

FICCI HEAL 2016
HEALTH - ENTERPRISE AND LEARNING

# Nursing reforms

## Paradigm shift for a bright future

August 2016

FICCI

EY
Building a better working world

Nurses form the largest segment of healthcare workforce and play a vital and major role in delivering healthcare effectively. There is an immense need of well-trained nurses who are not only technically sound, but also specialized in various fields and abreast with the latest healthcare technologies.

FICCI's Health Services Committee has constituted a task force on Nursing Reforms to provide inputs  on the present and future requirements for closing demand supply challenges, nursing skills for modern day medicine, accreditation models, regulation and, most importantly, restoring the due position nursing deserves in the society and the hospital hierarchy.

This paper aims to identify challenges in the nursing sector, and provide a roadmap for the Government, policy makers, industry, and education and research institutions with the purpose of strengthening nursing as a sector.





*A strong nursing sector is the necessary building block of a strong healthcare sector. Collectively we need to bring in policy reforms for nursing both in the public and private sector. Reforms to strengthen nursing education and welfare scheme for nurses will help in bridging the skill gap and enable nurses to deliver to their best ability. Nurses must be encouraged to take significant leadership roles in health policy, planning, and provision. We in the government are taking necessary steps in this direction.*

**- C.K. Mishra**
Secretary, Ministry of Health & Family Welfare, Government of India



*Health reforms in India are increasingly targeted towards improving the health of the nation's people both urban and rural. Thus, it is time to provide a strong impetus to health reforms especially those that focus on its human resources including nurses. A powerful nursing sector can only be built by a robust nursing workforce that is appropriately educated, trained and supported for innovative practice roles in multiple settings.*

**- Dr. Nandakumar Jairam**
Chair - FICCI Health Services Committee, Chairman - NABH & Chairman and Group Medical Director, Columbia Asia Hospitals, India Pvt Ltd



*To meet future needs of the growing health care sector and constantly increasing disease burden there is a need to empower nurses by providing them with world class education and enabling work environment. Nurses have the ability to improve healthcare delivery in a cost effective way by reducing the work load from doctors, but for this they must be perceived as equal partners in health sector.*

**- Shobha Mishra Ghosh**
Senior Director, FICCI

# Message from FICCI

Nurses have a very demanding career, and each day brings a new challenge for them. They care selflessly for patients and their families. They are the backbone of the healthcare system, working tirelessly round the clock, at the bedside of each patient. They are alert and responsive, and monitor, plan and coordinate all patient care activities – all this in a complex and fast changing environment of health care, which demands progressively higher technical competencies, as well as increasing service expectations from patients. They also form the largest volume of the health care workforce.

We would like to acknowledge and thank the nursing fraternity for their contribution to the health care industry and to patients. Many nursing leaders are contributing policy change, quality improvements and health system improvement.

But a lot more needs to be done. The Federation of Indian Chambers of Commerce and Industry (FICCI) has set up a task force with key representatives from the health care industry, regulators and nursing professionals to deep-dive into issues that the nursing profession faces. The task force has met and iterated on many issues and challenges facing the nursing profession today, and its impact on the overall functioning of the health care industry.

Several reforms have been recommended in this paper. It is hoped that this paper will pave the way for stakeholders, policy makers and regulators to take initiatives to transform nursing to meet the modern day medical needs of patients, and make nursing an attractive career choice. This will be in keeping with India's vision to be globally competitive, locally relevant and to deliver cost-effective health care.

We are thankful for the support of the Ministry of Health & Family Welfare and the Indian Nursing Council for the development of the report. Going forward FICCI would like to work closely with Ministry and INC to make action plans for achieving the reforms. We would also like to thank the FICCI Health Services National Committee, FICCI nursing task force and the FICCI Healthcare team for their contributions and untiring effort.



**Dr. Arati Verma**

Chair, FICCI Task Force on Nursing Reforms

Sr. Vice President - Medical Quality
Max Healthcare

Chair, NABH Appeals Committee

Chair, NABH Assessor Management Committee



**Thankam Gomez**

Co Chair, FICCI task force
on Nursing Reforms
Executive Vice President, Education,

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# Message from EY

India's healthcare industry is growing at a tremendous pace on the back of a growing population and urbanization. Both Government and the private sector have responded with significant investments in hard infrastructure, capabilities and institutional mechanisms resulting in healthcare becoming one of the largest sectors - both in terms of revenue and employment. These investments are evident in programs such as the National Rural Health Mission (NRHM) as well as increase in private sector owned capacity in terms of quality, quantity, research and technology.

We expect this growth to continue and envision that India's healthcare sector will witness changes such as increasing health seeking behaviour, increasing life expectancy, bigger geriatric population, rise in chronic and life style diseases, increased medical tourism to name a few. Health care sector will need to transform rapidly to meet these new challenges and demands impressed upon the system. It is estimated that India will require 600,000 to 700,000 additional beds over the next five to six years. India will need to add several skilled and motivated healthcare professionals at each level to meet this demand.

Nurses form the largest and one of the most crucial segment of human resources in the health sector. India today faces a significant gap in demand and supply of nurses. Nursing education and nursing practice both require strengthening too. This report identifies these gaps; and challenges in bridging them. We have attempted to generate a comprehensive view on nursing as a sector which includes critical areas like nursing education, welfare, policies, reforms and practice.

We are grateful to FICCI for giving us this opportunity to collaborate and be a part of the nursing task force. The interactions with the member of the task force gave us a chance to explore options that can significantly expand nursing as a career and a sector.

At EY, we are driven by our purpose of 'Building a Better Working World'. We firmly believe that often the genesis of a creative solution is asking the right questions. I hope this report and recommendations in it will just be the start of that journey.

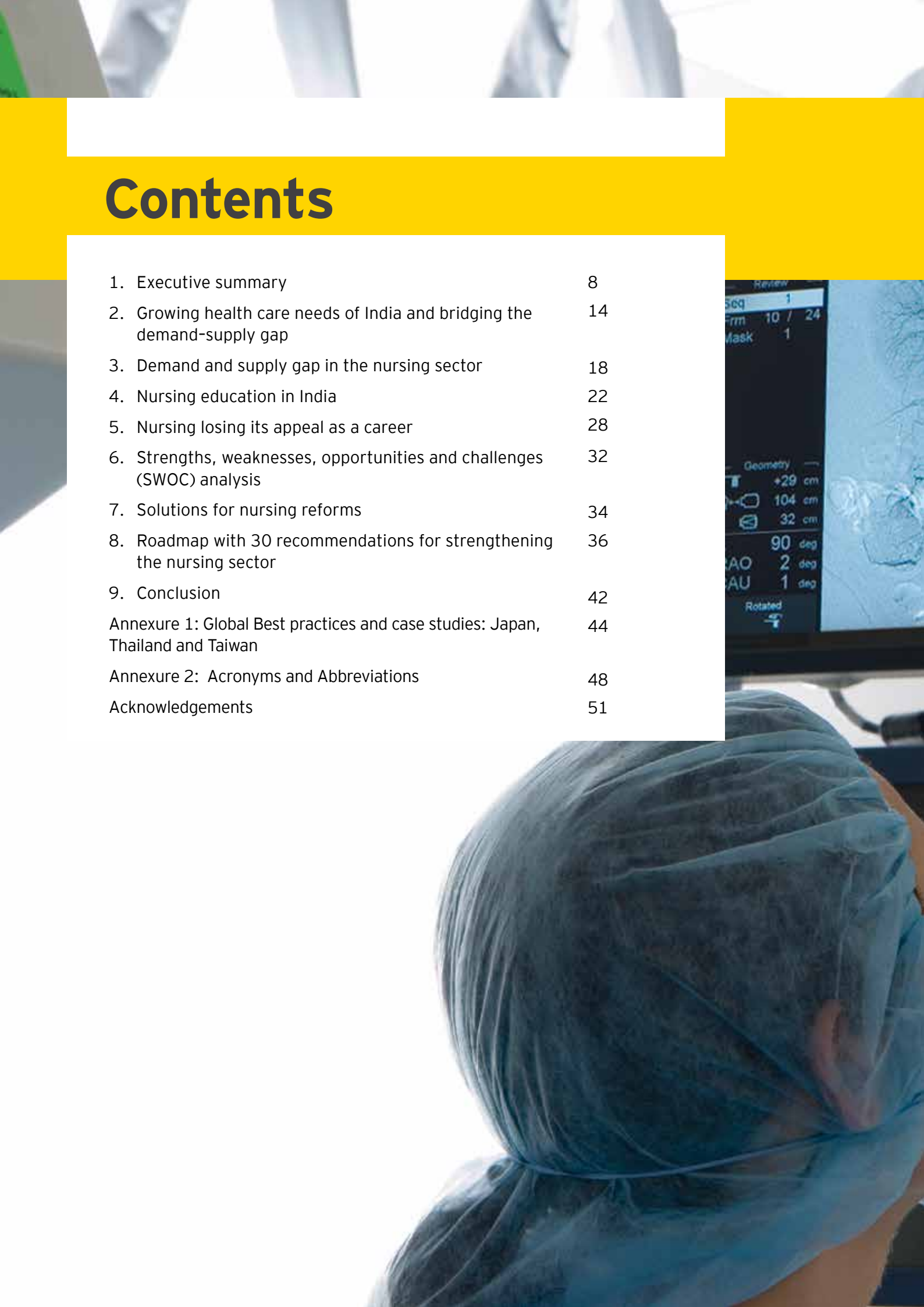


**Vineet Chhatwal**

Partner, Ernst & Young LLP

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# 1 Executive summary



The healthcare industry in our country is poised to reach greater heights, both in growth in volumes and in the quality of care. Nurses play a vital and major role in taking care of the medical needs of patients. Nurses are the largest segment of staff in any healthcare setting. FICCI's Healthcare Service Committee has formed a task force on Nursing Reforms to provide inputs on the present and futuristic requirements for closing demand supply challenges, advancing nursing skills for modern day medicine, accreditation models, regulation, and most importantly, for restoring the due position nursing deserves in society, and in the hospital hierarchy.

India, with a population of 1.2 billion (census 2011) has the fastest growing healthcare industry which is reaching out to millions for their primary, secondary and tertiary care needs. On the one hand, India is delivering the primary health services through various national programs, like NHM, RNTCP, NACP, the secondary and tertiary services are largely delivered by the private sector. Today, India's health care industry is not only a popular hub for medical tourism and but also a key supplier of health care professionals across the developed world.

However, India's public health expenditure remains bleak at 1.4% of GDP which is lower than many lower income countries. India stands at 67th rank amongst around 133 developing countries with regard to the number of doctors, while in respect of number of nurses, India is at 75th rank[i]. Currently, India has only 0.7 doctors and 1.7 nurses available per thousand population. The country needs an additional 2.4 million nurses to meet the growing demand. Despite being a major supplier of the health work force, the health care industry of India is suffering a wide gap.

