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PROFESSOR MALA RAO, OBE

Career summary:

Mala undertook her medical training in India before moving to the UK in pursuit of public health specialist training. She undertook this training in North East Thames Regional Authority. She then held consultant posts in Essex before being made Director of Public Health also in Essex. She led innovative work such as establishing England's first evidence-based cancer network and early Sure Start initiatives as well as research which resulted in changing national immunisation policy for the childhood DPT Polio vaccinations and MMR. She then moved to the Department of Health where she became Head of Public Health Workforce and Capacity at the time when the 'Choosing Health' Government White Paper was written and implemented and led the introduction of a wide range of workforce development strategies and programmes including Teaching Public Health Networks. Latterly she worked under the aegis of the UK Global Health Strategy and the UK-India Health Collaboration as the founding director of the Public Health Foundation of India's first Indian Institute of Public Health based in Hyderabad. She is Professor and Senior Clinical Fellow in the Department of Primary Care and Public Health at Imperial College, London.

Interview 7/11/2014 and 8/12/2014

EDUCATION, FAMILY BACKGROUND AND MEDICAL SCHOOL

How did you get into medicine?

I am Indian by origin. I was born in India and lived there until I graduated from medical school and had completed a further year as a junior doctor before travelling to Britain in search of public health training. That is the reason why I came to Britain in the first place. In terms of my family, on my mother's side I am fifth generation university trained. My great, great grandfather and great grandfather studied law, my grandmother, born in 1910 in India, had two degrees and became headmistress of a school. My mother trained in economics. So I come from a long line of people who believed in further education. On my father's side, I come from a long line of engineers. My grandfather was the chief engineer of Mysore State and was, as a young engineer, involved in building Mysore State's first hydroelectric dams, bringing electricity for the first time to parts of the state. Their careers were linked with public health and social justice. My father, himself, was an architect and town planner and the Director of Delhi's School of Planning and Architecture. I am very proud that he was the first director to employ a sociologist to be a core member of the academic team because he really believed that architecture and town planning were highly relevant to health and the human condition. That is my family. I have a sister. We weren't extremely wealthy but comfortably off and it was the sort of family which hugely encouraged literature, and learning and music, and so on. The other thing I do recall is always this expectation that my sister and I could do everything that men might have done at that time. Equality was a given in the family.

I went to a convent school, so I was trained by nuns and I was educated in English from the beginning. I did sciences. The nuns would encourage us to raise money for causes such as famine in India and Africa and to think of careers such as medicine or law and in my case I was drawn to medicine although there weren't any doctors in the immediate family. I was naturally good at the sciences and I sensed that there was an expectation early on that I would do medicine and I was comfortable with that expectation. I was never pressured into doing it. Everyone talked about the nobility of medicine and I decided it was what I wanted to do. I got the right grades. In India you have a pre-med year so 'A' levels are crushed into one year. I did well in my 'A' levels – I did physics, biology, chemistry and English - and gained admission into what was then regarded as Delhi's best medical school for undergraduate studies. I did five years of medicine.

There was another matter which I am sure has been a major influence on me. I grew up in India where caste and social discrimination are significant issues. All kinds of social constraints such as widowhood in the 1920s would have relegated a woman to the shadowy dark corners of the house like the kitchen. Women would have had to shave their heads once they were widowed, worn white and spend the rest of their lives in prayer, not really taking an active part in social functions. They would have been visible as women who had been widowed. My maternal grandmother was tragically widowed in 1931 when my mother was barely a year old and she was herself a 21 year old woman with two children. My great grandfather, who was an amazing man, an extremely liberal minded person, insisted she came home with her two little children to live with him in his big, joint, extended family. And she was going to go back to school and get back into education. As a consequence of that, she had a BEd and a BSc in botany and she became the head teacher of a girls' school and was very successful for many years. Until recently, I continued to meet some of my mother's very elderly contemporaries who fondly remembered what a wonderful teacher and head teacher she was. The other thing that happened was that we belonged to a high caste family which was ostracised by the orthodox, high caste Hindu priests, because my grandmother was allowed to light candles and pray in the family's prayer room, sort of equivalent to the family chapel, at a time when widows would not have been allowed to do so. My great grandfather's stance against social injustice must have been an extremely bold, difficult decision at that time and yet it was made without any hesitation. I am sure that my family's attitudes deeply affected the way I think about social inequalities in India and elsewhere. Such practices became uncommon from my parents' generation, although I suspect in very orthodox parts of India especially rural areas one may find such customs prevalent even today.

What was the gender balance in your medical school?

A lot of women in India, even at the time I graduated, did medicine. What happened in the year I started my undergraduate studies was that the male students protested against the fact that the all-girls medical school in Delhi – the Lady Hardinge Medical School gave women students an unfair advantage. They felt that women with lower grades could get a place in Delhi medical schools because they had a school that was exclusively for them and they could also get places in our school. So, to get the balance right, the women's intake in my medical school was kept to the highest achievers in the pre-medical year and the rest went to the all-girls medical school. In a year of nearly 180 students I unexpectedly found I was only one of about 20 women with the rest being men whereas in the previous years there would have been a better balance. But everybody was friendly and I remember my undergraduate

years as being good years. I was always one to participate in student union activities. I was the women's rep on the student union committees and I enjoyed participating in theatre, that sort of thing. But the other thing that happened to me was because of my mother who is also a very talented Indian classical musician. She had a live broadcast every six weeks to two months on All-India Radio for a very long time, well into her fifties, and she introduced me to radio-journalism. In India there used to be a youth channel – Delhi 4 – so when I was 15 she introduced me to the producers and said why didn't I do something with them? I started working on programmes for radio and this became a very regular thing – for example if there were ever any medical conferences in the city they would ask me to cover them, during my undergraduate medical years. I remember some international paediatrics conferences in the early 1970s where there were spats between the artificial milk companies and paediatricians who were very strong advocates for breastfeeding. When they had a clash I ended up reporting it and I had some good press in the newspapers which would say Mala Rao, medical student, did a good coverage of this on the radio. I think this further fuelled my interest in public health and the whole issue of social justice through medicine.

What years were you at medical school?

1971 to my convocation in 1976.

You were not swayed away from public health during your medical training?

Looking back at my undergraduate years, most of the men in my year were focused on becoming cardiologists or surgeons because they could see that as fashionable, exciting and a way of making a very good living. Whereas the thing that influenced me greatly, was that I was an undergraduate during the smallpox eradication era. I was fascinated by the updates given to us by the preventive and social medicine department lecturers on what the WHO was doing to eradicate smallpox in India. In fact I think India became smallpox free in 1976 and I took my finals in 1975. The particular thing I found so interesting was the multidisciplinary of this effort. There were extremely hostile tribal communities in the interiors and forests of India. There were these intrepid interns doing an elective period of their internship on the small pox programme – with nurses and vaccinators. Some of them died because of accidents in treacherous weather on the mountains. They showed such extraordinary courage. What struck me was that these multidisciplinary teams could wipe diseases from the face of the earth. I dreamed of being the director of the malaria eradication programme or some such thing when I completed my studies. I thought that addressing the next big public health challenge in India, that is the way I would like to see my career developing. I was committed to public health from year four of my undergraduate studies. I never wavered in that resolve. I was also so interested in those debates on artificial milk and breast feeding at a time when India's infant mortality rates were horrendous. I was a medical student when there were neonatal tetanus wards – wards full of babies dying of tetanus. I would see the distraught families sitting outside and I would think what a complete waste this is, a thoroughly preventable tragedy. That, I think, influenced me more than the interpretation of ECGs and those sorts of things. So I used to have discussions with my professor of public health, who was UK-trained, about where I would get the education I wanted. She was convinced I was serious about public health and encouraged me to think of Britain or the US for further training particularly, of course, Britain because that is where she had trained.

