

The Development of Occupational Health Associations in South Africa

Industrialisation

South Africa is a country built on mining and the history of occupational health and safety (OHS) is intrinsically linked with mining and the associated OHS problems. Since the last quarter of the 19th century, mineral discoveries, first of diamonds, then gold and later coal, have generated the financial, human and infrastructural resources that have driven the development of South and southern Africa. The mining industry and the population centres that grew around it also created the domestic markets that encouraged the growth of industries to replace imports.

Mining made demands on roads, harbours and railways for the transportation of material and machinery, and the entire industrial organism demanded supplies of other minerals such as coal, and natural resources like water. By the start of the 20th century South Africa had two explosive factories each with a manufacturing capacity higher than that of any other factory in the world. Other industries were to follow notably the steel industry using the natural resources of iron ore, the arms industry, agriculture, electrical power, fuel, motor industry and telecommunications.

The Chamber of Mines (COM)

The discovery of the Main Reef Series of the Witwatersrand in 1886 led to the formation of the first Chamber of Mines in 1887. This was based on individual rather than corporate membership with the aim to disseminate authoritative information about the new goldfields.

By mid-1889 the leading mining houses had become aware of the urgent necessity to replace the Chamber of Mines with an organization with wider powers, fully supported by the whole industry. The establishment in 1889 of the Witwatersrand Chamber of Mines to promote and protect the mining interests and industries of the Witwatersrand Gold Fields was the response to those needs.

The rapid expansion of mining activities soon highlighted the dangers involved and the heavy toll they could enact. In 1894 the Rand Mutual Assurance Company was established to insure mining employees against accidents suffered at work. In 1911 new mining regulations, approved by the first South African parliament, laid down that all mine officials must hold a certificate of competence in first aid "with special reference to mining accidents". This regulation applied to all mines employing more than 500 men and also imposed on mine management the duty of providing an ambulance for the conveyance of injured men. The Prevention of Accidents Committee of the Chamber was formed in 1913 and began taking a very active interest in the propagation of knowledge of first aid. The production and distribution of mine safety posters was started in 1914 and the first inter-mine safety competitions were established in 1915.

The South African Institute for Medical Research (SAIMR), initiated and largely financed by the Chamber, was established in 1912 to research, initially, diseases affecting workers on the gold mines of the Witwatersrand.

The Chamber became heavily involved in working to improve mine health and safety through its committees, OHS departments, research organisations, and training departments for mine rescue, ventilation, and health and safety. The Chamber published and sponsored OHS publications, Codes of Practice, Conference and Congress proceedings. The Chamber also fostered the development of a number of societies related to mining and housed them for many years.

Mining Medical and Other Health Care Professionals Association (MMOA)

To extract gold in the South African mines requires an immense labour force. The workforce was drawn from not only South Africa but also from Lesotho, Botswana, Malawi, Swaziland and

Mozambique. It was the mining companies' responsibility to house these men, feed them and look after their health. This system of supervision and care began at the end of the nineteenth century. However, it should be remembered that gold-mining in South Africa got underway a comparatively short time, some twenty years, after the end of the Crimean War. In those day's ideas on the housing of soldiers, labourers and orphans were primitive in the extreme.

Reforms began with the early acceptance by mining companies of their responsibilities for and the vital importance of the health of their workers in ensuring enough mineworkers to meet the demand. The size of the gold output, therefore, came to depend on the willingness of the men to work and their physical fitness to do so.

Thus the health services soon became an integral part of the system. World-renowned specialists were brought to Johannesburg to investigate the high mortality rate of men from pneumonia. Surgeon-General WC Gorgas of the United States Army, who won the Nobel Prize for his work on yellow fever, was asked to report on the health services as far back as 1913. His comments led to sweeping changes. On his recommendations, one of his lieutenants, Dr. AJ Orenstein, was appointed by the Rand Mines Group in 1914 as their Chief Medical Officer (Superintendent of Sanitation). Dr. Orenstein is considered by many to be the father of occupational health in South Africa.

A Medical Officers' Advisory Committee was brought into being by the Chamber in about 1904 when it was called a Mine Doctors' Committee. This later became the Group Medical Officers' Committee to which all the groups were invited to nominate representatives.

