colistin are the last-resort antibiotics that are used to treat serious bacterial infections in humans. However, several bacteria such as E. coli, Klebsiella pneumonia, Acinetobacter baumannii, and Pseudomonas aeruginosa that cause infections like diarrhoea, pneumonia, meningitis etc. are showing growing resistance to these antibiotics.

This can have dire consequences and render some of the infections incurable," The 'resistome' or the collection of genes capable of conferring resistance has been found to persist long after the manure or sludge is decomposed. In the absence of Indian data, the magnitude of the problem can be inferred from a study in China. Wherein 156 new antimicrobial-resistant genes and mobile genetic elements were identified in the composted manure and sludge.

Spreading Infections

We know that dangerous infections in any given geographical area do not start at the same time. They begin with one victim and gradually spread. But that victim is only one among hundreds of patients a doctor will typically see, so many doctors will miss patients presenting with severe infections.
They will probably identify diseases that kill fast, but slow-spreading infections such as skin infections that can lead to septicaemia are rarely diagnosed early. Besides, I have seen doctors treating eczema with antibiotic cream, even though they know that bacteria are resistant to the majority of these drugs. This sort of action encourages uncomplicated infections to spread locally because patients are therefore not instructed to take other, more useful precautions.

Allowing people with infection to travel and visit hospitals to get

tests, random testing claiming we can identify the infected person and isolate them may be an option if the tests could identify every infected person. Unfortunately, the tests are not 100% accurate and so Random testing to determine infection that has no treatment or vaccination to prevent is unethical. Social distancing, forcing people to wear a face mask and use sanitizers that kill sensitive bacteria, not resistant or emerging virus make people paranoid.

There is broad consensus that widespread SARS-CoV-2 testing is essential to safely reopening countries from lockdown and travel restrictions. We must focus on the accuracy of pre-infection antibody tests, diagnostic testing, which identifies current infection and pot infection. But inaccurate diagnostic tests undermine efforts at containment of the pandemic.

Diagnostic tests (typically involving a nasopharyngeal swab) can be inaccurate in two ways. A false-positive result erroneously labels a person infected, with consequences including unnecessary quarantine and contact tracing. False-negative results are more consequential because infected persons - who might be asymptomatic - may not be isolated and can infect others.

Given the need to know how well diagnostic tests rule out infection, it's crucial to review assessment of test accuracy by the Food and Drug Administration (FDA) and clinical researchers, as well as interpretation of test results in a pandemic.

Using my knowledge and experience of managing infected patients in the hospital, I collected data, compiled a list of symptoms that require clinical examination, tests or investigations and created MAYA (Medical Advice You Access).

Based on intuition, I have integrated the innovation to identify an infected individual at home and isolate them initially. A simple, practically implementable tool that will help doctors share information about emerging infections, clusters to prevent spreading in community, town and country, resulting in epidemics and pandemics.

Water and Food Harbour Superbugs

Believe it or not, water and food are two essential sources of superbugs in India, besides factors such as over-prescription and overuse or erratic use of antibiotics in health care settings! How does this happen?

Water sources in India are highly contaminated. Forty-three million tonnes of solid waste are collected annually, out of which 11.9 million are treated, and 31 million are dumped at landfill sites.

Sixty-two million tonnes of waste is generated each year in India. One of the worst Indian nightmares is the lack of systematic mechanisms to segregate and process this waste which is a dangerous concoction of hard plastic, papers, cartons, metals, along with rotting food items, as well as bandages, linen, soiled sanitary products and other infectious waste.

Many-a-times, this waste is collected in a mixed form, transported and disposed of without being adequately processed and often gets released into the water and soil, polluting it. (2) Open defecation is frequent, and a large number of people in the villages still relieve themselves in the open -in the fields, behind trees, on the roadside, railway tracks and river banks leading to faecal contamination of water and soil. Liquid waste or sewage containing large amounts of antibiotic residues are discharged into a river from pharmaceutical industries, and hospitals and wastewater generated in the cities are often released untreated into the water sources.