PUBLIC HEALTH TRAINING IN ENGLAND

When I arrived here, I had to sit the exam all international medical graduates had to take if they want to practise within the NHS. It was a rigorous two-day exam as I remember it and I passed without any problems. As soon as you pass you are allowed to start working. You have a period of a month, known as an attachment, when someone supervises you to make sure you really are safe to become a paid junior doctor. Again, I can recall getting an excellent report at the end of that month and then I started knocking on the doors of the Faculty of Community Medicine, as it was at the time, because I didn't quite understand how public health training could be had in this country. I was actually quite young at the time – I started medical training when I was 16. So, I was still young, when I had finished my undergraduate studies, done a year of internship, received my degree and done a further year as a junior doctor, six months in paediatrics and six months in gynaecology and obstetrics. The Faculty of Community Medicine advised that, to be considered for the post of a registrar in community medicine, it would be best if I completed two years of hospital training to get some exposure to the NHS healthcare delivery system. So then I thought that the hospital specialty most likely to have a link with public health might be paediatrics.. Preventable communicable diseases were prevalent, the numbers not high but also not insignificant in this country and the Measles, Mumps and Rubella (MMR) vaccine had not been introduced at this time. Many of these landmarks occurred after I was trained as a public health physician.

I hugely enjoyed my year in paediatrics and I learnt a lot about, for example, policies for contact tracing for TB and meningococcal disease, how school nurses tried to increase the uptake of rubella vaccination because there were still, tragically babies affected by rubella in pregnancy. It did give me a good grounding into how local prevention programmes worked although I did not understand anything about strategy or policy. As a junior doctor in the NHS, it is interesting how even today exposure to the wider policy environment in which you work is not always available. Then for my second year of hospital training, I thought that I should spend it in a clinically intensive specialty, so I decided to spend the year training in anaesthesia. I hugely enjoyed the year, especially managing emergencies.

Where did you do your paediatrics and anaesthesia?

In Southend and that is why I applied to the North East Thames Regional Health Authority training programme as advised by the Faculty of Community Medicine because I was already living in that region. I was recruited to the training programme in 1981.

Was there much competition?

By this time, I was married to a fellow junior doctor. My first daughter was born in November 1981. The interviews for the training scheme were held in July. There were two candidates interviewed that day, and the Faculty Adviser Dr Walter Wright had forgotten to mention to the appointments committee that I was pregnant but that I was nevertheless coming for the interview. They interviewed me for about 45 minutes. It was a large committee chaired by the Regional Medical Officer at that time. At the end of the interview they said that they were interested in offering me a post as a registrar, and could I start at the London School of Hygiene and Tropical Medicine in October? At which point I mentioned – it was an all male committee – that I was due to have a baby in November. We had a discussion and I said I was extremely keen on breastfeeding the baby and being with the baby for six months, assuming all went well in November, so they were kind enough to suggest that I should join the District Medical Officer's team in Southend, where my husband was

still a junior doctor in the hospital, and do a period of attachment with him as a registrar in the community and then join the London School of Hygiene and Tropical Medicine Masters in Public Health (MSc in Community Medicine as it was called then) programme during 1982-1983. So that is what happened. I joined the district team in May 1982. I thought that was a fantastic introduction to the theory based year at the London School.

Did you have much knowledge about the structure of community medicine or its history?

Not until I joined Dr Gil Griffin, the District Medical Officer in Southend, a legendarily good public health leader who got on exceedingly well with the community and peers locally – this was an era when there were only four people who lead the local health service – the consensus board consisted of the district administrator, district medical officer, as they were called then, district finance officer and there could be a chief nursing officer and that was it, they made up the Board. Dr Griffin was highly regarded. He had begun as a District Medical Officer at a time when there were still outbreaks of diphtheria and so on and I think the four months there were fantastic, he taught me so much about the history of public health. He did point me particularly towards the Southend Borough records of previous Medical Officers. I have a particular interest in social history so I used to delve into those records and it used to fascinate me, coming quite recently from India, to find that it wasn't that long ago that there might be outbreaks of diphtheria and other infections in Essex. So this gave me a bit of a background although I didn't know very much about how things were planned at a national or regional level until I went to the London School and got a slightly better theoretical understanding of the structures. I can recall trying to understand, for example, the Resources Allocation Working Party (RAWP) formula and discussing what the benefits and dis-benefits were of various ways of allocating resources.¹ It was interesting and fascinating for me because for the first time I was beginning to learn how the whole system operated. I did not learn about health systems in India as a medical student and here I was interested to learn how things were done across the UK.

After your year at the London School did you go back to Essex to complete your training?

I did. I went back to Essex because it was where we continued to live. My husband had a substantive post in general practice in rural north Essex. We continued to live there on the Essex/Suffolk border and as a consequence I was tied to that area. I had to train in Essex but it became quite clear to me that I needed exposure to other settings. The advice from the Faculty Adviser in North East Thames Regional Health Authority was that I should complete part of my training in London. So I went to City and Hackney Health Authority for part of my training. My supervisor at the time was Ken Grant, who again was an eminent District Medical Officer, so to mitigate the stresses of travel, the Faculty Adviser was kind enough to let me do half the week at City and Hackney and the other half in Essex. For my senior registrar years that is what I did.

The other thing is that I have always wanted to be an academic but I made the best of whatever circumstances I found myself in. I can recall saying to my husband I would be perfectly willing to live in rural Essex provided it gave me some opportunity to practise public health, which it did. The thing I missed out on was the opportunity to be an academic

¹ RAWP was introduced in the 1970s as a means of distributing national health service resources more equitably across regions according to need

from the beginning which I suspect, if we had lived in London, I would have been. But I am very pragmatic. I have always thought whatever role I was given I would do with the utmost commitment because at the end of the day you can get a lot of satisfaction and do a lot with any role or responsibility that is available to you in public health.

Going back to my Part II exams- I was based in north Essex - one of the things I noticed was that infant mortality rates used to go up and down in north east Essex, the main town being Colchester.² It was not consistently better than the England average despite north Essex being a reasonably affluent part of the country. I wondered why this was and I decided that one of my Part II projects would be a confidential enquiry into infant deaths in North East Essex Health Authority. What I discovered was that the garrison at Colchester - the second largest in the country – contributed twice as high a rate of post-perinatal mortality and three times as high a rate of cot deaths compared with civilian families in the area. When I looked more deeply into this I discovered that many armed forces babies were children of young soldiers in the army, 17 or 18 years old, married to women who were equally young. Some would have come into the army from deprived backgrounds – the army provided some level of security – and brought with them the risks associated with deprivation. I was already struck by the sort of early work being published by Ann Oakley at the Institute of Education, which was beginning to show that maternal social support had a relationship with maternal and infant health. We know so much more now about the relationship between the social determinants of health and the burden of ill health in the community but we mustn't forget that in 1985 and 1986 the evidence was only just beginning to be recognised. Intuitively, I felt there was clearly something there because you had Scottish regiments based in Colchester and an 18 year old mother, very far away from her mother and grandmother and completely isolated. The husbands were away on tours of duty and I found that, out of 365 days a year, they may be gone for 150 days to places like Belfast, which at that time was an area where families were not transferred, and of course Hong Kong, Belize. These mothers were left completely alone with their babies and the baby would die because the mother did not know whether a cold was severe enough to take a child to the doctor. There were also instances I discovered when if the regiment moved say from Hong Kong back to Britain on a certain date, even if there was a very young baby, the mother and baby moved with the regiment and one baby died in transit. The mothers themselves snacked all the time and didn't take any particular interest in their own diet, especially when the fathers were away on tours of duty; smoking rates were high; there was domestic violence. I felt therefore there was a link between the social condition of such families and infant mortality.