At a meeting at the Chamber in 1921, it was decided to form a body to be known as the Mine Medical Officers' Association. The MMOA was founded to serve as the representative organisation of the group of medical practitioners whose task it was to watch over the health of a great army of workers who do the manual labour in South African Mines. At the first general meeting of the Association, at the Crown Mines Hospital in 1921, a draft constitution was presented and adopted with some minor amendments.

The first elected officials were: President - Dr. HTH Butt (Johannesburg Consolidated Investment Co.), Vice-President - Dr. AJ Orenstein (Central Mining - Rand Mines) and Hon. Secretary and Treasurer - Dr. Al Girdwood (Witwatersrand Native Labour Association (W.N.L.A.)).

Proceedings of the association were published from 1921 without break for over sixty years. They form an invaluable record of observations made, clinical procedures applied and the general treatment of a very large body of men.

Travelling fellowships were established by the Chamber under which, in alternative years, South African mine medical officers visited hospitals abroad and distinguished physicians and surgeons from other countries visited South Africa.

The first 50 years of the Association is covered in the book "Doctors of the Mines" published in 1971. The Chapter on "Prophylaxis and Therapy" covers Pneumonia, Tuberculosis, Silicosis, Enteric fever, Scurvy, Leg Ulcers, Hookworm, Sporotrichosis and Heat Stroke.

In 2002, the Association changed its name to the Mining Medical and Other Health Care Professionals Association. The MMOA secretariat is still located in the Chamber Building. A second book on the history of the MMOA is now in preparation.

Airborne Dust

In 1901 the Mine Managers' Association requested the Transvaal Medical Society to appoint a committee to investigate the high mortality rate among rock drillers. A meeting was held in early 1902 and later that year the Miners' Society also approached the Transvaal Medical Society with a view to establishing preventive measures. The gravity of the problem is borne out in the Government Mining Engineer's year end report of 1902 which showed that 85 out of every 1000

rock drillers were known to have died of Miners' Phthisis between October 1899 and January 1902. The Transvaal Medical Society, with the diagnostic techniques available to them at the time, also conducted medical examinations and found that at least a quarter of the underground workers had or were suspected of having the disease. In 1903 the Chamber offered prizes for the best method of allaying dust caused by machine drilling.

Provision for hospital care and treatment of miners with phthisis was provided by the Chamber starting in 1910 at Springkell Sanatorium.

The Chamber established a Standing Committee on Dust Sampling in 1914. This Committee undertook the standardisation of methods for the determination of dust in mines. It carried out periodic surveys of all the mines and created a laboratory for accurately determining the samples. At the same time it embarked on a considerable programme of research work, as well as being available to test any dust preventive devices submitted to it or to the industry.

By 1916, the Government had appointed a dust inspector to assist in the control of dust. In 1917 regulations were formulated making it compulsory to appoint dust inspectors for mines employing over 1000 workers. These inspectors were the forerunners of the modern ventilation officer and environmental engineer, and the creation of this post paved the way for the development of expertise and knowledge in an area which is now fully recognised as integral to the profession of mining.

At the initial suggestion of Dr. AJ Orenstein a landmark International Labour Office (ILO) Conference on Silicosis was held in Johannesburg in 1930 and sponsored by the Chamber who also provided the staff to support the ILO Conference secretariat.

Following a Committee of Inquiry into Pneumoconiosis and Tuberculosis in 1955 the Pneumoconiosis Research Unit (PRU) was formed in 1956 under the Council for Scientific and Industrial Research (CSIR). The PRU under its first Director Dr. AJ Orenstein was established to investigate mineworkers' lung disease. With the need to investigate a broad range of occupational diseases the PRU in 1971 was expanded to become the National Research Institute for Occupational Diseases (NRIOD) under the Medical Research Council. Further expansion of occupational health activities occurred in 1979 with the formation of the National Centre for Occupational Health (NCOH) under the then Department of Health and Welfare. The research work continued but the NCOH was given an additional task of assisting industry in defining and combating its occupational health problems.

Mine Ventilation Society of South Africa (MVS)

While the experts continued to ponder over ways and means for improved dust determination and control, mines were becoming deeper and problems of heat were assuming greater importance. Air distribution was improved by installing regional booster fans underground to augment the one or two main ones on surface. Information on temperature increases in mine workings began to be collected and thought was given to directing air within the stopes to the working face. In this way ventilation became fully integrated into the ambit of mining.