While the field of medicine has come ahead a long way, nursing education has not advanced accordingly. Nursing education in India is governed by the Indian Nursing Act which was framed in 1947 and revised in 1948. There is a dire need of revising the nursing curriculum to make it relevant to the current health care industry requirements. Moreover, almost 52% of the nursing institutions are concentrated in the south, which creates a manpower skew and uneven opportunity of nursing studies across the country. This also directly and indirectly contributes towards the increasing nursing demand – supply gap. Nursing education needs to advance itself so that it remains competitive and relevant for the current technological environment, and rising customer centricity. This will also include opportunities for higher and specialized education, continuing nursing education and research and development.

Despite the fact that nurses form the largest proportion of workforce in the health care sector, nursing is losing its appeal as a career of choice. Nursing as a sector in India continues to experience challenges in terms of **Availability, Distribution and Retention**. Some of the key reasons for this are lack of a rewarding career progression, welfare, income parity, social status, inadequate work environment, work life balance and empowerment. In addition, alternative careers with better pay-outs and less stressful work environments and opportunities to migrate overseas tend to attract nurses better.

> ***Save one life and you're a hero, save one hundred lives and you're a nurse***
>
> - Unknown

[i] http://www.pharmatutor.org/pharma-news/doctors-population-in-india

**Figure 1: Role of nurses in healthcare sector**




It has also become evident that nurses are playing very limited leadership roles both at their workplaces and at policy levels. Some nurses can always graduate to leadership roles in administration while others should represent nurses at policy level and various other forums. India focused research, guiding the development of nursing practice is also imperative.

Through this report, the FICCI task force has developed an integrated framework which is essential for strengthening nursing as a sector in India. The framework rests upon five key tenets i.e. optimize the existing workforce; anticipate future workforce; strengthen individual and institutional capacities; strengthen research & development and nursing education.

Keeping the above issues under consideration the nursing task force carved out 30 key suggestions to strengthen the nursing sector. These recommendations are primarily around policy reforms, human resource development, strengthening the nursing practice and education. Some of these include mainstreaming of nursing education with medical education, instituting common entrance exams, review and revision of Indian Nursing Act, institution of a nursing practice act, reducing income disparity, improving nurse – patient ratio in hospitals to improve their work life balance, grooming nurses for leadership positions, investment into and promotion of systematic research in the nursing sector.

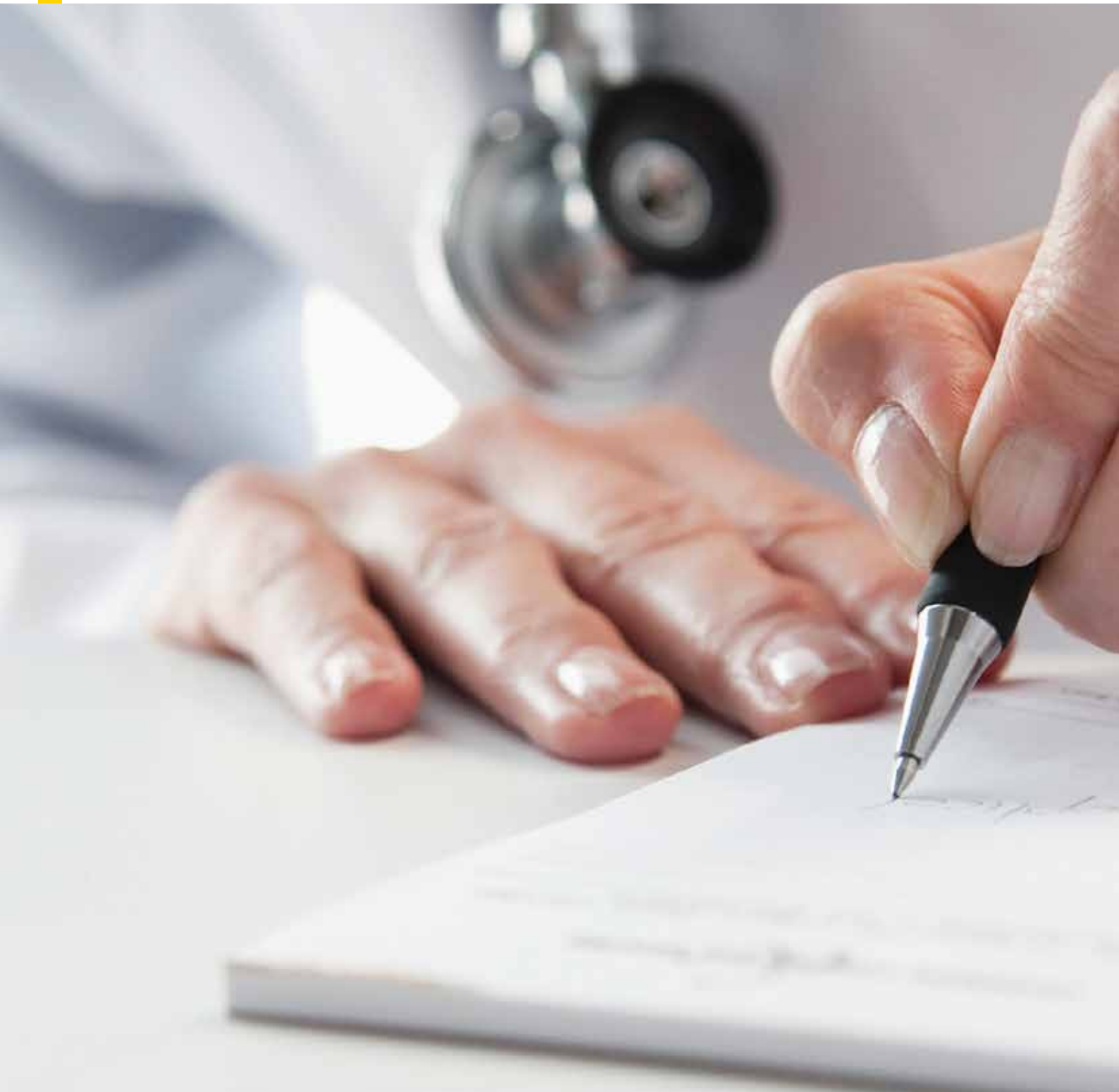
**Roadmap of recommendations for strengthening the nursing sector**

| | Recommendation | Short term | Medium term | Long term |
|---|---|---|---|---|
| Nursing education | | | | |
| 1. | Redefining the INC Act |  | | |
| 2. | Skill/competency outcome based nursing curriculum |  | | |
| 3. | Applied basic science subjects should be part of the nursing curriculum |  | | |
| 4. | Merge GNM courses with BSc. (Nursing) |  | | |
| 5. | Integrating nursing education with medical colleges |  |  | |
| 6. | Improving quality of nursing faculty in teaching institutes by establishing canters of excellence |  |  | |
| 7. | Competency based skill testing for licensing |  | | |
| 8. | Redesigning/upgradation of the existing specialty programmes as nurse practitioner courses, i.e. all MSC(N) and PB Diploma (N) |  |  | |
| 9. | Rationalization in the number of nursing institutions |  |  |  |
| 10. | Availability of accurate data of number of nurses passing out and getting registered |  |  |  |
| Nursing service | | | | |
| 11. | Review of compensation to make it competitive and comparable |  | | |
| 12. | Strengthening in-service education through CNE/ e-learning courses |  | | |
| 13. | Public Private Partnership for Nursing Education/ Academic clinic partnerships (with both public and private hospitals) |  | | |
| 14. | Standardization of nursing procedures and protocols |  |  | |
| 15. | Teaching hospitals should follow NABH standards |  | | |
| 16. | Formulation of a Nursing Practice Act |  | | |
| 17. | Nurse welfare to be addressed by developing a separate service condition bill for nurses |  | | |
| 18. | Strengthening Public health programs through expanding role of nurses |  | | |
| 19. | Certifications and mid-career development |  | | |
| 20. | Development of Nurses Human Resources Management System |  | | |



| | Recommendation | Short term | Medium term | Long term |
|---|---|---|---|---|
| Nursing admnistration, Leadership and management | | | | |
| 21. | Nursing leadership at every level | | | |
| 22. | Nurses to be prepared and encouraged for empowered and decision-making roles | | | |
| 23. | Appropriate academic preparation for nursing roles of higher responsibility with appropriate compensation | | | |
| 24. | Performance review and management of nurses | | | |
| 25. | Exchange programs to promote leadership in nursing | | | |
| 26. | Progressive and rewarding career pathways for nurses | | | |
| Accreditation | | | | |
| 27. | Centers of excellence, accreditation, benchmarking and ranking of nursing education | | | |
| Research and innovation | | | | |
| 28. | Nursing research web pool for utilization | | | |
| 29. | Nursing cell in ICMR | | | |
| 30. | Facilitation of relevant and current research in nursing program | | | |

# 2 Growing health care needs of India and bridging the demand-supply gap

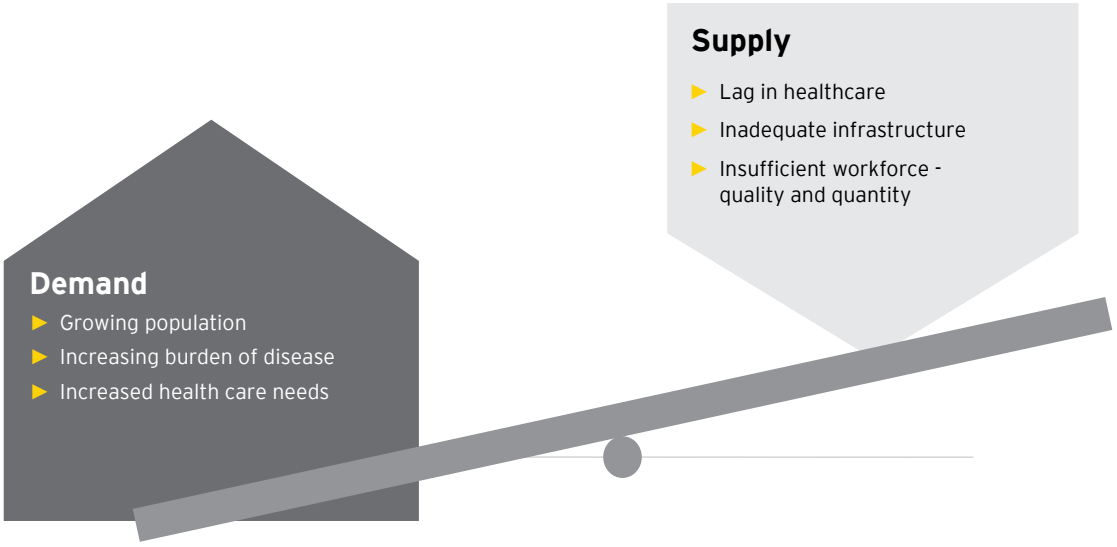


India's health care delivery system is characterized by its diversity. It has many components, including private and public hospitals dispersed through rural and urban areas providing primary, secondary and tertiary health care services. The delivery of these services is made possible by multiple elements – such as infrastructure and equipment – of which manpower, which includes a mix of doctors, nurses, paramedical and support staff, plays the most important role.