I passed my Part II and published a short piece in the *BMJ* – it was accepted without any changes - which led to questions being raised in Parliament and headlines in the local newspapers saying 'Why do these babies die?' and I seem to recall it was Edwina Currie who was the MP who had to respond that this was being investigated. I faced a huge amount of hostility when the paper was published and I couldn't understand what I had done wrong, a small area piece of public health research from which I had elicited this interesting finding. I stated that I could not be certain about the reasons why the infant mortality was high but there could be an association with factors such as maternal isolation. The commander of the military garrison was extremely angry. The armed forces paediatrician from Aldershot was

² Part II - second part of Faculty of Public Health Medicine membership examinations comprising a dissertation and oral

sent to meet me. He was very wise and said that he thought I was advocating 'granny medicine.' I agreed and we spoke about how the soldiers' wives would not ask the officers' wives for help if their babies were ill. What they needed was informal support so it was the start of the first home start scheme where health visitors asked volunteers in the community, peers or slightly older mothers to befriend the young army mothers. Infant mortality started to fall. I began to receive correspondence from Catterick where there was a garrison and from GPs there who had made similar observations but which were anecdotal. Armed forces epidemiologist colleagues were also grateful that the findings had been published and more would be done to support armed forces' families especially when husbands were on tours of duties.

So, I always had an academic approach to public health practice. I liked doing research and publishing it, and it helped me practise public health better, at the front line.

Did you work full time as a trainee?

I always worked full-time. One of the things I still wonder about is something which happened when I was due for promotion to senior registrar. I worked full time, had finished the Part I exam, I had finished the London School of Hygiene year and passed the MSc, and unlike many of my contemporaries I had also had that five month attachment in a district before I started the MSc when it was usual for the registrars to begin their training with the London School of Hygiene year, so I felt I had more knowledge and experience than others at my stage of training. I was invited for an interview for upgrade to senior registrar, I think there were four of us. I was the only person who was held back and told you can't be a senior registrar yet. I was informed by the committee of three people, including the Faculty Adviser at the time. The reason given was that I was married to a very busy rural GP. At that time there were no mobiles or even pagers so at six o'clock I had to take on the patients' phone calls on one in three nights and on one in three weekends. I was home bound between Friday evening and Monday morning and I had young children. The committee said 'we know you have done everything everyone else has done but we think you have more family pressures than others and so we are not going to promote you'. I can recall feeling very distressed at the time because I had always coped well with home and work. As far as the basic milestones were concerned I had worked exceedingly hard so that in spite of everything I used to keep up with everybody else. I can recall reading a bedtime story for my daughters then, once the lights were out and they were asleep, beginning my work on my Part II thesis and so on, going on to about midnight or one o'clock. I was extremely disciplined and managed it all and continue to manage that kind of balance until this day. I just thought it was remarkably unfair. It delayed my upgrade by six months and the reasons given were the sort of reasons you would not be allowed to base such decisions on now. But that was what was stated. You have a lot of family demands on your time so we are not going to promote you. So I just carried on for six months and reapplied and was promoted. Then I passed the Part II at my first attempt. The feedback to my Part II thesis was very good too.

You must have had child care arrangements throughout your training?

Yes, absolutely. One advantage of living in rural north Essex was that we had lovely older women who became our nannies. At the time there were no nurseries; we had to have a full time nanny. There was a time when I had a nanny and a housekeeper so the nanny did not also have the tasks of keeping the house clean and getting the food on the table. We

combined all those roles as my daughters grew out of nappies and we did not need both a nanny and a housekeeper. In actual fact, our housekeeper stayed with us for 18 years, initially as a cleaner working alongside the nanny and later as the housekeeper and also helping with the school run and so on. Yes, we had good, reliable arrangements. I have never wanted my daughters to be latch key kids and so there was somebody who was like an aunt who collected them from school, took them back home, making sure there was a hot meal for them. I was also certain that if ever their grades slipped or there was some sign that they were distressed because I was working I would stop working and be a full-time mother because my priorities were the children and only then, work. However, every year passed and they did very well at school. They are nice girls and I am very proud of them and what they have achieved so far. So my working did not seem to have affected them and I think that is probably because both my husband and I loved what we did and were utterly committed to our professions. I was very proud to be an Indian, given the opportunity to be a director of public health and the guardian of public health initially for a community of about 320,000 people in north east Essex then south Essex for some 700,000 people and later when I have had national roles. I have always felt it is such an important responsibility and such a privilege to have this responsibility that you have to do it to the best of your abilities. My husband too, utterly believed in the duty of care. The joke in the family was that when Mum worked in London she still managed to get home earlier than Dad whose surgery was only down the road, but he used to work 8am to 9.30pm until he had seen every last patient and looked at every last laboratory report received that day. I think that the children have not been adversely affected – two in fact have gone into medicine. In 1984, when I was a senior registrar I worked part time in North East Essex Health Authority and part time in City and Hackney Health Authority. I couldn't be a full-time senior registrar in London because of the need to be around for my young family so I split my week and that made it a little easier although I was still full time.

In 1984 the Director of Public Health who was my trainer, was sent on a sabbatical to Saudi Arabia when North East Thames Regional Health Authority was building up relationships with that country and I found myself working alone with a distant supervisor, Dr Frank Murphy, who was at the time Director of Public Health in West Essex. The Faculty Adviser approved this as I was thought to be competent and capable of working independently. I was almost fulfilling a full time DPH role although I was a Senior Registrar working part time in North East Essex. I had all that responsibility. Of course the buck stopped with me in 1987 as a consultant and it felt entirely different when I started in that role. At that time, of course, the consultant was responsible for all public health issues from smoking advice to communicable disease. But we just got on and did it all.

CONSULTANT POSTS

I was living in rural Essex, where my husband was a GP, and I had two young children and another one on the way in 1986 when I finished my Part II exams. So, the job I applied for was the consultant in public health post in the local district, North East Essex Health Authority, where, thankfully for me, there was a vacancy. In those days the post had the title specialist in community medicine and it was about the time when specialists in community medicine became consultant grade posts. There was competition even then but I was successful in being appointed. I was interviewed for the post before I gave birth to my third daughter towards the end of 1986 and I came back into a full time consultant role in 1987. At

the time, it is interesting that there was no mention of a part-time role. These things were not considered, discussed, offered. How times have changed! It was assumed I would be going back full-time and I did. I could also see how stretched my Director of Public Health was and so I went back to work full-time.

The thing that has defined any of my subsequent roles in public health has been the fact there was always a research element. I enjoyed small area research. I refused to be constrained by the fact I was not working in London. We were part of North East Thames Regional Health Authority and there was this perception that working in London was more challenging and perhaps more interesting, and I was not prepared to accept that. I continued to ensure that whatever opportunities North East Essex offered I would make the best use of, to carry out epidemiological studies, publish papers, attract trainees to the Department and get them to realise that you didn't have to work exclusively in London to get the best, most interesting and varied public health experience. The Health Authority I started in, had a population of around 320,000.