The problems of heat now fell squarely on the shoulders of the dust inspector who was known as the ventilation officer. The original brief of the dust inspector had expanded into ensuring the working places were kept cool using the most cost effective methods as well as reporting on conditions in the stopes. Besides reporting on dust concentrations, the ventilation officer was responsible for the collection of data on air quantity, air temperature and cooling power, and air velocity and gas concentrations.

Ventilation problems were thus becoming increasingly complex and in the early forties it was painfully clear that a forum was needed where experts could meet regularly and discuss the urgent issues at hand. The Chamber appointed specific bodies to deal with ventilation matters. This certainly eased some of the isolation experienced by ventilation men but attendance at these meetings was always as an official representative of a mining group.

Three men were a key driving force to establish the ventilation society, Messrs RAH Flugge-de Smidt (East Geduld Mines), JP Rees (Chamber) and AWT Barenbrug (Vlakfontein). Largely due to JP Rees, who persuaded the Chamber to give the society the chance to establish itself, every form of encouragement was lent to its formation. In 1941 a provisional committee was established to investigate whether a society was in fact feasible. A draft constitution was finalised and a general meeting of prospective members of a mine ventilation society was held in 1944. The first Annual General Meeting was held at in 1945. The first President was P Mullineux after RAH Flugge-de Smidt and JP Rees declined to stand. JP Rees relented and agreed to be elected together with T Drury as Vice-President.

In 1948, the first issue of the Mine Ventilation Society Bulletin was distributed to members. An annual grant to assist with the publication of the Bulletin was made by the Chamber in 1956 and in 1957 the Bulletin changed its name to the Journal of the Mine Ventilation Society of South Africa.

In 1961, the Society organised through the enthusiasm of DG Beadle a major exhibition of ventilation equipment, instruments and accessories in Johannesburg and Welkom. In 1975 the Society staged its most ambitious project to date, the First International Mine Ventilation Congress. The event held at the University of the Witwatersrand had on its first day 661 delegates (local and overseas). The Society also hosted the 5th International Mine Ventilation Congress in 1992.

Text books published by the Society include: Mine Ventilation Notes for Beginners (Afrikaans 1970, English version 1972), Ventilation of South African Gold Mines (1974), Environmental Engineering in South African Gold Mines (the so-called Black Book first published in 1982), Le Roux's notes on mine environmental control (1990) and The Mine Ventilation Practitioner's Data Book (1992).

The Society has an international reputation for mine ventilation with members from around the world. A history of the first 50 years of the Society was published in 2001.

South African Society of Occupational Medicine (SASOM)

A preliminary meeting of those interested in the formation of an Industrial Health Group within the Medical Association of South Africa was held during the 35th South African Medical Congress in East London in 1947. After some general discussion it was agreed to form an Interim Committee for the purpose of drafting a constitution and convening a meeting:
Chairman: Dr. CJ Albertyn (Workmen's Compensation)
Members: Drs AJ Orenstein (Mining) and HB van der Merwe (Iscor)
Hon Secretary/ Treasurer: Dr. MG Woolff (General Motors)
Hon Assistant Secretary: Dr. RA Mathews (Chamber)

The Society in 1948 had its inaugural meeting in the Arts building, University of Pretoria, when it was initially named the South African Society of Industrial Health (SASIH).
The first elected SASIH Executive Committee and membership was:

Chairman: Dr. HB van der Merwe
Vice-chairman: Dr. MG Woolff
Secretary/Treasurer: Dr. RA Mathews
Members of Committee: Drs CCP Anning (Chamber), JB Lurie (Organic Product), WF Mondriaan (Iscor), AJ Orenstein, Frank Retief (W.N.L.A) and JHC von Blommenstein (Mining).

Other members present were: Drs. CJ Albertyn, J van Eeden (Iscor) and B Serebro (Transport).

The Society's mission is to promote, protect and enhance the quality of life and well-being of the working population of South Africa and its members are Medical Practitioners registered with the Health Professions Council of South Africa.

Under the leadership of Professor AM Coetzee, and with Drs T Geddes, M Baker's and J Murphy's unstinted secretarial expertise, the Society has achieved objectives far beyond expectations.

On the international front SASOM has, since its inauguration, been an affiliated member organisation of the International Commission on Occupational Health (ICOH) and its members have served on several of its scientific committees.