The untreated sewage and effluents that are released into the water and soil are laden with various disease-producing bacteria that develop antibiotic resistance due to prolonged exposure to antibiotics present in the industrial and hospital effluents breeds' superbugs.

Not only rivers, streams, ponds and lakes, but even groundwater has been found to harbour antibiotic-resistant bacteria at different sites in India. Recent studies show that rivers such as the Ganga, Yamuna, Cauvery and Mutha are highly polluted and harbour bacteria with high levels of resistance to broad-spectrum antibiotics. Water samples were taken from rivers, and sewage treatment plants (STPs) from Bihar, Goa, Karnataka, Tamil Nadu, and Telangana found E. coli in the waters that were resistant to antibiotics.

Tap water, bore well water and water from rivers and lakes, water sources contaminated by sewage treatment plants, and surface water near drug manufacturing units in Hyderabad were found to have antibiotic-resistant bacteria in the waters. Wastewater samples from sewage treatment plants (STPs) in South India showed that hospital wastewater inflow led to an increase in drug-resistant bacteria.

Antibiotic Resistant Infections (Ref 12)

Antimicrobial resistance (AMR) continues to pose a significant public health problem in terms of mortality and economic loss. Health authorities of several countries, including India, have formulated action plans for its containment.

In this fight against AMR, it is essential to realize the contribution by all the following four spheres: humans, animals, food and environment. This review incorporates all the areas of One Health concept from the Indian perspective. India has one of the highest rates of resistance to antimicrobial agents used both in humans and food animals. The environment, especially the water bodies, have also reported the presence of resistant organisms or their genes.

Specific socio-economic and cultural factors prevalent in India make the containment of resistance more challenging. Injudicious use of antimicrobials and inadequate treatment of wastewaters are essential drivers of AMR in India.

Use of sludge in agriculture, improper discard of livestock animals and aquaculture industry are considered AMR contributors in other countries, but Indian data regarding these are lacking. Efforts to combat AMR have been initiated by the Indian health authorities but are still at preliminary stages. Keeping in view the challenges unique to India, future directions are proposed.
Bacterial resistance can spread rapidly as superbugs can multiply fast and make other bacteria found in food and water, resistant to antibiotics.

Superbugs can be transferred to humans through several modes such as direct contact with animal handlers, live animals and animal carcasses at poultry farms and slaughterhouses; consumption of meat, chicken, fish, eggs and milk contaminated with antibiotic-resistant bacteria; and environmental contamination of soil, water

and air through human excreta, animal droppings and farm waste.

Poor sanitation and hygiene and WASH practices among individuals who are carriers of superbugs can also facilitate the spread of superbugs in the community, household and healthcare settings.

Are you prepared to deal with the crisis?

On April 2017, a five-year National Action Plan was released by the health ministry to tackle the problem of antibiotic resistance in the country. Experts argue that the implementation task force for this plan needs maximum support and resources from the government as the current standing and preparation of India against this challenge is dangerously inadequate.

No legislative provisions exist to prevent the use of antibiotics in livestock and poultry and dairy products in India, and no standards have been framed by the Central Pollution and Control Board (CPCB) yet for pharmaceutical industries to prevent antibiotic residues in industrial effluents from entering the water bodies and the environment.

Drug manufacturers, livestock and poultry producers, hospitals and healthcare facilities are some of the superbug hotspots and significant polluters of the environment. Strong legislation and a highly effective regulatory system need to be put in place urgently to prevent the spread of superbugs by involving stakeholders at different scientific, social, legal and policy levels."

Conducting systematic clinical and epidemiological studies within these hotspots through routine surveillance of drug-resistant bacteria in water, food, humans, animals, and the environment is also essential to find an appropriate solution to the problem. "For this, we need to develop strict screening and monitoring protocols for different situations and contexts within these hotspots," he says.

"At the same time, increasing awareness among the public on the threat of drug-resistant bacteria, overuse of antibiotics, the role of good sanitation and hygiene and wash practices, needs to be our priority to prevent the spread of superbugs in the country, but this is not one that can be implemented by law, but by education.

No longer can we turn our backs to the fundamental principle that good health is often based on access to clean food, water and environment and not medicines.