It was also an era when children died from preventable diseases such as measles. I remember that, approximately 20 children died in England every year due to measles. Tony Newton, the Health Secretary at the time, established the immunisation co-ordinator role. During those early years the immunisation co-ordinator had to take personal responsibility for the childhood immunisation programmes. At the same time I recall being concerned about other things— this was an era when the Women's Royal Voluntary Service (WRVS) volunteers would go round the hospital with a trolley selling cigarettes,, chocolate and snacks to the patients. I remember my role as being really fulfilling as there were so many things one could get involved in addressing.

Another communicable disease tragedy of the time was deaths of babies from whooping cough. Our schedule of immunisations was to give 3 doses of diphtheria, pertussis, tetanus (DPT) and polio at three months, five months and ten months. What I discovered was that not only the garrison families but also civilian families would move out of the area by the time that the tenth month third dose was given, so the baby ended up not completing its schedule of three immunisations. I used to go to India on family visits and there I found that the WHO regime to vaccinate children at two, three and four months of age was prevalent. I wondered why we didn't do that in the UK but of course we wouldn't introduce a new schedule in the country without testing it first. I decided to instigate an investigation. I spoke to colleagues at the Communicable Diseases Surveillance Centre (CDSC) whose advice I sought regularly – Mary Ramsay was a senior registrar at the time.³ These were times when if you were interested to undertake a research project you were allowed to. Of course you had to get ethics approval which was a rigorous process. I remember asking our Director of Corporate Affairs, and he gave me £5,000 for this study. We undertook the trial of the accelerated vaccination schedule in Colchester and demonstrated that babies in the UK tolerated the schedule well. Their experience was exactly as it was world-wide and the vaccination schedule was safe. The antibody response analysis and conclusions were published in the *Lancet* and the report on side effects, which were few, was reported in the *BMJ*. Once that had been done, the Joint Committee on Vaccinations revised the national schedule. In the

³ Dr Mary Ramsay, consultant epidemiologist, responsible for national surveillance of vaccine preventable diseases in the 1990s

section on DPT polio of the green immunisation book with all the immunisation schedules which was circulated nationally in that era, the study reference for the accelerated schedule was our one. It's another example where if there was something which intrigued me or I felt that we could do something better, I never felt constrained by the fact that I worked in a relatively rural area. I just got on and found a way to solve the problem locally, but also to the benefit of people at a national level.

I was fortunate to have seen amazing landmarks such as the accelerated vaccination schedule being introduced, the MMR vaccination in about 1988 and the Hib vaccination during my time as a DPH. Communicable disease control required a combination of very good surveillance and handling the media. When MMR was first introduced because babies were being immunised they were protected against measles, mumps and rubella whereas older children who had never had the vaccination were becoming infected and of course measles in teenagers can be a serious illness. We were doing a catch up immunisation campaign among children who were about to leave primary school, because we observed increased illness rates in ten and eleven year olds, when a boy died about ten days after a MMR vaccination campaign in his school with an unexplained encephalopathy like illness. The whole country's MMR programme almost came to a standstill. GPs in the patch refused to give MMR. I felt extremely alone as I was handling the crisis. Even Sir Donald Acheson, CMO at the time, was very concerned. The Department of Health suggested we should abandon MMR vaccination for the foreseeable future till we had come to some conclusion about this case. I believed that we should rely on the evidence, what did we know about MMR? Firstly it was introduced into Britain after almost 15 years of experience in Scandinavia, the US and Canada with no deaths reported. So we had evidence that it was a safe vaccination. What had gone wrong with this child? I could remember not sleeping. I requested that the post mortem examinations were done by two laboratories because I did not want any accusation of cover-ups. One was done by Great Ormond Street. Meanwhile Mary Ramsay had taken a quick look at the literature because this was an era – about 1989 or early 1990s – when we did not have the internet and she found that the vaccine we used in the UK was produced by Smith Kline French and contained the Urabe strain of mumps whereas the US used the vaccine produced by Merck, Sharp and Dohme which contained the Jeryl Lynn strain of mumps. In the US there were very few reported cases of fever or other adverse effects during many years of use. The way I dealt with the crisis was to err on the side of caution and withdraw the batch of MMR vaccine we had been using, to have it checked, and to replace the Smith Kline French vaccine with Merck Sharp Dohme vaccine on the basis of the evidence of few side effects. Then the post-mortem evidence came back from both laboratories to reveal that this child had a massive herpes zoster infection. It was a relief that his death had nothing to do with the vaccine. In fact what it showed was that he had previous antibodies to mumps and rubella. He probably had a sub-clinical infection at some stage in his childhood so the vaccine would not have made a difference in terms of conferring fresh immunity. Typically, his death was published as front page news locally for many days but the post-mortem information was tucked away. I had persuaded the CMO's team not to halt the programme nationally because that would have destroyed confidence in the programme. Also, someone at the press conference we had at the Health Authority inadvertently said to a rather persistent journalist that the concern about MMR was unnecessary because Dr Rao has had her own daughters immunised the previous week. My daughters were due for the MMR and this death occurred about three days before they were due. Actually no one else was privy to that

information apart from the microbiologist, the paediatrician and the family. Did I withdraw my children from vaccination? No, I did not. If it was safe for the public it was safe for my children. I had them vaccinated. This cat was let out of the bag. The unexpected consequence was how reassuring this was for the local public and the GPs. I can recall my husband reporting that mothers attending the surgery with their babies were happy to have them immunised as we had had our daughters immunised. One London paper reported this as bravado on the part of a 'Director of Public Health mum'. I had to deal with a lot of this and I felt so isolated. The great news is that the country as a whole then changed to the Jeryl Lynn strain of vaccine from the learning that it was less allergenic. A final vindication came about six months later when the health authority quarterly report showed only a small blip in our immunisation rates before it went zooming back to the usual high rates a few weeks later. Nationally there was hardly a blip. I had a letter from Dr Eileen Rubery who was then a senior civil servant at the Department of Health thanking me for handling the incident well and ensuring that the national programme was not affected by it. These were the sorts of things we had to deal with and we learnt how to handle the media by being logical. It was still an era when handling media and communications was not a formal part of training. And there was a tendency to expect you to manage such incidents on your own, with the health authority looking to you for guidance. We wrote up the case for publication. Other things I used to do was contribute to a column with the county newspapers. I used to have a weekly or fortnightly chat with a journalist who would write a piece – encouraging women to attend for cervical screening, or advising on breast screening, which was introduced in 1987, or the risks of smoking. Much later, when I was at the Department of Health, I used to sit in on talks given by the Chief Medical officer to the Directors of Public Health. He would urge them to walk the walk and talk the talk. I am from an era when we automatically did that.

It was so evident that public health was viewed as an admin role in the 1980s when I began in North East Essex - there was a tendency on the part of clinicians to sneer at public health. I felt quite intimidated. When the post of specialist in community medicine was upgraded to a consultant post I started attending the local consultant committee meetings. I can still remember the first time I walked into a room full of consultants, there were three things that were very intimidating, firstly I was one of the few women consultants in North East Essex, secondly I was the only one among two or three black consultants, and the third thing was I came from public health. I made the decision that I needed to demonstrate that I made a difference to that community. Why should they look on me as somebody who had been let off with lower goal posts? I am certain that the perception was that the clinicians could demonstrate that their work resulted in clear evidence of patient benefits whereas my outputs were the numbers of meetings I attended. This troubled me and I was convinced I must demonstrate that what I do benefited the public. That has been a philosophy for a very long time. Actions I took, such as taking the lead when the MMR incident occurred, tackling the higher infant mortality in the area and introducing the accelerated vaccination schedule began to change that perception locally. I managed to gain the full confidence of GPs and consultant clinicians because they really understood how I could contribute and add value at that time to the medical fraternity. I was also responsible for introducing cervical cancer screening when it was computerised and then breast cancer screening. Then the NHS purchaser provider split was introduced.