Currently, access to healthcare is largely dependent on socio-economic conditions and rural/urban locations. Primary health care is mainly provided through PHC and private clinics run across the country.

India is the world's second most populous country, with a population of 1.2 billion (census 2011[ii]). Its population is likely to surpass China's and reach over 1.4 billion by 2030[iii]. At the same time, with increasing life expectancy and changing lifestyles, the patterns of disease in the population are also changing, creating a strong demand burden on the health care industry. At the same time, it is starkly evident that India lags in health care spend, and in the availability of infrastructure and qualified and competent workforce.

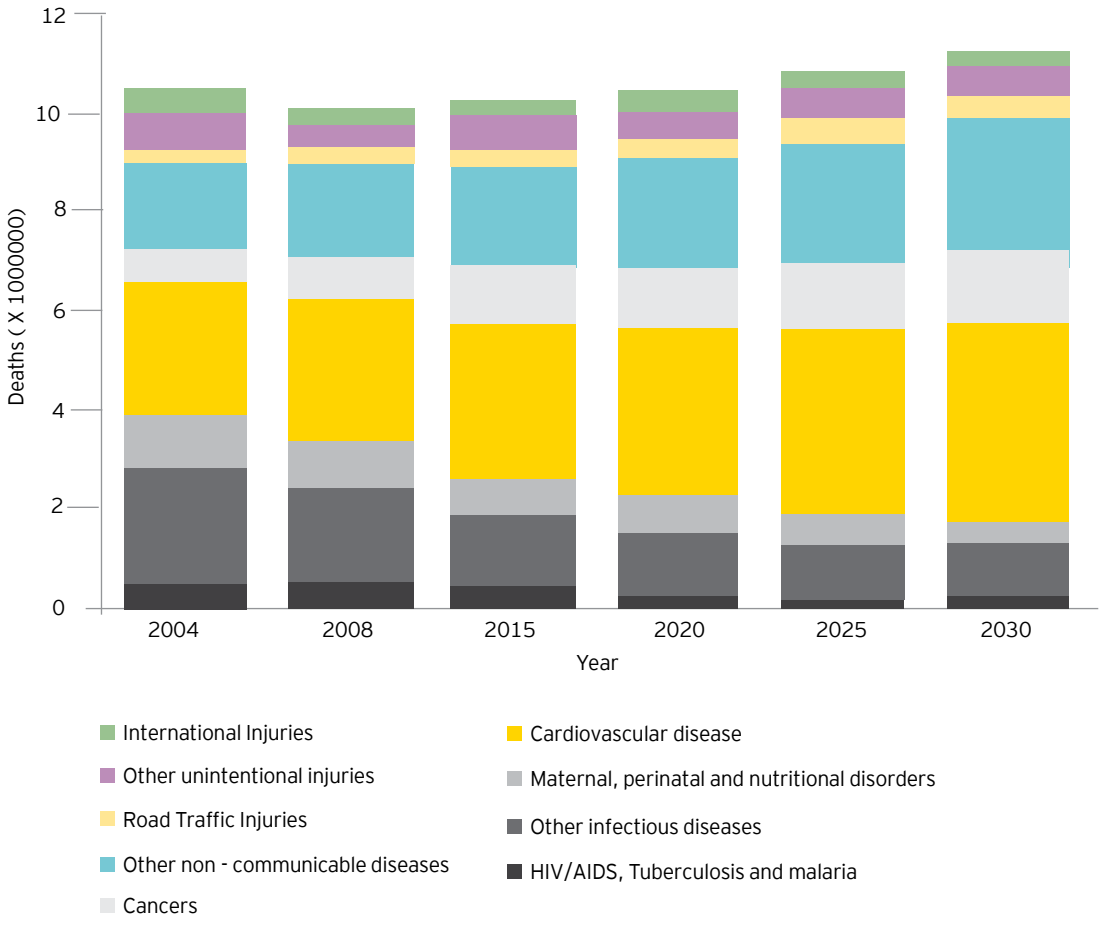
**Figure 2: The demand-supply gap in nursing sector**




There has been a major surge in non-communicable diseases such as diabetes and cardio vascular diseases and other chronic diseases such as cancer. India is already the world's diabetes capital, and respiratory diseases have also increased many folds in the last decade. According to National Institute of Cancer Prevention and Research, around 2.5 million people are currently living with cancer and every year over 7 lakh new cancer patients are registered[iv]. The trend of cardiovascular diseases is even more concerning: estimates reveal that in 2004, CVD deaths totaled 2.7 million, which are expected to shoot up to 4.0 million by 2030. It is estimated that by 2030, the number of years of life lost because of coronary heart disease deaths before the age of 60 years will increase to 17·9 million from 7·1 million in 2004. Apart from these diseases, maternal and child health, nutritional problems, tuberculosis, and other infectious diseases continue to add to the burden of health care.

[ii] http://www.censusindia.gov.in/2011census/PCA/PCA_Highlights/pca_highlights_file/India/5Figures_at_glance.pdf
[iii] https://www.populationinstitute.org/resources/populationonline/issue/17/105/
[iv] http://cancerindia.org.in/cp/index.php/know-about-cancer/statistics#cancer-statistics

**Figure 3: Projected deaths estimates by cause (World Bank)**




According to World Bank data, public health expenditure as a percentage of GDP in India was 1.1% in 1995 and 1.4% in 2014, which is abysmal compared to the population and health needs of the country[v]. It is lower than the percentage expenditure of low income countries. (Graph reference)

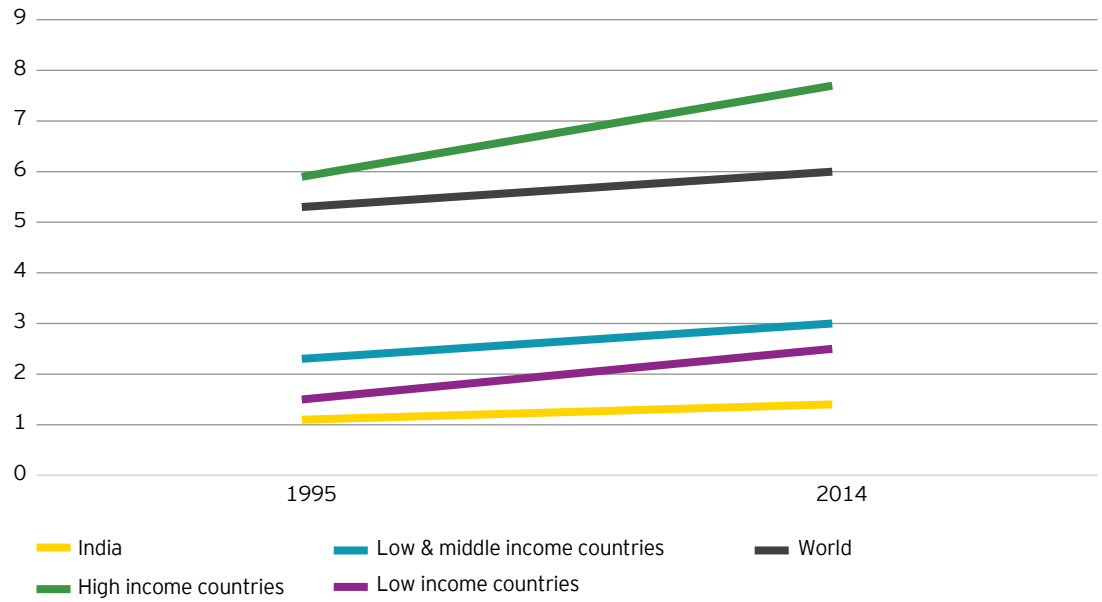
According to the latest data, India is ranked 67th out of 133 developing countries in terms of the number of doctors and 75th in terms of the number of nurses[vi]. Although India continues to be a major supplier of doctors and nurses to developed countries, the domestic scenario looks bleak[vii].

[v] "Health sector financing by centre and state/UTs in India", national health account cell, MOHFW,GOI. And NHP 2015.

[vi] http://www.pharmatutor.org/pharma-news/doctors-population-in-india

[vii] http://www.pharmatutor.org/pharma-news/doctors-population-in-india

**Figure 4: Public Health Expenditure on Health as a percentage of GDP**




*Source: World Bank 2014*

The health care industry in India currently employs nearly 5 million people. With strengthened coverage, scale-up of public health programs and increased investments by both public and private stakeholders, this number is expected to increase to about 7.5 million people by 2022. While the public health care network is widespread, majority of the service share lies with the private sector, which caters to 70% of out-patient and 60% of in-patient services. With a shift in focus toward quality of service, particularly with the rising demand for tertiary and quaternary care, the industry requires specialized and highly skilled resources, including doctors, nurses and other paramedical staff. **As a result, the demand for trained manpower, especially nurses, will continue to increase every year.**



# 3 Demand and supply gap in the nursing sector



According to the norms of the World Health Organization (WHO), there should be a minimum of 1 doctor and 2.5 nurses available per 1,000 population. However, India has only 0.7 doctors and 1.7 nurses available per 1,000 population. The large population and higher concentration of medical facilities in urban areas makes this gap even more skewed and critical. India needs an additional 2.4 million nurses to meet the growing demand. Therefore, it is important for the national and state governments, educational institutions and the health care industry to address the challenges to bridge this gap.