There is more emphasis on prescribing antibiotics and less on infection control at present in India. More focus on infection control by focusing on sanitation and bringing down the use of antibiotics will reduce antibiotic resistance. "The sanitation connection, though overlooked, is elementary: cleaner surroundings both in the community as well in hospitals can check the incidence of infectious diseases and bring down drug use," she says.

It is time we shift our attention from quick-fix solutions to addressing the root cause of the superbug problem-better sanitation and a clean environment.

Animal Food Harbour Superbugs

Samples from food products such as poultry, fish, eggs, milk have also been found to harbour antibiotic-resistant bacteria. This is because low doses of antibiotics are routinely used as growth promoters in livestock in India.

Antibiotic-resistant bacteria were found in fresh herbs and vegetables imported from India to Switzerland and raw chicken, meat, egg and unpasteurized milk samples from Hyderabad. Studies from poultry, shrimp farms of Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu, milk sample from livestock in Tamil Nadu, fish samples from Kerala, Karnataka and West Bengal also found antibiotic-resistant bacteria in the food samples tested.

Dr Maya App

In India and countries with poor infrastructure, community healthcare workers, nurses, midwives and chemist not trained to clinically examine, use knowledge of disease are allowed to diagnose illnesses and prescribe drugs. In the U.K., Health in secretary licenced nurses and chemist to triage and work as a doctor in emergency care and family practice.

Ministers claimed this move would give patients quicker access to medicine. Unfortunately, this callous action has humiliated our profession and increased abuse of antibiotics in the U.K. We opposed offering healthcare based on algorithms and protocols are not safe. The British General Medical Council (GMC), and British Medical Association claiming to protect patient care, and defend doctors has been unable to prevent the implementation of this unethical and unsafe system, which brings more shame upon our profession.

Maya (Medical Advice You Access) was initially created to help receptionists and nurses working in nurse-led clinics, walk-in-clinics and emergency out-of-hours services. We aimed to help them differentiate well from un-well patients. Our mission was to reduce clinical errors, delay in diagnosis and reduce complications and even death.

By integrating this innovation, we have created software, and an Application (App) called Dr Maya. Using advances in information technology, we offer a simple solution to avert a major crisis that will bring us to our knee. Using advances in technology, we can identify a cluster of the infected individual (at home, hospitals, community, and country), and help isolate them to protect humanity.

We offer a simple, cost-effective solution to help the Department of public health to implement and monitor so that we can avert an epidemic and not struggle to cope after hundreds or thousands of people die.

We begged members of my profession, politicians to shun their ego, share knowledge and information, communicate and join hands with us to help us stop the crisis that is now threatening our profession and our very existence. If we don't soon we will start seeing hospitals and healthcare centres become the breeding ground of bugs that will wipe out a generation in a decade.

MAYA (Medical Advice You Access) was created initially to help receptionists and nurses working in nurse-led clinics, walk-in-clinics and emergency out of hour's services to differentiate well from unwell patients and then refer sick patients to doctors or hospital if required.

The names of doctors, nurses, chemist, and alternative healthcare providers register at www.dr121.com. The registered Doctor's name along with the contact details will appear in the list of local doctors.

Patients living in an area can choose their local Doctor or register with a different doctor. Patients will be able to get the information provided by that Doctor, communicate 24/7, 365 days, send/receive letters or prescriptions and also book appointments.

Dr MAYA can be linked to the hospitals' management system, or we can offer help to digitalize and systemize healthcare in hospitals, clinics and Department of health. Doctors can also provide video consultation, share notes via email and text message and even send prescriptions via email. Doctors can forward referral letters, sick notes and also search for information using the Internet while speaking to a patient.

This App will help doctors to prevent the spread of dangerously contagious diseases among patients. Patients with infections such as chickenpox, the MRSA infections, flu, Ebola and other emerging infections, can quickly be identified and the patients advised to visit health centres or hospitals thus helping to stop epidemics and pandemics in the future.