SASOM has developed close links with the South African Society of Occupational Health Nursing Practitioners (SASOHN). The SASOM Newsletter grew into the Journal Occupational Health Southern Africa (OHSA) which was first published in 1995 as the official journal of SASOM and SASOHN. The Occupational Hygiene Association of Southern Africa (OHASA) in 1998 adopted the journal OHSA as its official journal and the MMOA also joined the journal in 2002.

The SASOM guidelines (Ramazzini Guidelines) were completed in 1996. They cover areas where industry has needed guidance on occupational health matters and continue to be developed as the need arises. The initial set contained 16 guidelines including "The Medical Officer in Industry".

Scientific Committees of SASOM have been established on Audit/Benchmarking, Biological Monitoring, Dermatoses, Ethics, Information Technology, Lung Function Testing and Noise. Through funding from the Compensation Commissioner (CC), in 1998 SASOM published a manual and organised a programme to train doctors, predominantly in general practice, in the correct procedures required in reporting accidents and occupational diseases to the CC.

SASOM co-hosted with SASOHN in Durban the Pan African Conference on Occupational Health in 1997. This was presented under the banner of the African Regional Association of Occupational Health (ARAHO).

As part of its 50th Anniversary celebrations, SASOM was one of the co-organisers for the Medichem international conference on occupational health in the chemical industry - Cape Town, South Africa 1998. SASOM in 2003 was successful in its bid to host the ICOH 29th International Congress on Occupational Health in Cape Town in 2009.

South African Society of Occupational Health Nursing Practitioners (SASOHN)

Occupational health nursing may date back to the establishment of the refreshment station and hospital at the Cape by the Dutch East India Company in 1652. In the report of the Medical Officer for Health for the year ending June 1902, mention is made of the lady Sanitary Inspector, who was a trained nurse. Her duty was to visit the workrooms of milliners, dressmakers, and places where females were employed, to report on the sanitary conditions in those places.

Health care services started towards the end of the 19th century in the mining industry. One of the first industrial nurses in South Africa is considered to be Matron Heron-Brown employed by the United Tobacco Company in Cape Town in 1923.

In 1965, industrial nurses of the Southern Transvaal met as a group due to the efforts of ME Ahlers, industrial nurse of the United Tobacco Company Limited. After obtaining the names of several other industrial nurses, she arranged a meeting in 1966 at the United Tobacco Company, and the first Industrial Nurses Discussion Group (Southern Transvaal – now Gauteng) was formed. Only registered nurses working in industry were accepted as members. The names of the founder members were: ME Ahlers (Chairperson), D Cass, CA Robertson, M Dixon, AM Coetzee, MG Meeker, E Smith, A Shacklock and D Blacklaws.

In 1970, the discussion group's name was changed to the Occupational Health Nurses Discussion Group (Southern Transvaal), because its members were no longer confined to industry, but had spread to department stores, transportation and other businesses. The year following the inaugural meeting, similar groups were formed in Natal and Cape Town.

As a result of the efforts of E Snyman and AM Coetzee the South African Society of Occupational Health Nurses (SASOHN) was established in 1980. At the time of the formal inception of the professional society there were 8 regional professional societies active in the country. Currently (2002), there are 12 societies under the banner of SASOHN. Strong regional representation is still a major feature of the organisation today.

SASOHN Guidelines have been published covering a variety of occupational health nursing areas.

Professor I Webster, Director of the NCOH, on his retirement notified SASOHN of his wish to establish an Annual Gold Medal award for the best occupational health nurse in South Africa. The first Ian Webster Gold Medal was presented on 15th June 1984. The award continues to be made annually.

SASOHN provides access for its members to a network of national and International Societies in the occupational health field. It interacts with the African Regional Association of Occupational Health (ARAOH), as well as ICOH, the ICOH Scientific Committee of Occupational Health Nursing (SCOHN) and the American Association of Occupational Health Nurses, Inc. (AAOHN). In 2002 SASOHN organised and hosted in Port Elizabeth an International Conference with SCOHN.

Southern African Institute for Occupational Hygiene (SAIOH)

The Commission of Enquiry on Occupational Health in 1974 (Erasmus Report 1976) focussed on the critical need to develop occupational hygiene in South Africa. This report stated that the situation with regard to industrial hygiene is acute and the training of industrial hygienists has been seriously neglected.

Discussions were started to form an occupational hygiene society and the Occupational Hygiene Association of South Africa (OHASA) was established in 1983 to create awareness and enhance occupational hygiene as a discipline. Key persons involved in the establishment of OHASA included the first President, W Barwise (3M Company), the first Vice President, A Holmes (Iscor) and R Page - Shipp (CSIR).