**Stipulated doctor** – population ratio 1:1000

**Current doctor** – population ratio 0.7:1000

**Stipulated nurse** – population ratio 2.5:1000

**Current nurse** – population ratio 1.7:1000

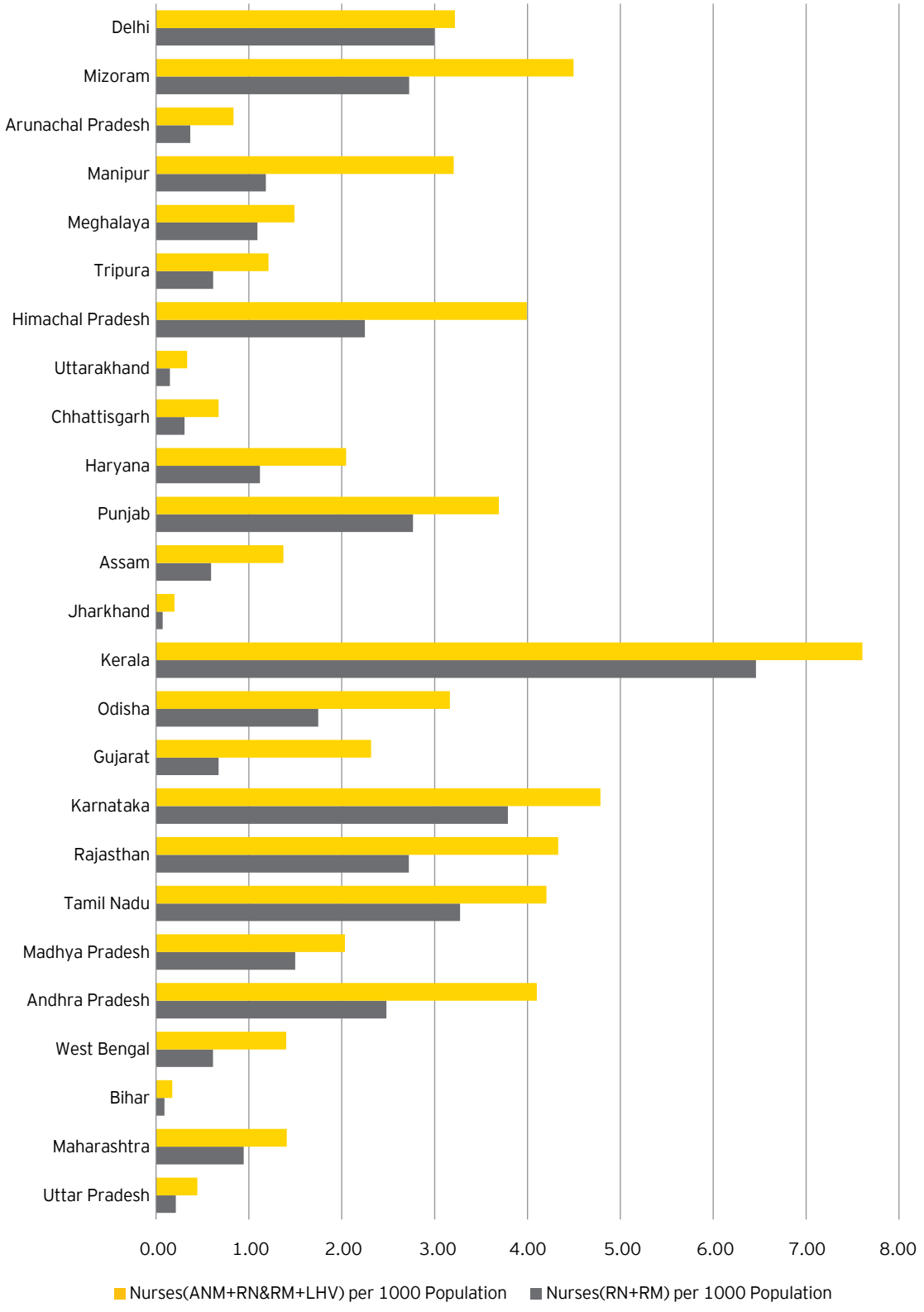
*(According to WHO minimum standards)*

**Nurse–patient ratio according to NABH recommendations**

| S. no. | Department/area | Nurse–patient ratio |
|---|---|---|
| 1 | ICU – ventilator beds | 1:1 each shift |
| 2 | ICU – non-ventilator beds | 1:2 each shift |
| 3 | High dependency unit (HDU) | 1:3 each shift |
| 4 | Inpatient beds | 1:6 each shift |
| 5 | Operation theater (OT) | 2 nurses per table each shift |
| 6 | Emergency – ventilator beds | 1:1 each shift |
| 7 | Emergency – other beds | 1:4 each shift |
| 8 | OPD | As per workload |
| 9 | Various procedures | As per workload |
| 10 | Labor table | 1 nurse per table each shift |
| 11 | Supervisor staff | As applicable |
| 12 | Infection control nurse | 1 for 100 beds |

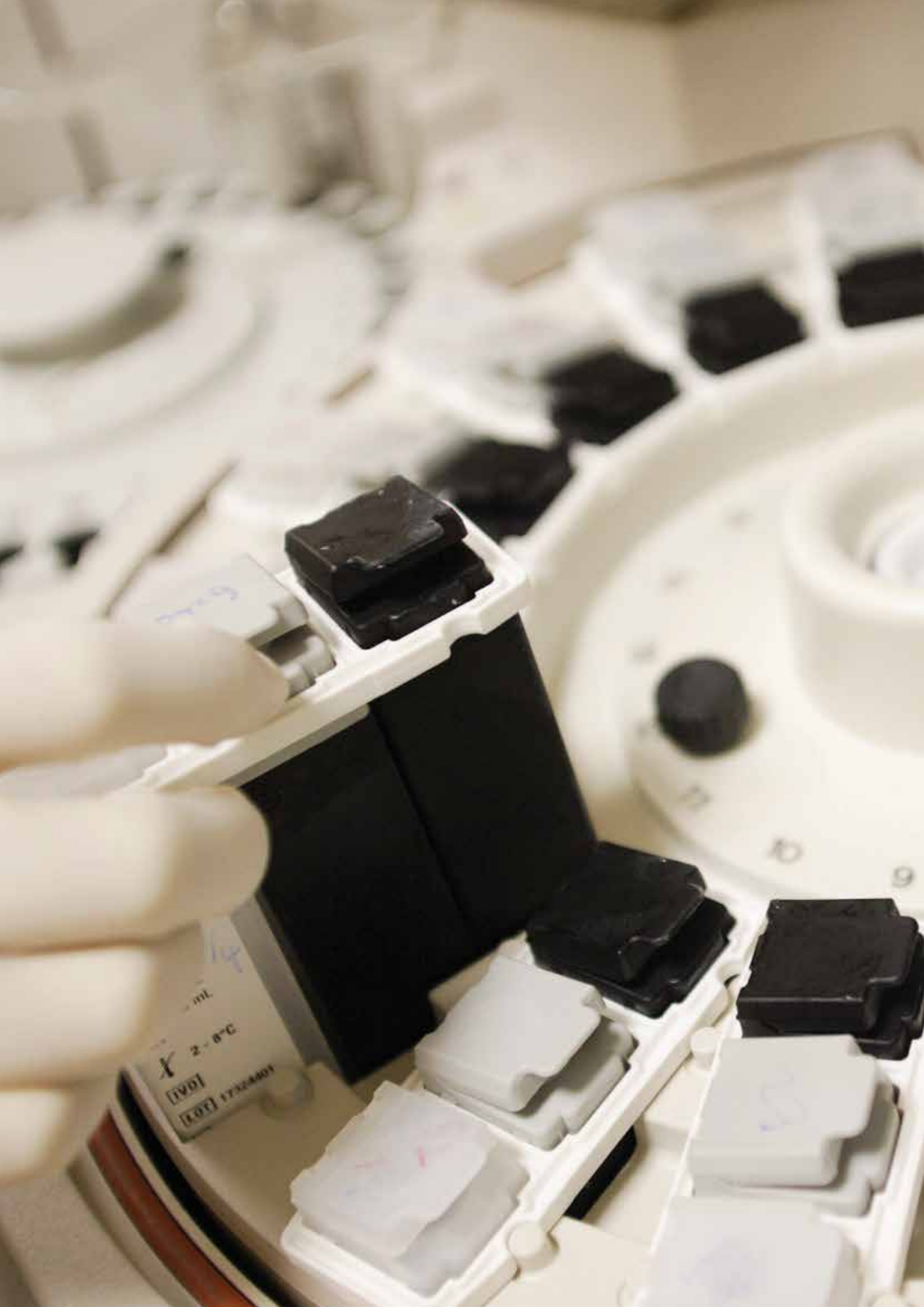
WHO data shows that the states with the worst health care human resource shortages are also the ones with lagging health indicators and higher infant and child mortality. If we look at the data of major developed states such as Delhi, Tamil Nadu (4.20), Karnataka (4.79) and Kerala (7.61), the nurse–population ratio is impressive (Annexure 1). However, for states such as Bihar, Jharkhand and Uttar Pradesh, the ratio of 0.18, 0.20, and 0.45, respectively, is less than that of even the Sub-Saharan countries.

**Figure 5: Nurses per 1000 population - State wise**

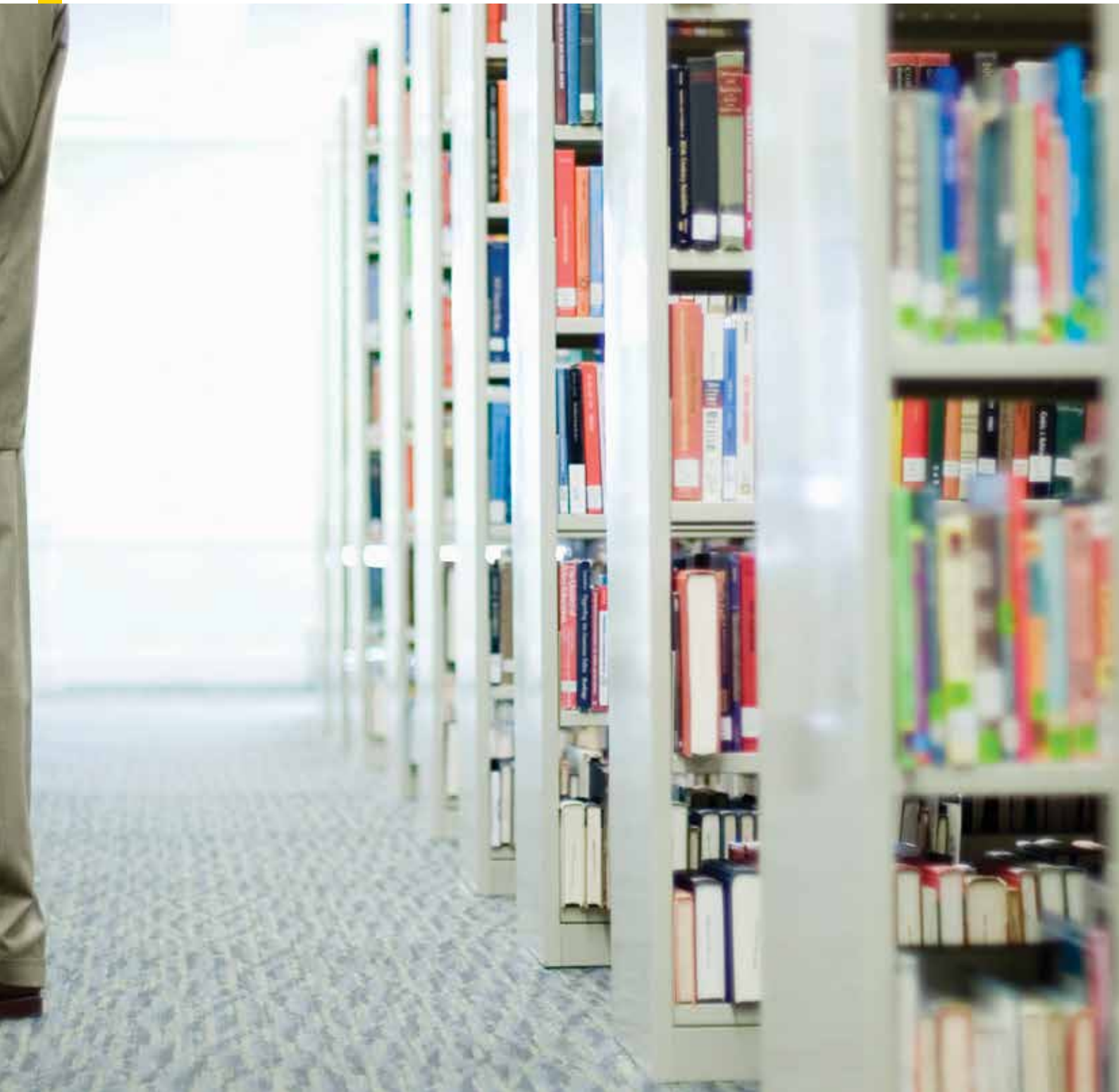



*Source: INC*

To aggravate this situation further, there are a proportion of nurses who are not actively involved in the formal sector. According to INC data, the entire population of India is being serviced by about 21 lakh nurses, including ANMs, RN&RM and LHVs. This amounts to approximately (only) 1.75 nurses per 1,000 population, assuming that all nurses who graduated countrywide did join the workforce. However, a large proportion of nurses migrate out to developed countries for work, choose alternative professions or become homemakers.