Registered Doctor can log in as a doctor and share information of symptoms, add news, videos, pictures and also personal video messages that patients can watch. Doctors can create a database in their language; add a telephone number of pharmacies, emergency services and other doctors working in hospitals or Health Centres in their area.
Doctors must advise your patients to download Dr MAYA, register, login and choose you as their Doctor. Once they are registered, they will be able to enter three symptoms, get your advice and communicate with you as required.

This is a simple tool created by a doctor with a passion for helping other doctors offer their services to protect their fellow human beings and alleviate pain and suffering all over the world. Doctors can update their profile, post pictures, list price to offer telephone consultation, book appointment to consult.

Department of Health, Hospitals, Airlines, Healthcare Service providers, embassies and doctors can create their portal and offer services to registered users. This tool will reduce the number of receptionists, booking clerks, nurses and even junior doctors (Casualty Medical Officers).

Delay in registration, waiting in hospitals and clinics, medical errors and cost of providing care 24/7, 365 days will be reduced by 2/3. The most important benefit is to avoid infected patients entering Trauma or Accident centres resulting in the death of staff and patients in waiting.

We offer the integrated innovation that is Dr MAYA, initially to help identify infected patients and isolate them to protect healthcare workers and thus humanity in general.

How Does This Work

We expect doctors, specialists, hospitals, companies, universities and institutions, government healthcare providers, medical colleges and education departments to download our Dr MAYA and create their databases. Foreign nationals, diplomats and other visitors living in London or the U.K. will be able to get healthcare advice from doctors based in their own country. The NHS would no longer have to claim that they are losing money because of treating immigrants and other foreign nationals.

Patients download Dr MAYA and then add the name of a local doctor with that Doctor's email and telephone number. Once our server receives the contact details of the new Doctor, they will receive a confirmation notification. If a patient logs in and their symptoms suggest an acute, contagious, infection, that patient can be quickly isolated, and their Doctor informed.

Doctors can use Dr MAYA to add symptoms, change the ranking colour of symptoms, insert video, pictures and also create an information sheet which patients can download. Doctors will advise patients to download Dr MAYA and ask them to choose him/her as their Doctor. The patient will then be linked to their own doctors 24/7, 365 days.

Before booking an appointment, the patient will log on and enter their symptoms. This is similar to calling a medical receptionist to explain why they need an appointment. Dr MAYA evaluates the symptoms and advises the patient based on knowledge and experience. It does not give an ad hoc answer like many receptionists will, but will provide a response based on the Doctor's intelligence.

Patients will not be able to call a doctor if the Dr MAYA system has suggested the patient should go to a pharmacist or Nurse or directly to a hospital. This reduces time-wasting consultations for non-threatening reasons like "I have a fever," headache or wart, etc.

Dr MAYA will also stop patients abusing healthcare staff because of misdiagnoses or other problems: Dr MAYA's recommendations are always more accurate and related directly to the patient's questions.

Only patients who require clinical examination or specific tests will be advised to book an appointment. This will reduce emergency appointments by 80% because doctors will only see patients requiring face-to-face consultations.

Patients will be advised to call the 999 numbers if their symptoms are severe. If their symptoms indicate a less threatening illness, the patient will be encouraged to call the NHS 111 number. This will reduce the number of people dying because they have called 111 when they should have called 999.

The features we have provided are simple and provide clear options for both doctors and patients. Dr MAYA provides a common-sense, practical solution to a significant threat to humanity. Using Maya Dr and Dr MAYA will stop medical staff in isolation units from dressing up like an astronaut!

The Health Secretaries and Departments of Health in every country need seriously to think about the care they provide. If a state does not offer primary healthcare to people, Dr MAYA can.

We must act now to prevent and control an uncontrollable tsunami of bacteria and viruses that could wipe out a generation. 7i think this is the only method we can use until scientists and pharmaceutical companies develop a new miracle cure to fight infections in the future.

The only immediately available alternative to treatment is the Maya system. Millions if not Billions will die if we continue to ignore this threat to humanity until scientists and pharmaceutical companies

develop one new antibiotic or think of alternate methods.

Why is Dr Maya important?