Workshops were a feature of the annual conference and an OHASA textbook on occupational hygiene was published in Afrikaans (1989) and English (1994) by Dr. JJ Schoeman (Technikon Witwatersrand) and Dr. HHE Schröder (Chamber Research Organisation - COMRO).

Official recognition of the profession, however, still eluded the practicing occupational hygienist. In 1987, discussions with the Chief Inspector of Occupational Safety, I Mulder, Department of Manpower, indicated support for a professional and independent organisation for the profession.

In 1989, a meeting of occupational hygienists was arranged by R Truter (Johannesburg City Health) and SN Middel (Eskom) and held at the Industrial Hygiene Laboratories, COMRO. In 1990 at a further meeting to discuss the possibility of establishing an organization to promote and protect Occupational Hygienists it was unanimously decided that such an organization should be established and be independent of OHASA.

A sub-committee was established with R Cronje (NCOH) as Convenor to define criteria for an occupational hygienist and hence the eligibility of potential members to join the organization. This committee suggested criteria for registration of occupational hygienists in a public register.

A working group under Dr. JJ Schoeman commenced in 1991 to establish a South African Institute of Occupational Hygienists (SAIOH). This became a Transitional Steering Committee for the Institute of Occupational Hygienists of Southern Africa (IOHSA). In 1992, provisional registration was called for and one hundred and twenty applications were received. The first council of IOHSA was installed in 1993 with R Truter as President, SN Middel as Vice President and Dr. J Johnston (AECL) as chairman of the South African Examination Board of Occupational Hygiene (SAEBOH).

At the International Occupational Hygiene Association (IOHA) meeting in Stockholm in September 1996, IOHSA was accepted as a member of IOHA.

Under the Occupational Health and Safety Act the Chief Inspector in the Department of Labour (DoL) can appoint Approved Inspection Authorities (AIAs) for occupational hygiene measurements. Until IOHSA a consultancy could become an AIA for occupational hygiene measurements without any of the consultancy staff having any formal qualifications in occupational hygiene. In 1998 it became a DoL requirement that to become an AIA, a staff member has to be registered with IOHSA (now SAIOH) as an Occupational Hygienist.

After some years of often-heated discussion a joint statement regarding amalgamation of OHASA and IOHSA was agreed and an interim society OHASA (Incorporating IOHSA) was formed in 1999 with Mr. H Hughes-Treherne (Poltech) elected President. The President tragically died in 2000.

At a special OHASA (Incorporating IOHSA) Council meeting arranged by Dr. DW Stanton (Chamber) in 2000 at the home of Council member P Marais a new name and logo were finally agreed upon. The Southern African Institute for Occupational Hygiene (SAIOH) with an independent Certification Board (SAIOH-CB) was finally formed with Dr. DW Stanton as the SAIOH President and R Ferrie the Chairman of the SAIOH Certification Board.

SAIOH works to create awareness and enhance occupational hygiene as a discipline and through its Certification Board registers occupational hygienists that meet appropriate standards of formal education and practical experience.

Publications cover Risk Assessment, Air Sampling Strategies and Air Monitoring for Asbestos. The OHASA textbook is updated on a SAIOH CD-ROM.

SAIOH in 2002 was successful in its bid to host in 2005 the International Occupational Hygiene Association (IOHA) 6th International Scientific Conference. This is the first IOHA International Conference in Africa.

Association of Societies for Occupational Safety and Health (ASOSH)

The Association of Societies for Occupational Safety and Health (ASOSH) is the umbrella organisation for Societies active in OHS in South/Southern Africa. It was formed in 1978 by Professor AM Coetzee of the Faculty of Occupational Health, University of Pretoria and HJ Matthysen of the National Occupational Safety Association (NOSA). The objective is to bring together the various interest groups (involved in occupational safety and health) in order to promote the exchange of views, ideas and knowledge. In this it recognises the very real need for interdisciplinary co-operation if good occupational health and safety is to be fostered and practised.

