

## Respiratory therapy – Global scenario

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The profession of Respiratory Therapy (RT) first took its roots in Chicago, United States of America (USA), in the year 1947. The seed was planted by a handful of registered nurses, former military corpsmen and medics, orderlies and other on-the-job trained individuals. The North American countries, USA, Canada and to a lesser extent, Mexico initiated efforts to create profession of Inhalation Therapy (IT). Technical advances in health care field were conducive to survival of IT profession and ensured it held its roots firmly. Over the years the profession has grown to the present shape. The profession was named the American Association for IT and later changed to American Association for RT and then to American Association for Respiratory Care (AARC). Today over 150,000 credentialed respiratory therapists are employed in various capacities in the USA. It took years of hard work by thousands of dedicated volunteers in shaping the RT to its present state. Occasional failures did not deter them from their goal of strengthening their professional association. Currently, in the USA, almost all states require a state licensure to work in their state as a respiratory therapist.

The strong foundation for the AARC was made possible by the support of the medical organisations also. The American College of Chest Physicians

(ACCP), American Society of Anesthesiologists (ASA) and American Thoracic Society (ATS) were strong supporters of the AARC. Even today, these three medical organisations send representatives to the Board of Medical Advisors (BOMA) of the AARC.

The AARC recognised the need for expanding the profession globally to improve patient care worldwide. International efforts of the AARC led to promotion of *Respiratory Therapy* as a profession outside the USA. Some countries such as Canada and Taiwan have achieved the same success that USA has achieved.

The current success of globalisation of RT can be demonstrated by the following data: Over 50 countries are aware of the RT profession. Currently there are 70 formal RT programmes in 8 countries outside the USA. A few countries such as India have started Master's degree in RT. Voluntary credentialing through the Latin American Board for Professional Certification in RT (LABPCRT) using reliable criterion referenced, job related examinations is being taken advantage of in 11 countries. Canada, Taiwan, Panama and Philippines received legal recognition by their government and require mandatory credentialing for their respiratory therapists (RT). India, China, Peru and United Arab Emirates are in the process to legalise the profession. Ten countries have professional RT organisations. Groups of physio-respiratory therapists have formed associations in Europe and South America. Italy, Mexico and United Arab Emirates fulfilled the criteria for international affiliation of the AARC

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(Hiser J. We are on Mission. AARC Times 2010; 34:39-42).

In order to increase visibility of the profession of RT in the global community, in 1990, the AARC established an International Fellowship Programme which allowed select individuals from the international applicant pool to visit some of the respiratory care centres in USA to observe all aspects of RT practice. These individuals also participated in the AARC Congress where approximately 5000-6000 respiratory therapists from the USA attended this annual educational conference.

Since the initiation of the international fellowship programme, about 135 respiratory care professionals from 54 countries have visited the USA. This included 68 physicians, 29 physiotherapists, 21 respiratory therapists, 11 nurses and 6 with various other medical backgrounds. Popularity of this programme is evidenced by the fact that there were over 1250 applicants from 130 countries. Many of the “fellows” share information on a daily basis. Past fellows are working to translate educational materials to their country’s languages. AARC Clinical Practice Guidelines (CPG) have been translated to Chinese, Japanese and Spanish. ‘*A Guide to Aerosol Delivery Devices*’ has been translated to Arabic, Chinese and Spanish and is in the process of being translated to French, Italian and Turkish. ‘*The Clinicians Guide to Positive Airway Pressure (PAP) Adherence*’ is being translated into Arabic. ‘*AARC Times*’ and ‘*Respiratory Care*’ articles appear regularly in Italian and Japanese publications.

The International Committee on Respiratory Care (ICRC) which first proposed the formation of the fellowship programme to the AARC, now has 22 Governors from 25 countries. Over 50% of the Governors are past fellows.

This demonstrates the role of AARC in globalising respiratory care over the past 20 years. The efforts have been phenomenally successful. Currently, respiratory care is a distinct profession in 9 countries requiring credentialing, education and government

acceptance. They are USA, Taiwan, Canada, Mexico, Costa Rica, Guatemala, Colombia, Puerto Rico and Saudi Arabia (Hiser J. We are on Mission. AARC Times 2010; 34:39-42).

## USA

The profession developed gradually since 1947. There are approximately 150,000 practising therapists. The AARC is the professional organisation. National Board for Respiratory Care (NBRC) is the examination board. Committee on Accreditation of Respiratory Care (CoARC) is the accreditation body.

The current practice of Respiratory Care includes basic care consisting of oxygen therapy, humidity therapy, aerosol therapy, chest physical therapy, hyperinflation therapy, critical care such as all aspects of mechanical ventilation, tracheal intubation/extubation in adult, paediatric and neonatal practice, airway care, pulmonary function testing, sleep studies, assisting in bronchoscopy, home care, neonatal care and nitric oxide therapy.