DIRECTOR OF PUBLIC HEALTH

When did you become a DPH?

The DPH I worked with, went to work in the Department of Health on secondment for a year in 1989 so I was acting DPH and consultant in public health for the whole of that year. Then I reverted to my consultant role in 1991 for a short period until the DPH left the area. From 1992 I had the substantive role as DPH. My health authority merged with Mid Essex and West Essex health authority to form North Essex Health Authority in 1995, when I went to South Essex Health Authority as DPH.

The purchaser provider split was introduced in 1990 and we were just beginning to understand it at that time. The public health department was given the role of translating it into actions and I was the first commissioning lead. I was supported by a commissioning manager and we developed the first policies, the governance, ground rules for our negotiations with the providers. Then I can remember establishing a way of working which became routine almost a decade later. I felt very strongly the team on our side had to have someone who understood the throughput, volume of services and the funding, someone who understood the science of appraisal – this was before NICE- and we also needed a GP.⁴ From what the GPs reported some aspects of hospital care were unsatisfactory and I felt the best way to tackle this was to have a GP as part of our core negotiating team. On the provider side- and this was also regarded as revolutionary – I insisted that the clinicians should be expected to attend. When we discussed developments in surgical care I insisted the consultants from diagnostic specialties were also involved in the discussions. They were extremely grateful as they were seldom asked about the impact on their services, of expansions in other clinical specialties. Being collaborative brought gravitas to the public health role. I wanted public health to be recognised as an extremely important discipline.

We did some great things which brought about much more clarity to commissioning, started to negotiate certain improvements in services even in those years when NICE had not been established. When I was appointed DPH to South Essex Health Authority in 1995, I had a fabulous opportunity to establish a new Department which was strong and effective. The Calman Hine Report had just been published so I decided that we would strengthen the local cancer services as a priority, because that would harness the efforts of many consultants working in hospitals within the health authority area.⁵ I had a small team including the head of pharmacology for the health authority to carry out some critical appraisals of the literature on cancer drugs. I had a library which was regarded as the best library of any health authority public health department in the region. I cajoled 120 clinicians in the two main hospitals – in this era there were turf wars between hospitals because of provider competition – to help achieve common standards and protocols for the care of patients with cancer in our area, so that they would receive the same high quality treatment irrespective of the hospital treating them. I urged them to contribute a little of their time to help prepare standard treatment protocols. We had a breast cancer group, a bowel cancer group, a stomach cancer group and so on. I had amazing levels of cooperation and everyone worked for the public good. And we had guidelines and protocols for eleven anatomical sites or conditions including one for palliative care. We consequently established the first evidence-based cancer network and I was very proud of that. Sir Mike Richards, who had then recently been appointed the

⁴ National Institute for Health and Care Excellence

⁵ The Calman Hine Report on cancer services was published in 1995 and proposed restructuring of services to address variations in cancer survival across the country

National Director for Cancer, inaugurated it. A few weeks ago I met him in a completely different context. I reminded him of the launch and he remembered it well. The consultants initially said this would never work. My respected colleague, the oncologist Dr Colin Trask, who I invited to lead the strategy and I had so much satisfaction putting it together. There was a woman resident in the area who was very critical at health authority meetings because she felt that she had been inadequately treated when she had a breast lump and as a consequence her cancer had spread. I invited her to sit on our cancer strategy group. I remember the opposition to this decision. But I felt that we needed to hear her story. The consultants who were vehemently opposed to her inclusion on the group were the people who led the health authority representation at her funeral about three years later. It turned out to be a fantastic model of co-operation. The makeup of the cancer strategy group was something the Department of Health highlighted in national reports. So that strategy was very successful.

I had a lovely team. I had a very wide range of responsibilities. Specialised commissioning was in my brief which meant I had the oversight of for example, commissioning services from Great Ormond Street and St Bartholomew's (Barts) hospital. One of the things mothers of seriously ill children said was that they had to take their child to Great Ormond Street for MRIs. I couldn't quite understand this when we had MRI in Southend. The reason was we didn't have an anaesthetist trained in paediatric sedation for MRIs. I persuaded the Health Authority to pay for one of them to be trained to do this and for GOS to give up a bit of their money so that children needing MRIs could be investigated locally. The carrot for them was that we were going to put in an IT link so that the consultant there could report on the MRIs. GOS clinicians were willing to try something new - MRI reporting online. We are going back to 1997-8, that sort of era. And the mothers were delighted as they with all their other children did not have to travel to London. We did some good things as a team.

I also recall from my time in Essex that we were a group of Directors of Public Health who got on well together in North East Thames and then North Thames. There were some very feisty people in the DPH group. I remember our monthly meetings at Eastbourne Terrace as enjoyable and very constructive and useful.

The other thing that happened was that I was fortunate to recruit some very talented people to my department at South Essex. I had a number of deputies including one for health promotion who introduced me to the emerging evidence on health and social inequalities such as Richard Wilkinson's research.⁶ She kept me updated and spearheaded the Sure Start pilot in Thurrock.⁷ When the Department was looking for pilot sites we raised our hands. That is what led me to be one of the first campaigners for multidisciplinary public health because I felt these were highly competent colleagues and it bothered me that beyond getting them to the level of a deputy DPH there was nothing more I could do for them. Yet the medics, some of whom were mediocre in my view, had the exclusive right to apply for the DPH role although some of the non-medical staff were as well suited to that role. It meant that when Thelma Harvey and Peter Stansbie wanted to do an audit of a multidisciplinary department they chose to visit my department.⁸

⁶ Professor of Social Epidemiology, University of Nottingham, produced a seminal work on health inequalities

⁷ Government initiative introduced in 1998 to give children the best start in life

⁸ Skills for Health

I then had a bitter blow in 2002. Strategic Health Authorities were being established and my Health Authority was merging with another. Despite the fact that we had a fabulously good chief executive and director of finance who had kept our health authority in financial balance for seven years whilst enabling a number of important, indeed landmark service improvements such as the first evidence-based cancer network in the country, they were not selected to the strategic health authority roles. A new Chief Executive from outside Essex was appointed. He said he was going to take a month to get soundings from across Essex prior to the appointments process for the new board. A day before the DPH appointments were made, he invited me to his office to inform me that although I had universal good press across the County, I did not fit the picture he had for his board and that he was minded not to appoint me the following day. I can recall being absolutely stunned. I had no advice as to how I should respond and had to psyche myself to attend the interview. I gathered from interview feedback that I had the best track record and gave the best interview but minds were made up before I was interviewed. So I didn't get the job. That created a massive uncertainty suddenly and with no basis in terms of poor performance, attitudes or behaviour. It was a terrible time for me. I took my role as a mum very seriously I still had two daughters at the 'A' level/GCSE sort of stage. I felt I couldn't just uproot myself and tell them to get on with it, while I took myself off to wherever else a job might be available. I just wasn't the sort to do that. I was offered the role of leading an Essex-wide public health network and being the DPH to a Primary Care Trust which was being established. It was a miserable year and I could sense a lot of hostility – I suppose that I was a reminder of everything that is disastrous about NHS appointments. However, as always I was determined to turn a challenge into an opportunity so I completed the writing up of my PhD to cheer myself up.