# 4 Nursing education in India



The Nursing Council Act came to existence in 1947 to safeguard the quality of nursing education in the country. The mandate was to establish and maintain uniform standards of nursing education. The **Indian Nursing Council (INC)** is a statutory body that regulates nursing education in the country through prescription, inspection, examination and certification and by maintaining its stand for a uniform syllabus at each level of nursing education. There are six levels of nursing education in India today which are (1) Multipurpose Health Worker (Female) training (ANM or MPHW-F); (2) Female Health Supervisor training (HV or MPHS-F); (3) General nursing and midwifery; (4) B.Sc. Nursing; (5) M. Sc. Nursing, M. Phil and PhD

| S. no. | Type of course | Number of institutions offering the course | # of seats |
|---|---|---|---|
| 1. | ANM | 1927 | 55,254 |
| 2. | General nursing and midwifery | 3,040 | 1,22,017 |
| 3. | BSc. Nursing | 1,752 | 88,211 |
| 4. | MSc. Nursing | 611 | 11,853 |

*Source: http://interstatecouncil.nic.in/zonal_composition.html#subnav2_2*

The INC and the State Nursing Councils (SNCs) are apex bodies that overlook nursing education in the country. Nursing is also represented by a number of state- and city-based organizations, including the national Trained Nurses Association of India (TNAI). The responsibilities of the INC largely revolve around nursing education nationwide.[1] It advises and provides expert advice to the Government on nursing education, prescribes national nursing education syllabi and specifies the minimum quality criteria for educational institutions. SNCs inspect and recognize training institutions, conduct examinations, monitor rules of professional conduct and maintain an active register. Almost 90% of institutions are private and at present, the quality of education in private and government institutions is very different. The execution of syllabi and curriculum across the states is fragmented and varies from one to another.

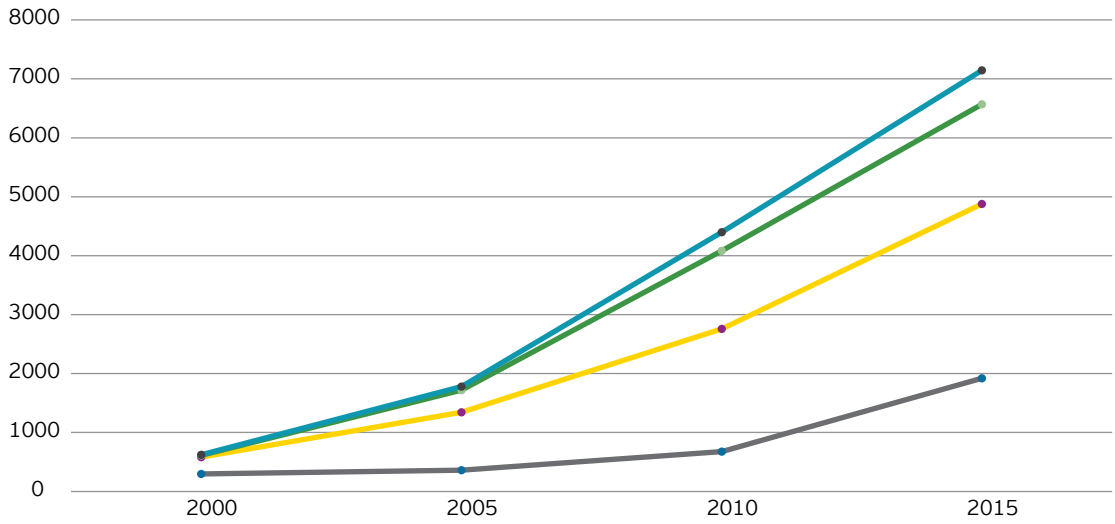
As with other professional education streams in the country, nursing education is also facing challenges. These challenges include shortage of well qualified and trained nurses (both in quality and quantity) and curriculum which matches the needs of current health care sector, and its customers. There are insufficient postgraduate courses to develop skills in specialties such as cardiology, pediatrics and oncology. At the same time the principles of quality, patient safety, communication skills, multidisciplinary working and exposure to technology are not part of the curriculum across. Nursing leadership courses are not at par with the premier courses offered for other industries. In addition, the quality assurance of nursing schools and colleges is not yet widespread. Mentorship during practical training is not adequate.

> ***Nurses should be clinically competent - socially sensitive – ethically engaged and should strive for safety – have a quest for quality and should work without fear or favour.***
>
> - Captain Usha Banerjee
> *Group Director, Nursing, Apollo Group of Hospitals*

[1]http://www.indiannursingcouncil.org/about-indian-nursing-council.asp?show=about-aim

Health care is the fastest growing industry in the country, with growth in both education institutions and health care facilities. There are almost 300,000 annual seats available in nursing schools and colleges. While on the one hand the annual growth rate of nursing institutions and nursing graduates has been impressive, on the other, the gap between demand and supply of nurses remains wide.

**Figure 6: Growth in Nursing Education Institutions**

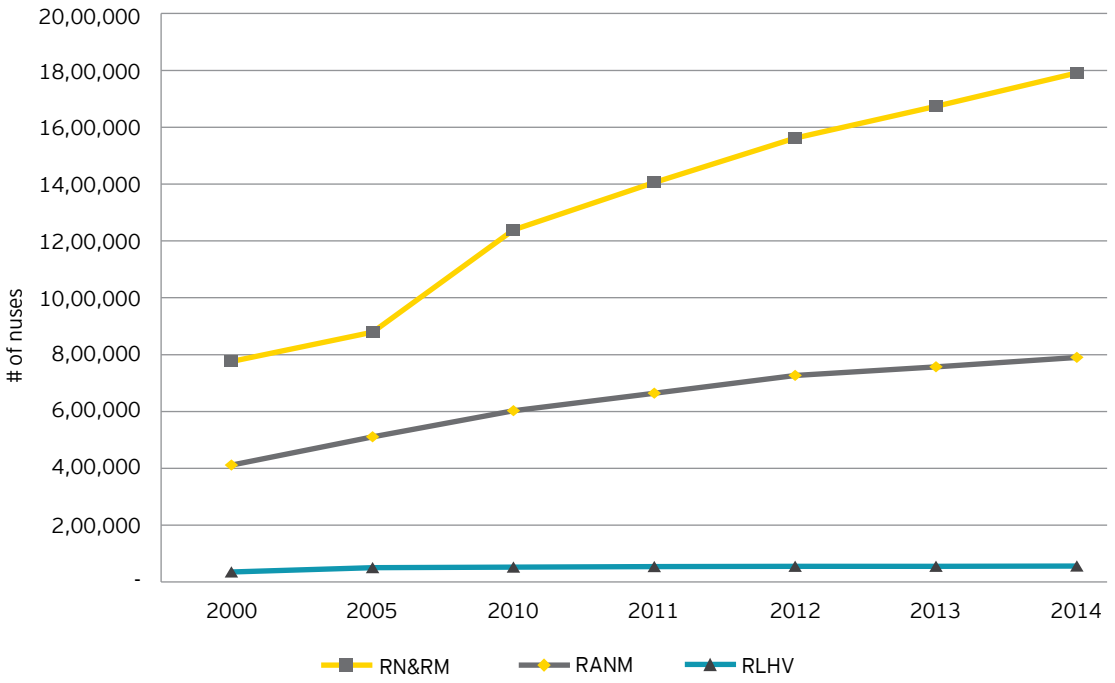



| | 2000 | 2005 | 2010 | 2015 |
|---|---|---|---|---|
| ANM | 298 | 360 | 676 | 1921 |
| GNM | 285 | 983 | 2083 | 2958 |
| B.Sc. (Nursing) | 30 | 377 | 1326 | 1690 |
| M.Sc. (Nursing) | 10 | 59 | 315 | 577 |

*Source: INC*



**Figure 7: Annual growth in nurses in India**




*Source: INC*

As evident in the figure, the number of registered institutions providing nursing education has increased manifolds since 2000. However, the distribution of these institutions across the country is not uniform: certain have a large number of institutions, while some have close to none. In addition, the number of seats available per state does not correspond to its population and healthcare industry needs. Therefore, while some states with a smaller population have a large number of nursing institutions, there are some large and populous states that have very few seats available. This skew poses significant challenges:

- Lack of opportunity and resources for aspiring nurses from low-concentration states to go to other states to study nursing
- Language and cultural barriers for both patients and nurses
- Skew in nursing graduates in certain states, affecting their ability to get employed within their own states
- Unemployment, as many graduate nurses would be unwilling to migrate to other states, especially non-metro centers, to work.