The educational programs offer three types of degrees: Associate Degree, Bachelor’s Degree and the Master’s Degree.

Their scope of practice includes education (instructors, professors, clinical faculty, programme directors), hospital-based practice (therapists, supervisors, department directors, assistant administrators), industry-based (sales personnel, clinical specialists, regional directors) and home care (home care therapists, business partners).

## Canada

The Canadian Society of Respiratory Therapists (CSRT) was founded in 1964 as the Canadian Society of Inhalation Therapy Technicians and later changed the name to CSRT. Since Canada a large population speaking French language, the national credentialing examinations are given in English and French. The practice of respiratory therapy in Canada is equivalent to that in USA and a reciprocity agreement exists between CSRT and AARC for

recognition of credentials. It has 21 accredited programmes and approximately 3,000 members ([www.csrt.com](http://www.csrt.com)).

### **Taiwan - Republic of China (ROC)**

Respiratory profession was initiated in the Intermittent Positive Pressure Breathing (IPPB) room in 1980. The Respiratory Care Association of Republic Of China (RCAROC) was established in 1990. The Respiratory Therapist Act was passed and approved by the parliament which specified the scope of practice of respiratory therapist in 2001.

Taiwan Society for RT (TSRT) has 1,877 members. TSRT offers three levels of training for members: Registered Respiratory Therapists (RRT), Advanced Registered Respiratory Therapists (ARRT) and Specialist Registered Respiratory Therapists (SRRT). Taiwan has the most established and well-organised respiratory care profession in Asia. Taiwan has 5 AARC International Fellows since 1990 (Personal correspondence with Chia-Chen Chu, ICRC Governor for Taiwan, Technical Director Respiratory Therapy, Medical University/China Medical University Hospital, Tai-Chung City, Taiwan).

### **Philippines**

The first Asian RT programme was started in the Philippines in 1978. The first department of RT was established at Chinese General Hospital in Manila. In the 1980s, the first formal RT programme offering a two year Associate degree in Respiratory Therapy was established. Medical Services of America (MSA), a private company, set up many RT departments in the country staffed by MSA trained on-the-job trainees (OJTs). The first Bachelor of Science (BS) programme was started in 1987. A total of 24 RT programmes (2 year certificate programmes and 4 year BS programmes) are active at present. So far, approximately 3,000 students have graduated from RT programmes from 1987-2008. In 2009, Philippine RT Act of 2009 was signed into law. The Act officially regulates the practice of Respiratory Care through licensure examination. There is increased enrolment in RT school, increased employment of respiratory

therapists both locally and abroad and increased recognition of the respiratory care profession in the Philippines.

### **China**

Respiratory Care is in the infancy stage in Mainland China. In 1997, West China School of Medicine/ West China Hospital of Sichuan University established the first Bachelor of Science in Respiratory Therapy (BSRT) programme. Two other schools/universities offer a formal RT programme in China. There are only 4 hospitals that have an established RT department. There are only 200 Respiratory Therapists in China and 9 AARC International Fellows as of 2010 (Jie Li. Expanding the RT group in Mainland China. AARC Times 2010; 34:48-9).

### **Kingdom of Saudi Arabia**

Saudi Society for Respiratory Care (SSRC) was established in 2004. Based on the recent agreement between SSRC and National Board of Respiratory Care (NBRC), credentialing examination developed and given by SSRC is considered equivalent to the NBRC examinations. Loma Linda University in California assisted Saudi education system by coordinating RT programme at King Faisal Medical Center. (Al Hejji MA. Building the Respiratory Care Profession in Saudi Arabia. AARC Times 2010; 34:50-4. Personal Communication with Hassan S. Alorainy, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia and Personal Correspondence: Noel S. Tiburcio, Ph.D., RRT, ICRC Governor for the Philippines, Head of Respiratory Therapy Department, Al-Ain Hospital, Al-Ain, Abu Dhabi, United Arab Republic and [www.ssrc.com](http://www.ssrc.com)).

**Latin America** (Mexico, Argentina, Brazil, Colombia, Chile, Costa Rica, Guatemala, Panama, Peru, Venezuela, Bolivia, Paraguay and Uruguay - [www.labpcrt.nbrc.org](http://www.labpcrt.nbrc.org))

### **Mexico**

Proximity to United States influenced development of Respiratory Care profession in Mexico. The Mexican Association for Inhalation Therapy and

Respiratory Physiology was established in 1967. The name was changed to Asociacion de Terapia Respiratoria in 1996. From the beginning of the first training programme in Respiratory Therapy in 1976, the profession improved and a Certification Examination was developed in 1998. The infusion of Respiratory Therapy in the Health Care System of Mexico was recognised by the Ministry of Health. Several RT programmes were approved by the Ministry.