ASOSH fulfils a leadership role in OHS through facilitating the development of an holistic approach to the creation of a healthy and safe workplace by:

- Acting as co-ordinator and spokesperson for OHS involved Societies
- Influencing national policy and legislation on matters concerning OHS
- Promoting the exchange of technical information amongst OHS shareholders
- Fostering inter-disciplinary understanding and promotion of Member Societies

In pursuance of its objectives ASOSH arranges a biennial symposium over two days with accomplished and experienced speakers covering a wide range of OHS topics. Major health and safety conferences and exhibitions have been held in Johannesburg. In between, smaller symposia are arranged for the benefit of ASOSH members.

ASOSH also developed and widely distributed free of charge an Educational Opportunities Handbook with a list of tertiary education institutions, which offer courses in subjects related to

OHS. In 1993 ASOSH produced an Expertise Directory as a service to all those professionals working in the fields of safety, health and the environment in Southern Africa.

Web Sites

The web site ASOSH.org was designed by Dr. DW Stanton at the NCOH in 1998 and published in January 1999. In that year, the site was listed in the top 50 web sites worldwide and by 2001 was receiving visitors from more than 50 countries. The majority of the SHE societies in South Africa were on the web in 1999 through ASOSH.org. Experience with this web site led to South Africa being the fourth country in the world with all the core OHS society disciplines on the web at their own domains (Occupational Hygiene, Occupational Health Nursing, Occupational Medicine and Safety Management).

In 2002, Dr DW Stanton published the web site SHEAfrica.info for the WHO/ ILO Joint Effort on OHS in Africa. This web site provides free web hosting, email (anyname@asosh.org) and other resources for African SHE/ EHS practitioners, NGOs and countries to develop the SHE electronic network for Africa. The web site links closely with ASOSH.org and the web sites for the ILO (SafeWork and CIS) and WHO (OSH) and general web sites at WHO Geneva and at the African Regional Office (AFRO) in Brazzaville).

Education and Training Opportunities

Mine Ventilation

The need for competent, trained persons to be employed in the ventilation departments of gold mines was recognised at an early stage. In June 1916, the Chamber issued a book entitled "Dust and Miners Phthisis" covering dust prevention and measurement. One objective was to ensure that samplers used a standard sampling method. A series of lectures to dust samplers then commenced in September 1916, at the South African School of Mines and Technology. The lectures were given by JS Cellier, Professor of Mining at the School, and ended in January 1917. The training of ventilation officials had commenced.

To ensure that dust officials would be adequately educated in the subject of ventilation, courses were held at the University of the Witwatersrand in 1923. A series of lectures for mine ventilation officials by JP Rees, Chamber, commenced in 1928. At the completion of the courses, examinations both theoretical and practical were held. A new Chamber scheme for examinations was introduced in 1949. Examination now included a practical and written examination for an elementary certificate in dust prevention and mine ventilation, and once candidates had successfully completed these papers they could progress to the advanced certificate. To prepare for the Chamber examinations ventilation officials could attend classes at the Witwatersrand Technical College, which had introduced a National Diploma in Mine Ventilation in 1949. DG Beadle wrote a correspondence course in ventilation for use by the College, which was introduced in 1959.

In recent years the MVS has expanded the occupational hygiene content of the Mine Environmental Control examinations and formally took over responsibility for the examinations from the Chamber in 2002.

Occupational Hygiene

Around the time of the Erasmus Report (1976) occupational hygiene subjects were included in the National Diploma: Public Health later to become the National Diploma on Environmental Health.

The Physiology Department, Potchefstroom University started a BSc Honors in Industrial Physiology in 1966 and the students could continue with their MSc and DSc degrees. The MSc and DSc were research orientated and most of the research was done at the Chamber.

In 1997 the BSc Honors in Industrial Physiology was changed to the MSc Industrial Physiology. This was a structured degree with theory modules and a practical component consisting of monitoring and research. This could lead to a PhD in Industrial Physiology. The name Industrial Physiology was replaced by Occupational Hygiene in 2001. The School of Physiology, Nutrition and Consumer Sciences (established in 1998) offers a MSc and PhD in Occupational Hygiene

In 2001 the School of Public Health, University of the Witwatersrand, in association with the NCOH, made available a Diploma and Masters in Public Health degree in Occupational Hygiene over two and three part time years.