**Figure 8: Zone wise distribution of nursing schools in India (INC Annual Report 2014-15)**

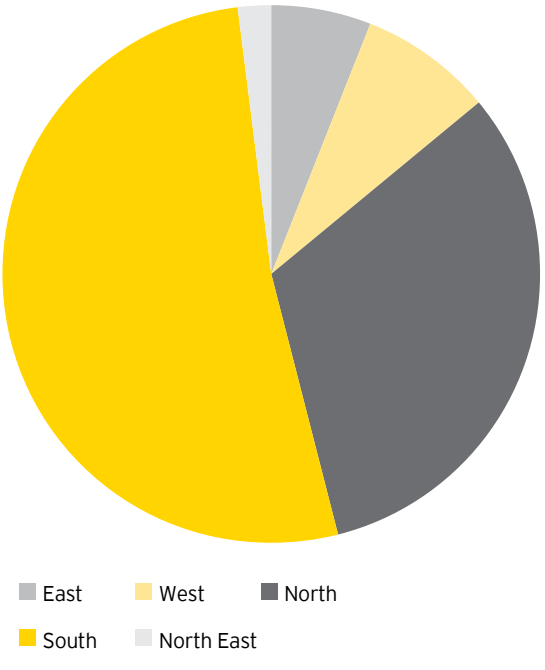
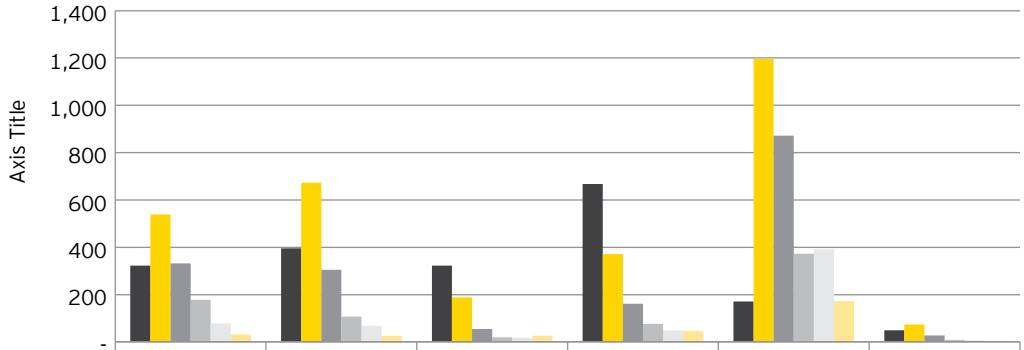


**Figure 9: Zonal distribution of nursing courses**




| | Northern Zone | Central Zone | Eastern Zone | Western Zone | Southern Zone | North Eastern Zone |
|---|---|---|---|---|---|---|
| ANM | 322 | 395 | 323 | 667 | 171 | 49 |
| GNM | 539 | 673 | 188 | 371 | 1,196 | 73 |
| B.Sc. (Nursing) | 332 | 305 | 54 | 161 | 872 | 28 |
| P.B.B.Sc. (Nursing) | 178 | 107 | 19 | 76 | 373 | 9 |
| M.Sc. (Nursing) | 78 | 68 | 18 | 49 | 391 | 7 |
| PBDP | 32 | 26 | 26 | 47 | 173 | 4 |

*Source: INC*

## Quality of nursing education

While the field of medicine has come a long way, nursing education has not advanced accordingly. The INC has been the same, structurally and functionally, since the Indian Nursing Act of 1947 came into force. The act has not been reviewed or revised significantly for 69 years now, while, unarguably, the state of health care has drastically changed.

The private health care workspace is characterized by higher exposure to technology, accountability and transparency; continuous up skilling; tight working schedules; contractual bindings; and lesser competitive compensations. Therefore, while at one hand nurses are not reaping the competitive professional advantages, tThere is a significant need for nursing education to advance to remain competitive and relevant for the current technological environment. Furthermore, health care is increasingly getting patient-centric, and the education systems need to address this.

The availability of quality nursing education is affected by multiple factors, including uniform geographical availability of nursing institutions providing quality education. Currently, faculty shortages are critical, both in terms of quality and quantity, and the curriculum does not address the current needs of the medical industry. There is lack of focus on soft skills such as communication and leadership. There is an overt need for upgradation of curriculum, outcome-based training, specialized trainings, standardized exams and licensing procedures and the uniform availability of nursing education across the country.

### Fewer opportunities for higher nursing courses and specialized programs

According to INC's records, as on 31st March 2016, 59% of the institutions in the country were nurturing ANMs and GNMs and another 21% were teaching BSc. (Nursing). Probably as a result of lesser demand for higher education in this profession, the remaining 20% of the registered institutions include post basic and postgraduate programs in nursing. However, it is also evident that lack of career pathways and appropriate growth in the country are deterring nurses from pursuing higher education.

### Fewer institutions for research and PhD

Industry-relevant research studies in the nursing sector can pave the path for improved recognition of the profession. However, there are no recognized M.Phil and PhD courses by INC. As a result, four colleges have formed a consortium to provide and promote research activities in the domain. So far there are only 251 PhD students in total at all the centres of national consortium. The number decreases drastically when it comes to degrees awarded: in 2013–14 only 17 students were awarded a PhD in Nursing Research and in 2014–15, the number was 21.

> ***Too often we underestimate the power of a touch, a smile, a kind word, a listening ear, an honest compliment or the smallest act of caring, all of which have the potential to turn a life around. As nurses, we have the unique opportunity to heal the heart, mind, soul and body of our patients, their families and ourselves. They may not remember our name but will never forget the way we made them feel***
>
> - Col. Binu Sharma
>
> *Senior Vice President,- Nursing Services, Columbia Asia Hospitals*

### Weak or inadequate continuing professional development

When nurses move into higher roles or specialized areas, there is a need to train them on mandates and avenues for the requisite skills and competencies. However, currently nurses are not provided with adequate mandates and facilities for continuous nursing education (CNE) to ensure professional development.

# 5 Nursing losing its appeal as a career



There is a growing perception that nursing no longer is the profession of choice for many students, both internationally and in our country. The number of applicants in many nursing colleges has been steadily decreasing. This could be due to many factors, such as alternative careers that pay better and offer less stressful work environments, lack of growth opportunities, and positioning of nursing at a lower level in the hospital and health care hierarchy as compared to doctors and other managers. Within India, nurses take up the profession with a clear goal: to use it as a bridge to get international placements, or, if they work in India, get placements in government hospitals as the compensation there is much better, and job security and working hours are much better managed.

Nursing as a sector in India continues to be challenged in terms of availability, distribution and retention. There is a need to systematically address these challenges both at the demand side and the supply side to strengthen the sector.

> ***Welfare of nurses is the backbone of the health sector. A strong nursing practice is linked to positive health outcomes. We hope to revitalize the dignity of nursing profession in India by bringing necessary reforms and bridging critical gaps.***
>
> - Josephine Little Flower,
> *Nursing Advisor, Ministry of Health & Family Welfare, GoI*

| Employee issues | Employer issues |
|---|---|
| ▶ Parity in compensation | ▶ Quality of nursing education |
| ▶ Short career path | ▶ Continuing nursing education |
| ▶ Social status | ▶ Leadership and representation at policy level |
| ▶ Work environment | ▶ Migration (international and domestic) |
| ▶ Work–life balance | ▶ High attrition |
| ▶ Empowerment | ▶ Gap in skills and competencies |
| ▶ Welfare | ▶ Customer expectations |
| | ▶ Technology |
| | ▶ Tertiary and super-specialized care |
| | ▶ Language |
| | ▶ Leadership |
| | ▶ Communication and behavioral skills |

## Parity in compensation

As compared to other professions, compensation in the nursing sector has lagged behind, contributing to the decreased appeal of nursing as a career choice. Meritorious students prefer alternative careers, and even those who aspire to take up nursing as a career find that the return on investment in their education vis-à-vis remuneration does not match. The issue of wide pay disparity between private nursing homes, private hospitals and government hospitals is under review at various apex forums.



### Fixed and short career pathways

Indifferent to whether nurses are working in the public or the private space, their career path and goals are very basic and predefined. Barring a few organizations, they are allowed to go only so far in the organizational hierarchy. Nurses are not being given the chance to grow within an organization and possibly have a say in important administrative and policy decisions. This gives them a very limited opportunity to expand or challenge their boundaries to learn more and be different, thus, making them pursue a monotonous career throughout their lives. Because of this monotony in their lives, this generates apathy and creates a vacuum of role models for young nurses entering the profession. At present, they don't have a strong representation at the hospital administration level across the country barring few organisations. While many nurses are happy this way, a few might like to push their boundaries and take up a new challenges.

### Empowerment and inadequate positioning within the health care hierarchy

Nurses often find themselves inadequately positioned in the overall hierarchy of patient care-teams mainly because of deficient leadership skills and competencies of the nursing cadre and the organization structures within the health care industry. As a result, they often get to bear the brunt of other professionals' demands and assertions, which may or may not be justified. Therefore, there is a need for more nurse practitioners who can assume empowered and decision-making roles in patient care. In addition, the Indian Nursing Act primary revolves around nursing education without providing any policy or act to guide the practices and roles and responsibilities of nurses of various cadres.

### Representation and participation in policy and governance

The representation of nurses at various stakeholder forums and the policy-making level is inadequate. The nursing management structure at the national and state levels is primarily managed by senior policy makers from the medical fraternity and administrative cadre. As a result, there is very little scope for nursing professionals to participate in policy decision making and to bring about any relevant reforms (Bagga, 2012). None of the states have a separate nursing division, and by far the best nursing structure is in the state of West Bengal (Bagga 2012). To strengthen nursing as a sector, there is a need to strengthen the nursing representation at state health departments. A nursing directorate should be present in each state.

### Administration and regulation

Currently, there is no credible source of information available on the number of nurses who graduate every year. Similarly, in the absence of human resource management systems for nursing professionals, the INC is unable to track the number of live professional nurses and the details of those who migrate. Therefore, while on the one hand 300,000 seats are available, the INC is unable to address specific issues leading to the demand–supply gap.





# 6 Strengths, weaknesses, opportunities and challenges (SWOC) analysis



The following is a SWOC analysis of the nursing sector in the country:

| Strengths | Weaknesses |
|---|---|
| ▶ High demand for nursing professionals both in India and internationally<br>▶ Rapid increase in nursing institutions<br>▶ Upcoming major chain of hospitals, research centers and educational institutions<br>▶ Immunity from recession and other economic downfalls | ▶ Lag in supply vs. demand for nursing professionals<br>▶ Uneven distribution of nursing colleges<br>▶ Lack of competitive compensation<br>▶ Fewer opportunities for higher nursing education<br>▶ Lack of a well-defined carrier paths<br>▶ Low investment in research and training<br>▶ Lack of coordination between industry and academia<br>▶ Lack of adequate skills and knowledge on patient safety issues, quality, technology, customer care, language etc.<br>▶ The social status attached to nursing as a profession<br>▶ Sub-optimal work environment |
| **Opportunity** | **Challenges** |
| ▶ Upgradation of curriculum and faculty to meet modern-day nursing requirements<br>▶ Competency-based education and licensing exams<br>▶ Specialized courses, including nurse practitioner courses<br>▶ Increasing investment in nursing education based on rising global and domestic demand of skilled nursing professionals<br>▶ Establish state of the art Faculty Training Centres and Nursing Colleges<br>▶ Active roles of nurses in delivering public health programs<br>▶ Compensation reviews<br>▶ Accreditation and regulation of nursing education<br>▶ Allocation of educational seats based on the state-wise requirements<br>▶ Use of technology for continuing nursing education<br>▶ Nursing research – which is relevant to current context | ▶ Migration to global markets<br>▶ Decreasing uptake of nursing seats in nursing schools and colleges<br>▶ Faculty shortages – numbers and quality<br>▶ Uneven distribution of nursing schools<br>▶ Safety of work environment in community-based nursing<br>▶ Social infrastructure and facilities in rural areas deterring nurses from working there<br>▶ Increasing complaints and litigation<br>▶ Low GDP allocation to the health care industry |



# 7 Solutions for nursing reforms



There is an urgent need for nursing transformation at the national and state levels in both the government and private sectors – a transformation that can change the practice of nurses, expand current nursing roles and create new ones, and open up opportunities for nurses to participate in shaping the future health care delivery system. **It should bring about improvements in nursing education, nursing practice, nursing leadership and, over and above everything else, the quality of life of nurses.**

Short-term and long-term solutions are required to reform the nursing sector. From a demand perspective, it is one of the fastest growing professions and thus offers a strong career opportunity for today's youth, even in times of economic recession.