Currently, approximately 7,000 RT departments employ and train respiratory therapists in the country. Dr Hector Leon Garza, Executive Director worked with other Latin American Countries and the National Board for Respiratory Care to establish Latin American Board for Professional Certification in Respiratory Therapy in 2003.

The Mexican Society for Respiratory care has conducted 10 International Congresses. The “11<sup>th</sup> Congreso Internacional de Terapia Respiratoria” is scheduled for March 7-10, 2012. The Congress is historically attended by 600-1000 physicians, therapists and nurses from Mexico and other Latin American Countries (Personal correspondence with Hector Leon Garza, MD, ICRC Governor for Mexico, Director Ejecutivo, Asociacion Terapia Respiratoria, Mexico).

### **Argentina**

A group of physio-respiratory therapists formed an informal association of Respiratory Care. Training courses in RT with emphasis on mechanical ventilation are offered on a regular basis to Registered Physiotherapists at various institutions in the country (Personal Communication with: Gustavo Adolfo Olguin, ICRC Governor for Argentina, Director, The Latin American Board for Professional Certification in Respiratory Therapy, Buenos Aires, Argentina).

### **Brazil, Chile, Venezuela and Panama**

These countries have similar RT training pattern as in Argentina.

### **Colombia**

Realising the need for respiratory therapists and the trend in neighbouring countries prompted establishing an Association Colombia Professional Terapia Respiratoria in 1996. Within next five years a more formal Colombian Association for Faculties for Respiratory Therapy was established and is still functioning. There are six RT programmes operating in the country with approximately 5,000 therapists working in the RT profession.

### **Costa Rica**

Medical Center in San Jose, Costa Rica obtained a grant from Hope Foundation Inc, USA. In 1985, Hope Grant contracted Susan Pilbeam, a renowned RT teacher in USA, to initiate and implement a Respiratory Therapy Programme in Costa Rica. This programme graduated RTs in Costa Rica and the profession is an integral part of the health care system in the country.

### **Guatemala**

Guatemala, neighboring country to Costa Rica, started their training programme in Guatemala city, in 1992. This small country has a well established RT profession.

### **European countries**

Although RT does not exist in European countries in as a distinct profession, specialty courses and seminars are consistently offered to trained physiotherapists and critical care nurses. These individuals formed an association, European Respiratory Society (ERS), to address newer approaches to respiratory disorders. Each year ERS organises a conference in different countries of Europe. The 2012 ERS conference is scheduled in Vienna on September 1-4, 2012 ([www.ers.com](http://www.ers.com)).

### **India**

In 1947, Inhalation Therapy evolved in US and India became an independent country. RT in India is still in the infancy stage with more than 200 therapists working in hospitals.

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**RT training in India:** A well planned Bachelor of Science in Respiratory Therapy (BSc RT) programme was initiated by Manipal University in 1995. Other RT programmes were started in South India at Hyderabad, Chennai, Vellore, Pune and Kochi between 1996-2000. At the same time, hospital based training programmes were started in Mumbai, Delhi, Bangalore and Kolkata. Several Mechanical Ventilation Workshops are offered for physicians during Indian Society of Anaesthesiologists (ISA) and Indian Society of Critical Care Medicine (ISCCM) conferences. A well designed workshop on mechanical ventilation is conducted every year in Pune by the local chapter of ISCCM.

Association for Respiratory Care, India (ARCI) was formed in 2006 by three dedicated physicians who had the Fellowship programme offered by the AARC (Ratnavelu V. RT in India - yesterday and today. AARC Times 2010; 34:56-9). After conducting annual conferences, the association has taken the next steps to rejuvenate and expand RT profession. ARCI established an Executive office at Manipal University campus. In January 2012, a new national society called Indian Association of Respiratory Care (IARC) is being registered at Manipal and the earlier association (ARCI) will be merged into it once

the registration process is complete. A decision has been made to publish Indian Journal for Respiratory Care, a national scientific journal for the profession of RT which will be biannual initially and eventually a quarterly journal.

Recently, the Government of India has accepted RT as one of the Allied Health Professions in the medical delivery systems in India. This government recognition will have profound effects in the future development of the profession.

In summary, the AARC, American Respiratory Care Foundation (ARCF) and International Committee on Respiratory Care (ICRC) have promoted the Respiratory Care profession around the globe. The AARC provided all the educational material, especially, the Clinical Practice Guidelines and protocols for different modalities to standardise delivery of Respiratory Care around the globe. AARC website provides the members an access to the most recent developments in respiratory care and equipment. Respiratory Care journal (Respir Care) is an index medicus publication of the profession of respiratory care. AARC has established as benchmark for all upcoming respiratory care societies.