The backbone of India has been the farmers, without the billions of people will starve and die. Unfortunately, the leaders elected by them did not give much importance to their health and well-being. The time has come when spreading infection, reducing water supply and increasing cost threaten their profession and life.

Listing out all of the problems they are plagued with is next to impossible. The bureaucrat and red tape make their life a living hell. Times of India published an article in Dec 2018, listing ten reasons farmers are in distress. Health has not been recognized as an essential factor. This may not have been identified in the past, but future health will be a significant problem that affects not only lives but also productivity.

One of the significant threat to this community soon is emerging and treatment-resistant infections. In the U.K., I have started seeing patients present with a rash on their hands that were treated as eczema using emollients and steroid cream by the family physician. As the outbreak was getting worse, the patient came to the Urgent Care Centre. When I listened to his story, I was convinced the fungus colonized in his leather glow was the cause.

Farmers and gardeners using glow or not will get infections that will be difficult to get rid of. This occupational hazard will result in making the farmer stop working, will reduce productivity that will affect us.

Encouraging organic vegetable, fruit and wine production, claiming this is in the interest of the environment and health, is one that I am concerned about. I want to believe this, but cannot because the compost and manure used as fertilizer are now colonized with superbugs.

In a study, bacteria isolated from local breeds of different bovine animal have shown potential to be used as plant growth-promoting bacteria. Further studies highlight the disadvantage of unmonitored use of manure and its microbiota which may contain antibiotic resistant bacteria and potential unexplored plant pathogens. We must explore the bovine manure flora to determine the efficacy of waste treatment practices (composting, anaerobic digestion, lime stabilization) in eliminating antibiotic resistance determinants of concern from manures or human waste.

One paper explores health and safety issues in organic farming, particularly among small farmers in central New Mexico. The sample consisted of a young, educated, low experienced population that may differ from conventional farmers. Both producers and workers seemed to be aware of the health risks involved in small-scale farming. Producers presented mixed attitudes toward health and safety, while the opinions of workers were more systematically negative.

Perception of risk was generally lower among workers compared to producers. Although health and safety training were not specifically mentioned, most participants seemed to understand the relevance of the work environment for health and safety.

Regarding ergonomics, the physical demands of working for long hours and the necessity to perform a multitude of tasks that contribute to physical stress were issues of concern.

There are not many exploring health and safety among farmers, particularly organic farmers. The study identified relevant intrapersonal and behavioural factors that may increase or reduce the risk of disease and injury. Results of an investigation, point to the need for research that focuses on the psychosocial and contextual factors that may contribute to injury and illness among organic farmers.

Benefit for Farmers

The reason I believe "Dr Maya", can help the farming community in India is based on my personal experience. As a medical student, I lived on a farm outside Bangalore. Villagers who saw me go to medical school with my white coat assumed I am a doctor and came to ask my help when the farmers or their children were unwell.

Majority of these farmers had sustained an injury or developed infections. Majority of these sick people developed septicaemia and died because they could not afford to buy antibiotics. Staphylococcus aureus, was the common bacteria that was sensitive to medicines got better, but now in "The Post-Antibiotic Era", the same bacteria will not.

Knowing these bacteria are now colonized in soil, water, humans and animals, we must develop a strategy to help farmers differentiate common infections that require emergency treatment from the ones that do not require treatment.

This method will prevent them from developing septicaemia and die. Visiting hospitals or consulting a doctor with common infections involves travel, increase cost, time and risk cross infections. This will help not only the farmer but also his family, friends and the community.

Dr Maya Offer

We offer webinars to train health visitors, nurses, community care workers and nurses to provide healthcare diagnosis and management. This will help reduce farmers waste time on travel, cost and cross infections brought into the village more significant issue is if the Indian farmer is destined to live in poverty and die in debt?

This is the situation after 70 years of country's progress post-independence. In the same period, other countries have achieved a revolutionary increase in farm and agricultural productivity.
To illustrate, in India, 50 per cent of the people do farming that barely produces enough for themselves and another half of the population. In a country like the U.S., barely 2 per cent of the community provides enough not only for the remaining 98 per cent of its people but also a massive surplus for exports. Are we taking care of them as they contribute to our family, community and country?

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