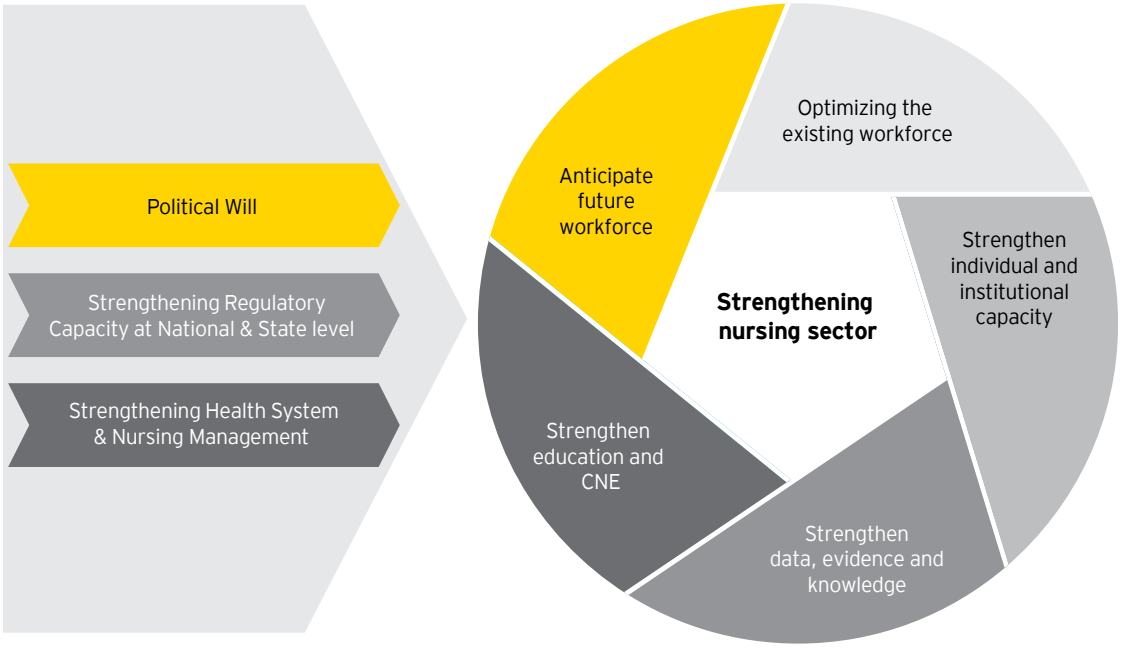
> ***Nurses today place greater emphasis on using a scientific approach for giving evidence based care to their patients. What is required now is that they get the right job roles as Nurse Clinicians, Clinical Nurse Specialists, and Researchers to utilize their skills to the maximum.***
>
> - Prof (Dr.) Bimla Kapoor
> Dean - IL&FS Skills Health Academy
> *Former Director and Professor, SOHS, IGNOU*

FICCI proposes an integrated framework to strengthen the sector, focusing on:

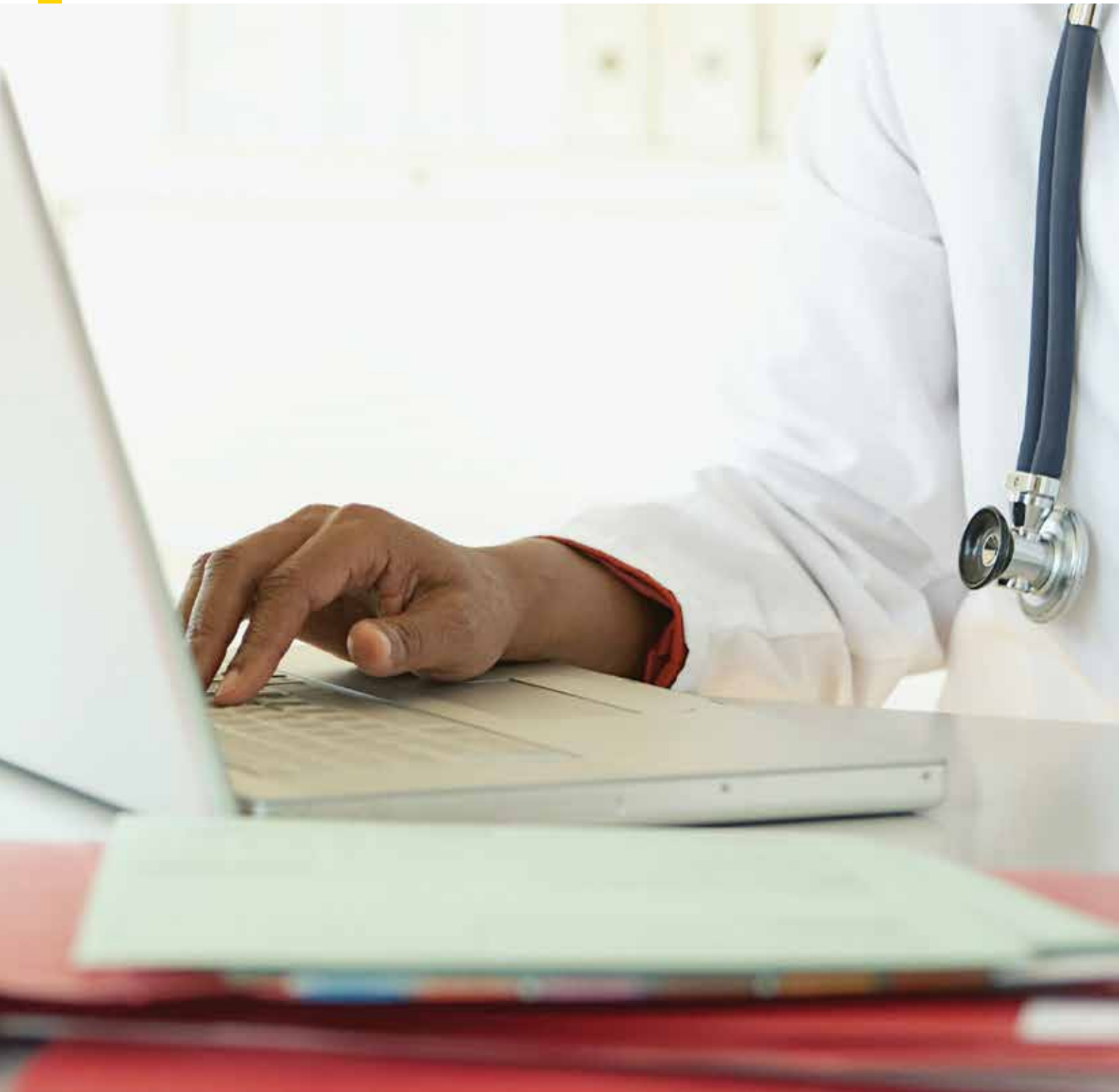
1. Optimizing the existing workforce
2. Anticipating future workforce
3. Strengthening individual and institutional capacities
4. Strengthening data, evidence and knowledge
5. Strengthening nursing education

These five components are dynamic in nature and will need to be revisited and realigned with the changing health care industry. The success of these five steps will critically depend on political will, regulatory capacity at the national and state levels, and robust health systems and nursing management mechanisms.

**Figure 10: Framework for strengthening nursing sector**



# 8 Roadmap with 30 recommendations for strengthening the nursing sector



The following is a roadmap with 30 recommendations for strengthening the nursing sector. It is followed by an appendix that provides global best practices and case studies from Japan, Thailand, and Taiwan.

| | Recommendation | Stakeholder | Long term/mid-term/short term |
|---|---|---|---|
| **Nursing education** | | | |
| 1. | **Redefining the INC Act:** The Indian Nursing Council Act 1947 was amended in 1957. Since then, significant changes have taken place in the health care practice as well as in technology. So, the reformation of act will enhance the present nursing education system. | INC/SNC<br>National and state governments | Short term |
| 2. | **Skill/competency outcome based nursing curriculum:** All Nursing courses/curriculum developed by INC to be competency based and in consultation with State Nursing Councils, Public Sector Health organizations and other developmental partners, including private sector, since nursing is a global curriculum. | INC/SNC in consultation with Central and State Govt, NGOs, Public sector organizations (WHO, UNICEF etc.), Private sector | Long term |
| 3. | **Applied basic science subjects should be part of the nursing curriculum:** Currently, both science and art graduates can take up nursing studies. So orientation to basic sciences (applied physics, chemistry and biology) should be part of the nursing curriculum. | INC/SNC | Short term |
| 4. | **Merge GNM courses with BSc. (Nursing):** Diploma in general nursing course to be replaced with degree course and to be considered under one Registered nurse and midwife (RNRM)license. | INC/SNC | Short term |
| 5. | **Integrating nursing education with medical colleges:** Nursing education should be provided in institutions with parent hospital and medical college attached instead of imparting it in standalone institutions. It will enable working with the health care team during student period. It facilitates cross-learning, improving team spirit, respect for both professions and developing healthy work environment. | INC/SNC<br>National and state governments | Short term – mid term |
| 6. | **Improving quality of nursing faculty in teaching institutes:** Centers of excellence for nursing faculty and leadership to be introduced in each state along with ensuring availability of experienced faculty for nursing students. | INC/SNC<br>National and state governments | Short term – mid term |

| | Recommendation | Stakeholder | Long term/mid-term/short term |
|---|---|---|---|
| 7. | **Competency based skill testing for licensing:** There should be a common licensing exam at the time of graduation that ensures an optimum level of knowledge and skills before nurses enter the workforce. The exam to comprise of a written segment along with a competency based skill testing to ensure optimum patient readiness. The licensing written exam can be online to ensure convenience. | SNC and Central Govt. | Short term |
| 8. | **Redesigning/upgradation of the existing specialty programmes as nurse practitioner courses. That is all MSC(N) and PB Diploma (N):** The existing specialty nursing course may be redesigned/upgraded to practitioner courses | INC/SNC<br>Central/State Govt., NGOs, Development partners | Short term – mid-term |
| 9. | **Rationalization in the number of nursing institutions:** Need based assessment of the number of nursing institutions as per the population of the state to remove skewed distribution in the number of nursing institutions in every state and to avoid migration of nurses to other states for nursing education. | INC/SNC<br>National and state governments | Long term |
| 10. | **Availability of accurate data of number of nurses passing out and getting registered:** Development of Nurses Human Resources Management System and development of a technology based system for maintaining nurse's live register. | INC/SNC | Long term |
| **Nursing service** | | | |
| 11. | **Compensation should be reviewed from time to time to make the profession competitive and comparable to market trends/other industry benchmarks.** | National and state governments and Pvt. sector | Short term |
| 12. | **Strengthening in-service education through CNE/ e-learning courses:** CNE framework needs to be established uniformly to strengthen in-service nursing education. CNE in the form of e-learning courses should be made available at National/Central level for easy access to any nurse/midwife. | National and State governments, Development partners and NGOs | Short - term |
| 13. | **Public Private Partnership for Nursing Education/ Academic clinic partnerships (with both public and private hospitals):** Formal partnerships between private schools/ colleges of nursing and public health facilities, PHCs and CHCs Taluk hospitals, district hospitals, medical colleges and specialty hospitals where the rich clinical resources/study materials are available. This should be shared to enhance and correlate nursing education with practice within the state. | National and state governments | Short term |