Technikon Pretoria through L Harmse introduced a short course in Basic Measuring Techniques in 1990 and a Legislation course in 1995 for the Department of Labour to assist in the vetting of AIAs. In 1996 the British Examining Board in Occupational Hygiene (BEBOH now BIOH) modules and examinations were introduced. The modules and examinations were modified to South African legislation and standards. Sponsorship for the BEBOH programme at Technikon Pretoria was provided by Samancor and the WHO/South Africa Technical Cooperation Programme: Occupational Health run by the NCOH. BEBOH Oral Examinations were held at the NCOH in 1996 for the Diploma of Professional Competence in Comprehensive Practice (Five successful candidates). Three of the new Diplomates in SA were then appointed by BEBOH as BEBOH Oral Examiners for South Africa.

In 1996 the first Interim IOHSA Entrance Examinations were held by the IOHSA Examination Board (Now SAIOH). The initial categories of membership were: Assistant, Technologist, Occupational Hygienist and Professional Occupational Hygienist. In a 1998 revision of the categories of membership the latter category "Professional Occupational Hygienist" was deleted. At the same time the experience requirements for the Occupational Hygienist status were upgraded from two to five years in line with the generally accepted international requirements. IOHSA introduced in 1997 Continuous Professional Development (CPD) to maintain certification.

Occupational Medicine

The NCOH has long had close links with a number of educational establishments. The first Diploma in Occupational Health (DOH) course for doctors was established by the NRIOD (now NCOH) and has been run in conjunction with the University of the Witwatersrand since 1973. Professor I Webster organised the DOH course providing a large proportion of the classes himself. These infusions of diploma holders increased the number of diplomates in the country and stimulated interest in occupational medicine in South Africa generally. Other Universities, which now run a DOH, include Cape Town, Natal, Orange Free State, Pretoria and Stellenbosch. The legal requirement for medical practitioners providing occupational medical care to have a postgraduate qualification in occupational medicine has increased demand for the DOH training.

In 1997, the then South African Medical Council first opened a register for Occupational Health Specialists. With the support of the Faculty of Occupational Medicine in the United Kingdom and SASOM, this group of sub-specialists investigated the feasibility of establishing a specialty in Occupational Medicine. The College of Public Health Medicine of the Colleges of Medicine of South Africa has created a Division of Occupational Medicine to develop Occupational Medicine as a 4-year medical specialty in South Africa. This new specialty has been approved by the Health Professions Council of South Africa and currently (2002) awaits endorsement by the Department of Health.

Occupational Health Nursing

Training of African female nurses started at the Crown Mines Hospital in 1917 to address the need of mine workers more effectively. Dr. AJ Orenstein introduced the training and this was then adopted by public hospitals.

Ever since the formation of the discussion groups, strenuous efforts were made to establish a course for occupational nurses. With the help of senior industrial nurses and certain occupational health doctors, a curriculum for a certificate course in occupational health nursing was developed by the Board of the South African Nursing Association. This was adapted from an occupational health curriculum from Scotland. The first course was presented by Professor I Webster at the NRIOD in 1976. At the beginning of 1979, the Board permitted the discussion groups to organise courses in their own areas, to enable nurses to qualify for the certificate of the South African Nursing Association. The Occupational Health Nurses Discussion Group (Southern Transvaal) took the lead and organised the first course in Pretoria in 1979. Since then, additional courses were organised in the Transvaal, Natal and the Cape.

In 1981, Eskom was granted permission by the Nursing Council to start a training school. Nurses employed by Eskom across South Africa were upgraded and still attend refresher courses and seminars. In 1985 Eskom and the Rand Afrikaans University (RAU) signed a working agreement whereby the Eskom in-service training programme was undertaken in conjunction with RAU.

A distance learning course was started in 1987 under the auspices of the Pretoria School of Nursing. Nurses who were in remote areas were unable to attend courses at larger centres and this distance learning course has catered for their needs.

In the 1980's, SASOHN focused particularly on training needs and successfully introduced, with the endorsement of the South African Nursing Council, a post basic certificate course in Occupational Health which was followed by the diploma course for Occupational Health Nurses. These developments signalled an advance for the growing professionalism of the occupational nursing practitioner, and resulted in the development of the B.Tech Occupational Health Nursing Degree at the Technikons.

Occupational Health nursing courses are also available at the Universities of Stellenbosch, Witwatersrand, Rand Afrikaans (RAU) and South Africa (UNISA).

Legislation

In 1902 a Government Commission was appointed to enquire into and report on Miners' Phthisis. The Commission's report contained many important and far-reaching recommendations, which included wet drilling as well as the need for planned and controlled ventilation. Warnings were also issued about the dangers of workers entering development ends before blasting fumes had been cleared. A further Commission investigating the prevalence of Miners' Phthisis led to the Miner's Phthisis Act (compulsory compensation) in 1912. In 1911, the Mines and Works Act (controlled working conditions) was passed. This marks the beginning of mainstream occupational health activity developments.