MOVE TO DEPARTMENT OF HEALTH AND A NEW DIRECTION

I think I was extremely fortunate that during the following year I had the opportunity to transfer to the Department of Health. It was a time of massive upheavals in the public health workforce, and I was initially invited to contribute to the Public Health Workforce team, as head of academic public health capacity as it was a time when public health academia too faced a severe shortage of staff. So I began in that role and was successful in bringing the heads of academic departments together. I wrote a paper for the CMO to present to a seminar, at which he intended to secure agreement for a set of actions to address capacity building in academic public health. I gained the respect and confidence of DH colleagues during my first six months, and that led to my being invited to take on the role of Head of Public Health Workforce and Capacity building when the previous post holder left the Department. From 2003 to 2008 I felt I was back to where I could really perform to my best potential and on a national scale. Where one door shut extremely firmly another door had opened. I remained working for the Department of Health until 2011.

Did you have any contact with the Faculty during your period as consultant and DPH?

I worked very closely with the Faculty during most of my career. I became the Faculty Adviser for North East Thames Regional Health Authority for two terms starting in the 1980s until South Essex became so onerous I finally gave it up in 1998. In the first election for Faculty Adviser I was competing against a very senior London DPH and the vote count was 72 and 4. It made me feel very encouraged and valued for everything that I had done to be a good trainer in an era when most trainees were London based and I was Essex based. I took a

very active role in supporting younger colleagues and trainees. I lead the writing of some of the first policy guidance for trainees. I sat for many years on the training committee of the Faculty. I also belonged to a group known as the Manpower Committee which carried out censuses of the public health workforce, the first model for the annual workforce surveys. I was also keen to teach public health. Hearing of this interest, Dr Spencer Hagard who was the DPH in Cambridge at the time invited me to join in the activities of his Department. So, whilst still a trainee, I started attending some of their programmes in East Anglia. The North East Thames Faculty Adviser at first was reluctant for me to work across the Regional boundary but decided to accept it. I greatly enjoyed working with Dr Hagard and his colleagues and, from 1992 to 2006 I contributed to the teaching at Cambridge University both to the medical undergraduates and at the Institute of Public Health when it launched the Diploma in Public Health course. The training committees at the Faculty were important to me and I was able to give them the benefit of all my teaching experience and my role as Faculty Adviser. I found myself questioning the limits and constraints, especially if we could improve and strengthen training. I remember that we had a trainees who wished to spend a year of their training at organisations such as the WHO or the Communicable Diseases Center (CDC) Atlanta USA. There was a concern among my senior colleagues that such requests should be discouraged, as it was likely that we would lose such trainees to the international organisations after the training had ended. I questioned whether it was wrong to lose some of our talented trainees to global public health organisations. Was it not better for us to populate global institutions with some of our own trainees and feel proud that they were contributing to global strategy development? I had to put up a pretty robust argument to support quite reasonable requests. I was always one to push boundaries. I was quite happy, for example, for trainees who wished to be dually accredited as GPs or in sexual and reproductive health care and in public health to be allowed to do so. I really felt from the very beginning that those two specialties needed to work closely with one another. I can't remember a year during the first 2 decades of my career when I wasn't closely involved in Faculty matters. I do much less now. My intense involvement with the Faculty ended when Alan Maryon Davis' presidency (of the FPH) came to a close. I am also very proud to have applied for and secured significant grant funding for the Faculty of Public Health strategies and programmes for public health capacity building, during my time as Head of Public Health Workforce and Capacity building for England.

It was a time when I had the opportunity to work with many excellent colleagues across the UK with similar views and aspirations for workforce development, and support practitioner development and the non-medical specialist development, especially the Register. The grant funding I secured helped improve exams and assessments, reassess run through training, and establish PHORCaST, and the SPHINX register of interests of people who might contribute to global public health.⁹ It was a very productive period. One of the other highlights was making friends with the Royal Town Planning Institute and the Royal Institute of Engineers and finding we had some natural allies out there who had never understood how they could influence public health. We developed the first public health module for urban planners which the University of Strathclyde still use as part of their planning curriculum. The teaching public health networks was another exciting innovation which I led. It's nice that it has been absorbed into the Healthy Universities movement. It remains strong in the south

⁹ PHORCaST - UK wide public health careers website sponsored and funded by DH

west region, and in particular, the collaboration between public health and the built environment specialists at the University of West of England.

Did you have a free hand at the Department?

One of the things I always believed in was that we have a responsibility to advocate for public health actions worthy of support. Irrespective of how complex the evidence for a public health policy may be, if our communication is poor and we are unable to persuade the leadership, for example, the civil servants, or colleagues in Executive and Non Executive Director posts with the responsibility, power and influence to support strategies we propose, we are unlikely to succeed in health improvement. At the Department of Health I had to develop and submit proposal after proposal to secure the budgets I needed and clearance to implement action plans. It was fortuitous that I joined the Department at the time 'Choosing Health' was being written.¹⁰ There were senior civil servants who were given the responsibility to lead the writing of the sections, with people like myself, with professional expertise, expected to contribute ideas and suggestions. I was especially interested in ensuring that the Workforce section reflected priorities I felt very committed to. So, I made a huge effort to introduce the civil servants to the published literature, Faculty policy documents and consensus statements, and all the compelling evidence for the most effective way to develop the workforce for public health. It was gratifying to see that 'Choosing Health' when published, included a workforce section which was pretty much as I wanted it to be. It enshrined the vision of the three types of workforces to be trained developed, encouraged and supported to play their full role – the wider workforce, the practitioner workforce and the specialist workforce. Once that was written it made the implementation planning a little easier because I had a background framework against which I could justify action. So I did have a slighter greater freedom to lead the implementation plans with the support and contribution of expert colleagues from across the 4 UK countries.

Who were you accountable to in the Department of Health?

My line manager was the Deputy CMO. There were two deputy chief medical officers, one for health improvement, one for health care. We were part of the directorate of health improvement but for many issues such as the academic workforce Sir Liam Donaldson (the CMO) wished to be directly involved. The CMO took a very close interest in the 'heads of academic departments' meetings and expected to know what was being discussed at that forum. With the teaching public health networks he had wished to inaugurate them and expected to attend the launch event, but unfortunately he could not attend because of other priorities in the Department on the day, and Professor John Ashton came in his place.¹¹ I still think one of the successes of that period was to have established these interdisciplinary intersectoral teaching networks and to have sustained them for five years. They got so many people and universities involved and committed to the agenda. Irrespective of where these colleagues who were involved in establishing the networks are today, I feel certain that they would promote a different view of training and harnessing workforces for public health agendas. That was one of the most important things that happened in my period at the Department.

¹⁰ Choosing Health: making healthy choices easier', Government White Paper 2004

¹¹ Regional Director of Public Health, North West Region

That was a very successful time in your career and it was UK wide?

Yes it was UK wide because I chaired the four UK countries group. The four countries group was another extremely cohesive group and those alliances were important. We joined forces with Wales to develop the 'Shaping the Future of Health Promotion' strategy which really energised health promotion – retention was better as a consequence and academic health promotion and practice became stronger together. The other strategy we did well on was public health pharmacy. That hadn't been established previously. Since the 2005 publication of *Choosing Health through Pharmacy* pharmacists have a role in promoting health and in delivering health improvement through opportunistic advice when administering prescriptions. Now, even in rural areas, pharmacies may have accreditation to offer smoking advice for example. That came about through working jointly with the Chief Pharmaceutical Officer, to lead the strategy group and getting a very wide range of stakeholders to work collaboratively with us on that agenda. Looking back they were great times and we achieved a lot. There was the Public Health Skills and Career Framework and what is so good about that is the extent to which it is used as a reference globally because it is simple to read, understand and the colour coding is brilliant.¹² We did a fantastic job in putting that together. There was also the GP with a special interest in public health. We initiated that. Aspects of that role are reflected in the roles and responsibilities of Clinical Commissioning Groups (CCGs) when they came into existence. There were several important strategies that were launched at that time. Very productive years.