The first Factories Act (Act 28 of 1918) made provision for the control of health risks in industrial buildings. This act was later amended and was known for several years as the Factories, Machinery and Building Works Act (Act 22 of 1941). However, it was not until the Erasmus Commission of Inquiry into Occupational Health (1976) that occupational health received the necessary attention. This Commission recommended a single consolidated Industrial Health Act. The government responded in 1983 with the Machinery and Occupational Safety Act (MOSA) and the subsequent Occupational Health and Safety Act (OHSA 1993).

The Leon Commission of Inquiry into Safety and Health in the Mining Industry (1994) led to the drafting of a new Mine Health and Safety Act to provide the comprehensive legal framework for creating a healthy and safe working environment. The Commission report also resulted in the restructuring of the enforcement agency and the formation of the SIMHEALTH sub-committee under the Safety in Mines Research Advisory Committee (SIMRAC). A wide variety of occupational health projects were enacted through this committee including the preparation of a Handbook of Occupational Health Practice in the South African Mining Industry (2001).

Current legislation is listed in Table 1.

Table 1 Current legislation pertaining to occupational health in South Africa

Act	Function	Enforcement Agency
Occupational Health and Safety Act (OHSA), 1993	Ensures a healthy and safe environment in the workplace (factories and offices)	Department of Labour
Compensation for Occupational Injuries and Diseases Act (COIDA), 1993	Provides for medical cover and compensation of occupational injuries or diseases in all work-places	Department of Labour
Mine Health and Safety Act (MHSA) 1996	Ensures a healthy and safe environment in mines/quarries	Department of Minerals and Energy
Occupational Diseases in Mines and Works Act (ODMWA), 1973	Provides for compensation of occupational lung diseases in mines and quarries	Department of Health

Further Information

Table 2 provides information on the dates when occupational health and related societies were established. A more extensive history of occupational health in South Africa is available via the ASOSH web site (www.asosh.org).

Table 2 Establishment of Occupational Health and Related Societies

Established	Society	Web address and Email Discussion Group
1921	Mine Medical Officers' Association (MMOA). Name changed in 2002 to the Mining Medical and Other Health Care Professionals Association	mmoa.org.za occmed@yahooogroups.com
1932	Safety First Association	safety1st.org.za
1944	Mine Ventilation Society of South Africa (MVS)	mvssa.co.za mvssa@yahooogroups.com
1948	South African Society of Industrial Health (SASIH). Name changed in 1957 to South African Society of Occupational Health (SASOH) and in 1980 to South African Society of Occupational Medicine (SASOM)	sasom.org.za occmed@yahooogroups.com
1951	National Occupational Safety Association (NOSA)	nosa.co.za
1952	South African Institute of Industrial Safety Officers (SAIISO). Name changed in 1974 to the Chartered Institute of Industrial Safety Engineering (CHISE) and in 1986 to the Institute of Safety Management (IoSM)	iosm.org
1960	Southern African Radiation Protection Association (SARPA)	sarpa.ws
1965	Industrial Nurses Discussion Group (Southern Transvaal)	-
1970	South African Radiation Protection Society (SARPS)	samps.org.za/Sarps/
1975	Southern African Acoustics Institute (SAAI)	saai.ctech.ac.za
1978	Association of Societies for Occupational Safety and Health (ASOSH)	asosh.org
1980	South African Society of Occupational Health Nurses (SASOHN). Name changed in 1994 to the South African Society of Occupational Health Nursing Practitioners	sasohn.org.za ohnp@yahooogroups.com
1983	Occupational Hygiene Association of South Africa (OHASA) - Now SAIOH	-
1984	Ergonomics Society of South Africa (ESSA)	ergonomics-sa.org.za
1993	Institute of Occupational Hygienists of Southern Africa (IOHSA) - Now SAIOH	-
1999	South African Society of Travel Medicine (SASTM)	sastm.org.za sastm@yahooogroups.com
2000	Southern African Institute for Occupational Hygiene (SAIOH). Amalgamation of OHASA and IOHSA	saioh.org occhyg@yahooogroups.com saioh-cb@yahooogroups.com