A RETURN TO PUBLIC HEALTH IN INDIA

Then you went full circle and back to India?

What happened then was that there was global interest in our workforce development innovations. We had a number of visitors from other parts of the world interested in learning about our strategies. India woke up to the fact that poor public health was hampering economic progress and the then Prime Minister, an eminent economist, decided he wanted an ambitious public health capacity building strategy. He established the Public Health Foundation as a hub to mobilise effort towards this across the country. There was a global head hunt for an appropriate person to be the founder Director of India's first Institute of Public Health, which was being launched by the Public Health Foundation of India as part of this capacity building. The head hunters suggested that I fitted the bill because what they did not want was a traditional academic, but someone who also had experience of practice and policy. Their objective was not merely to increase their capacity in academic public health. I confess it was a bolt out of the blue. It was about the time I had also contributed to the writing of the UK global public health strategy. I had highlighted that the highest global health priorities, especially developing countries, needed to be better disease prevention and sanitation and to achieve the millennium development goals. One of the recommendations of the UK strategy was to promote special relationships in terms of health particularly with emerging economies. The Public Health Foundation of India made a formal request to the Department of Health for my support and this was approved. It was decided that I would move to work with the DH Global Health Team and that I should work with the Department for International Development (DFID) and the Foreign Office in India to utilise the opportunity to strengthen UK-India health collaboration. Serendipitously, this launched me

¹² UK public health competency framework issued in 2008

into a global workforce lead role for three years. They were fantastic years. The first thing I did was to establish good relationships with the DFID and Foreign Office and to learn about their priorities. I had not worked with these government departments previously. Something I came to realise was how little you are encouraged to look beyond the UK when you are working within the NHS. Coming from India, I worked flat out in the NHS full-time and had clocked up 30 years by that stage but had never actually been to India with a view to exploring what the public health scenario was, or indeed to any other part of the world. I also discovered that at that time Foreign Office colleagues were highly knowledgeable about collaborative opportunities in defence, industry and so on, but health collaboration had not been explored in any detail, especially as a basis for higher level diplomacy. It was mainly viewed as a developmental agenda but the commercial opportunities in health were beginning to be discussed. DFID had huge expertise in nutrition and sanitation and I was very pleased to help enhance our collective understanding of the scope for health collaboration. It was a fantastic opportunity for me to introduce the Foreign Office to the workings of various parts of the NHS system. I was so fortunate to have the opportunity to launch NICE in India. I could see that India needed evidence-based health policies. I invited Muir Gray and the National Patient Safety Agency (NPSA) to my institute to participate in a workshop on patient safety.¹³ I introduced the NHS Leadership Academy to India. I took every opportunity to introduce to India all the NHS organisations whose work I had respected in the UK. Both sides could then get the best out of relationships they could create. I don't pretend that I secured the funding for NICE to establish joint working with India counterparts, but the small grant I secured enabled me to arrange a workshop in Hyderabad in 2009 to introduce NICE to the senior medical leadership in this influential city. It was a fantastic launch pad for them – they could see the need for and interest in evidence based policies in India. Private sector hospitals in India were already using NICE guidance but the public sector was not. Now they have a firm friendship with India and funding to develop the NICE-India collaborative partnership. I also discovered things we in the UK could learn – the innovation people in India were compelled to develop because they were resource constrained. It tends to encourage people to be entrepreneurial and understand how to make the best use of money. I was struck by the amazing IT developments they used in health. In 2009 the NHS Leadership Academy had a leadership development programme targeting senior professionals. The year long intensive leadership development included a week's elective. That year, it was decided that they would spend a week with me in India. So they came out to Hyderabad. I was anxious because I wanted it to be a very good week for them. I introduced them to some of the most innovative health care organisations I had made friends with in Hyderabad and also the Government which had a world class IT system. I arranged for the team to spend three or four days with these organisations exploring challenges the organisations were trying to address, understanding their ways of working and reflecting on key aspects of the ethos, working and culture of the organisations which would be good lessons to take home. On the final day the key message in the team's presentation was that at best they had thought the week would be interesting but it turned out to be life-changing for them. So the 16 returned with immensely good learning about how resource constrained countries do things and which could benefit us in our highly developed and much wealthier settings. I set up the first diploma in public health management in Hyderabad so the first group of mid-career officials in administration were trained in how to become better public health managers. It was five

¹³ Sir Muir Gray, then the Chief Knowledge Officer of the NHS

years of UK training crushed into one year, and including both theory and some practical work. Andhra Pradesh, the state in which I was establishing the Institute was a very receptive and became the first State to make the diploma mandatory for all mid-career officials if they wanted promotion to higher grades. A major success, and it made me feel extremely confident we were doing the right things. We also planned and launched a diploma in biostatistics. I started with very few resources – on the third floor of a very run down building with a metal roof and no staff but a driver, a car, an engineer who was asked to find me new premises quickly, and a secretary. And I had grown it to 42 members of staff in three years. I left them in a self-contained building where they were offering three or four courses running for the whole year as well as short courses and summer programmes. There were also research projects and training programmes I led the fledgling faculty at the Institute to carry out, such as assessing the state of preparedness of Indian States to address the health impacts of climate change and managing public health emergencies and disasters. I also learnt that India was beginning to launch some amazing and innovative health financing strategies. Health is one of the key risk factors for catastrophic debt in India because a major proportion of health expenditure is covered through out of pocket payments. The public sector health care is often of poor quality and people didn't trust it. They would therefore refer themselves to the private sector and end up in debt. Andhra Pradesh, the state of which Hyderabad is the capital, was progressive and prosperous and was investing some of its money into social good including health financing. We had the opportunity of evaluating it. My institute carried out a descriptive study of the scheme so my newly appointed staff could begin to work together as a team to undertake research. When I left that role and left the Department of Health I had a research grant to lead a formal impact evaluation of the scheme. Our findings are informing health financing policy in India. The second thing I did was to highlight to the state and national Government that unless the health delivery system was based on a platform of comprehensive primary care, providing free hospital care for the poor was not going to improve access to care. That resulted in my being invited by DFID and Sir Mark Walport, then the Director of the Wellcome Trust to lead the writing a White Paper for the potential of strategic collaboration between India and the UK to develop primary care. That White Paper was one of the most downloaded papers in the *BMJ* in 2012 – it resonated with health needs everywhere including Latin America. As a consequence, in 2014, Kerala State, which is quite advanced, invited me to develop a primary care model building on their primary health care centres and drawing on UK best practice. I lead a small team from the UK to develop a simple IT system and a computerised basic patient record; we developed care pathways for 6 common conditions using NICE guidelines contextualised to the Indian context; we established multidisciplinary teams and harnessed the village council to contribute to health promotion and disease prevention. The project has demonstrated to the health professionals that if you have an appropriate business and delivery model, you can get the best out of very modestly resourced primary care settings. An independent assessment of the pilot 12 months after we the training team had left, showed sustained positive behaviours and attitudes among the staff and patients and community. The model has the potential to become the blueprint for primary care across the country. I am very excited about that.

Are you doing that from an academic base now?

Yes, and this provided a fantastic opportunity for Kerala GPs to join forces with GPs from the NHS. A GP of Kerala origin from Yorkshire helped set up the first IT patient record. I

invited some GP colleagues from Wales who have long experience in India to train Kerala GPs in diabetic care such as diabetic foot care management. Anyone with an interest who wished to contribute to the project was welcome to join us. Besides being transformational it has been so enjoyable, so satisfying for the whole group. A psychiatrist from the Maudsley (Hospital), who is also of Kerala origin, developed a pathway for managing mild to moderate depression and now for the first time – India so neglects mental health – we have a depression care pathway which is working well. That is set to take off.

You see a continuing relationship with India?

Yes, with Royal Colleges, individual GPs and NICE perhaps. I can see opportunities for the NHS, consortia of GPs, agreeing skills development contracts with India but also other developing countries – a model of collaboration which could contribute additional funding for the NHS and provide significant learning for both sides.

In relation to my career I am keen to mention my work in the area of climate change. I have been concerned about sustainability and sustained development since Agenda 21 was first published by the UN.¹⁴ In South Essex we were among the first to establish a health impact assessment framework so health authority papers had to have a financial impact and a health impact assessment statement on each of the main agenda item papers, particular policy papers. We introduced that in about 1997. When major industrial developments were planned in our area, I feel proud to have introduced the sustainability for health agenda to the local authorities' discussions. Given my longstanding personal interest in climate change I was increasingly concerned that so few people, including health professionals understood climate change and yet from my reading of it even in this country the effects would be profound. I was fortunate to have had the help of friends, particularly Jenny Griffiths and Allison Thorpe to put together a book intended to improve our own and our colleagues' knowledge about climate change. It was entitled *The Health Practitioner's Guide to Climate Change* and published in 2009.¹⁵ Fiona (Adshead) was very helpful as deputy chief medical officer in supporting us in this. It was very gratifying because I was giving a talk in Vietnam not so long ago, when one of the medical students in the audience came up to me and was very excited to inform me that she had read the book and it was recommended reading in the medical schools. I am aware that it is on the reading list of university courses at many universities globally. The other issue I have recently contributed to is improving sanitation. In launching the teaching public health networks I was concerned to involve Further Education Colleges. There are so many students who attend further education courses and have much to contribute to public health. In India I lobbied hard for people working in the areas of sanitation and water supply to be sensitised to the importance of their work in relation to tackling global water scarcity which is linked to climate change and restoring access to safe water and sanitation during floods and high quality training for water engineers to address water conservation and water as a renewable energy source. For the past six years I have worked with the Scottish and Northern Ireland Plumbing Employers' Federation and World Plumbing Council members to promote the link between plumbing and public health. In 2012 I made a video – google Mala Rao plumbing! – on plumbing and health and that is included in the plumbing courses in the UK. As a consequence I am also working with people

¹⁴ Agenda 21 is a non binding, voluntarily implemented action plan of the United Nations with regard to sustainable development

¹⁵ Co-authors with Mala and Fiona Adshead of 'Health Practitioners' Guide to Climate Change' 2009

who are developing sustainable toilets which the world needs but which remains a neglected area of public health. I think such models need to be developed and piloted. It is such a tragedy that girls drop out of school when they reach puberty because there aren't any decent toilets in schools in some parts of the world. Preventing climate disasters but also improving routine lives - inequalities in toilet facilities affects women in so many different ways. There are two or three things I can see me continuing to work on into my seventies!

REFLECTIONS ON PUBLIC HEALTH

Looking back on a long and interesting career, what are your reflections on being a woman public health doctor?

One of the good things in public health is that women have never been a minority group unlike in clinical specialties. We have always been a large group and we might be more than 50% now. The issue is about being a woman who is deeply committed to public health and I have not always been convinced that that applies to all our women colleagues. It is very disappointing, but I believe that some may have joined public health because they have perceived it as an easier career option. The women who had the deep commitment and confidence became evident when for example, funding of high cost treatment was a major issue for health authorities in the 1990s and involved priority setting and difficult decisions on rationing of health care, or when a major communicable disease problem had arisen. In reality it was a very challenging specialty to be in, and in some respects even more so than being a clinician. Because, women who are also good clinicians may escape the aggression and politics that we had to face as women public health professionals in positions of authority and leadership. I was the first to lead a health authority debate which was open to the public and media when our health authority received an application funding for surrogacy. The authority's decision was to reject the application. The decision was reached after very careful and detailed discussion. If the case had been subjected to a judicial review it would have concluded in favour of the health authority because I had lead a very detailed and thorough preparatory process which was impeccable in terms of its consideration of every aspect of this difficult case. Such problems are very challenging but I was very fortunate to have good women and men colleagues in public health I could ring for a bit of advice or for suggestions on how I might deal with things but when I look at the near disasters like the MMR issue I was very alone. It is perhaps harder for women who do not have those natural networks.

Looking back I now wonder... – the one thing I have done recently because I was invited to do so by Public Health England (PHE) – was to look at possible drivers for lower levels of wellbeing in black and ethnic minority communities in England and I am horrified at the levels of institutional racism I have uncovered in the NHS and the wider environment. I have not been somebody to dwell on circumstances I have faced and to remain despondent about being turned down for a job, for example. I sometimes wonder though in my case whether I have been held back at times because of being a woman from an ethnic and minority background. We have a lot of women in public health but I wonder if there is a conscious or sub conscious bias. I certainly know that what happened at the Strategic Health Authority was unacceptable. It might be gender - although there were other women who were recruited to the board on that occasion – therefore it might be colour rather than gender that was the issue. Perhaps there is an issue of a double whammy. I look back on my career and know that I have enjoyed almost every day. It is wonderful to come across people even now who say

they recall some bit of advice I offered when they were trainees or that they heard a talk I gave. I recently came across a woman who had been on that Leadership Academy programme in 2009 who recalled the life-changing experience it was. She said that the group had been certain that they were aiming to become chief executives but then realised as a consequence of the elective that what they really wanted was to make a difference and that there were many ways to achieve that. I am regularly updated by old trainees about what is going on in their lives or whether they have had a promotion or something good has happened to them. I have written possibly more than anyone else from the UK on the health impacts of climate change in S Asia. I recently contributed a book chapter on this subject for what will be the most authoritative book on the subject. There are so many good things going on that I refuse to be destroyed, crushed or disappointed by the negative things that have happened to me possibly because of my gender or my ethnicity.

A disappointment I have is that there are very few BME women in public health leadership roles in England. I now realise it is a more intimidating specialty than clinical medicine for black and ethnic minority women. I have often thought that clinical specialties have large numbers of Asian men and women. Yet do we know many BME women in public health despite the fact we have so many women in public health? That is something I am beginning to reflect on more now than I did in the past. I have so enjoyed living and working in the UK. I didn't come here expecting to live here but I have done so since I was 23 and I have loved it. I love my family, my friends, living here and I feel so blessed. I don't see myself as black when I am talking to you, I forget about that. I wonder if I might have done more to encourage more people from BME backgrounds to come into public health. That is an interesting gap. The few I talk to feel public health wouldn't be very welcoming. I wonder whether the others in the profession found it hard to get in. We have a remarkably low percentage in public health – approximately 40% of doctors overall are from BME backgrounds. We would expect maybe 20% in public health but we don't have them as far as I am aware.

Thank you very much for your time.