| | Recommendation | Stakeholder | Long term/mid-term/short term |
|---|---|---|---|
| 14. | **Standardization of nursing procedures and protocols:** Nursing procedures must be evidence based, need based and must be standardized for practice uniformly by all nurses across the country in alignment to the accreditation standards of NABH. | INC/SNC<br>Central/State Govt., NGOs, Development partners | Short term– mid-term |
| 15. | **Teaching hospitals should follow NABH standards:** NABH standards should be mandated in all teaching hospitals affiliated with nursing schools and colleges. The NABH standard procedures, protocols and checklists must be incorporated into nursing procedures | INC/SNC<br>National and State/Central governments, NABH | Short term |
| 16. | **Nursing Practice Act:** Nursing Practice Act need to be developed in order to spell the scope of nursing practice based on qualification, designation and license along with safe nurse patient ratios for different services in hospitals | National and State governments<br>Central/State Govt., NGOs, Development partners, Private sector | Short term |
| 17. | **Nurse welfare to be addressed by developing a separate service condition bill for nurses:** There should be a strong emphasis on positive practice environment for nurses to provide a quality health care services. (Supports such as crèches, hostels, meals and safety will make the profession more attractive) | National and State governments<br>Central/State Govt., NGOs, Development partners, Private sector | Short term |
| 18. | **Strengthening Public health programs:** A number of government programs currently focus on training and capacity building of ANMs, ASHAs and even midwives and traditional healers for reaching out to community with services. The public health program can be strengthened further to enable nurses to run PHCs and sub-centers in their local areas and provide basic health care services, prescribe identified medicines and make referrals. | Central/State Government | Short term |
| 19. | Certifications and mid-career skill development: Post-degree specialization courses could be designed to allow even working nurses to take a short time off and pursue them. Added financial benefits on returning to work with a specialization would also serve as an enabler for them.<br>Such specialized courses/certifications can be conducted at select hospitals and centers so that working nurses can pursue them. | INC/SNC<br>National and state governments | Short term – mid-term |

| | Recommendation | Stakeholder | Long term/mid-term/short term |
|---|---|---|---|
| 20. | **Development of Nurses Human Resources Management System** and development of a technology based system for maintaining nurse's live register | | |
| **Nursing admnistration, leadership and management** | | | |
| 21. | **Nursing leadership** should be represented at par with the senior most leadership positions in the health care hierarchy, with appropriate authority and responsibility. | National and State governments<br>Central/State Govt., NGOs, Private sector | Short term |
| 22. | **Empowered and decision-making roles:** Nurse practitioners, nurse consultants and educators to be given opportunities to take up higher and more responsible and independent roles in the industry. | National and state governments, Private sector | Short term |
| 23. | **Appropriate academic preparation for nursing roles of higher responsibility with appropriate compensation:** Facilitation of hospital based ongoing education can prepare nurses for higher levels positions (Unit Head, Infection Control Nurse, Quality Manager etc.) | INC/SNC/ Developmental Partners | Short term |
| 24. | **Performance review and management of nurses:** Key performance indicators for structures, processes and outcomes should be introduced at the national and state levels. These should cover leadership responsibility and accountability, educational institutions and health care facilities. | National and State governments, NGOs, Development partners | Short term |
| 25. | **Exchange programs to promote leadership in nursing:** The Government of India, in tie-up with various international institutions such as Fulbright, Chevening, Commonwealth, UN, WHO and CDC or foundations, can set up international exchange programs for promoting cross learning and leadership in the nursing sector. The focus should be on countries where nursing as a sector is successful. | Central and state government, NGOs, Development Partners | Short term |
| 26. | Progressive and rewarding career pathway: Special positions for general and specialist nurses should be created to ensure that nurses have a clear career path that move towards specialization, along with incentives. | Central and state government in collaboration with public and private health sectors | Short term |

| | Recommendation | Stakeholder | Long term/mid-term/short term |
|---|---|---|---|
| **Accreditation** | | | |
| 27. | Centers of excellence, accreditation, benchmarking and ranking of nursing education: Benchmarking and COE in nursing education should be introduced and recognized through a robust accreditation and ranking processes. Nursing colleges should also be subjected to accreditation and benchmarking and ranking by QCI/ NABET/NAAC. | National and State governments, NGOs, Development partners | Mid term |
| **Research and innovation** | | | |
| 28. | **Nursing research web pool for utilization:** All nursing research conducted by the scholars need to be pooled under one website to guide the future researchers and to apply the findings of new knowledge in the nursing profession. | ICMR / University /SNC / Central Government /NGO's / Developmental Partners | Short term to mid term |
| 29. | **Nursing cell in ICMR:** There should be a separate wing in ICMR to promote nursing research in the country. | Central/state government, ICMR | Short term |
| 30. | **Research to be relevant and current:** Research conducted by nursing scholars to be designed with sole purpose of improving healthcare delivery as a whole along with improvement in nursing as a profession. Can be done in collaboration with private sector. | INC/SNC/Private sector | Mid - Long Term |



# 9 Conclusion

Strengthening nursing sector is critical for strengthening the health sector in India. There is a significant gap between the demand and supply of nurses in the health sector. Also, nursing education continues to be outdated and not catering fully to the current industry needs. There is a need to overhaul the nursing education and curricula and at the same time there is a requirement for bringing necessary changes that can turn nursing into an attractive profession. The 30 recommendations in this report are primarily around policy reforms, human resource development, strengthening the nursing practice and education. Some of these include mainstreaming of nursing education with medical education, instituting common entrance exam, common outcome based licensing exam, review and revision of Indian Nursing Act, institution of a nursing practice act, bringing income parity, improving nurse – patient ratio in hospitals to improve their work life balance, grooming nurses for leadership positions, investment into and promotion of systematic research in the nursing sector. The national and state Governments need to join hands with the private sector to make this possible.

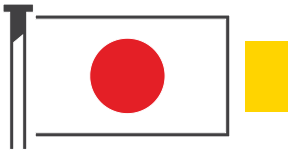




# Annexure 1: Global Best practices and case studies: Japan, Thailand and Taiwan



# Japan



Japan, which consists of four major islands as well as thousands of smaller islands, has a population of over 127 million. Japan has provided several means and opportunities for its population to join the health care industry, acknowledging the fact that the majority of the population is shifting toward old age. Japan's major focus is on increasing the nursing base because it is a major pillar of the health care industry. In order to accomplish that Japan did amendments in the policy to produce more number of nurses. Japan established its first nursing university in 1952. By April 2006, Japan had 146 universities and colleges offering a bachelor's degree in nursing. Of these universities, 87 provide postgraduate nursing education, including 37 that offer doctorate-level courses (JNA, 2008a).

## Career pathways

**General nursing licensure:** There are several levels of "generalist nursing qualifications" in Japan, including licensed practical nurse (LPN), registered nurse (RN), public health nurse (PHN) and midwife

**LPN:** LPNs are also known as practical, assistant or associate nurses. Junior high school students who seek to become an LPN usually attend a high school nursing program or an assistant nursing school and are required to pass a prefectural (state) assistant nursing examination. LPNs are permitted by law to carry out many of the same duties as an RN under the direction of a doctor, dentist or RN.

**RN:** Senior high school graduates have several options available to become an RN. The basic route is to study at a university in a four-year nursing program to obtain a bachelor's degree.

**PHN:** Nursing graduates from universities are qualified to take the PHN National Board Examination.

**Registered nurse-midwives (midwife):** Only female RNs are eligible to become midwives. The law prohibits males from pursuing midwifery education or taking the examination.

## Advanced specialization and post-licensure

For advanced specialized licensure, certification standards are developed by various nursing organizations and academic societies such as the JNA because national qualifications for these exams have not been standardized by the Government. There are three types of advanced specialized licensures: certified nurse (CN), certified nurse specialist (CNS) and certified nurse administrator (CNA). The JNA certifications are renewable every five years.

**CN:** Nurses must have at least five years of clinical practice (three years in the specialty area) to be eligible to enter a CN-regulated curriculum. CN educational programs usually take six months to one year to complete. The certification examination is offered by JNA. CNs provide advanced nursing practice, leadership and consultation in 19 specific areas: emergency, wound/ostomy/continence, intensive care, palliative care, cancer chemotherapy, cancer pain management, visiting nursing, infection control, diabetes, infertility, neonatal intensive, dialysis, perioperative, breast cancer, dysphagia, pediatric emergency, and dementia nursing.

**CNS:** Nurses must have at least five years of clinical practice (three years are in the specialty area, of which one year is practice after graduation) and graduate with a master's degree to be eligible to take the CNS examination offered by JNA. CNSs are advanced practice nurses with expertise in one of 10 specialized areas: cancer, psychiatric mental health, community health, gerontology, child health, women's health, chronic care, critical care, and infection control nursing. CNSs can positively influence care by providing advanced patient assessment and expert consultation to patients in their area of specialty. They may also take on a higher level of clinical and professional leadership as well as participate in research activity.

**CNA:** Nurses who have over five years of clinical practice and management experience, as well as a master's degree with a major in nursing management, are eligible to take the CNA examination offered by JNA. Certified nurse administrators are involved in issues of nurse management, organizational development and cost-effectiveness programs

### Career development opportunity

A specific career advancement opportunity for nurses in Japan is that of specializing in the area of gerontology. Japan will have the world's oldest population by 2020, with over 31% of the population over 60 years of age (Ogawa & Matsukura, 2005). Nurses with specialized knowledge and training will increasingly be needed to plan and deliver quality care to the older populations. Currently, it is a critical nursing workforce issue considering the shortage of nurses as well as the lack of advanced practice nurses trained in gerontological nursing.

## Thailand



The first school of nursing and midwifery in Thailand was established at Siriraj Hospital in Bangkok in 1896. Thailand has a strong nursing sector. Some of the practices are listed below.

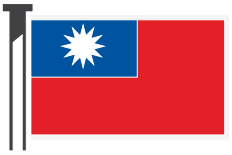
### Career pathways

**General nursing practice:** To obtain a registered nursing license, students who have earned a BSN degree are eligible to take the national licensing examination. Students who may have attended a two-year technical nursing program, popular in the 1980s, and received an associate degree in nursing (ADN), are eligible to pursue two additional years of nursing education to obtain a BSN.

**Advanced nursing practice:** As in Japan and Taiwan, advanced practice nurses (APNs) are required because of the demand for increased specialization in patient care and health promotion. The Thailand Nursing Council has established national standards for licensure and examination of all APN programs. Candidates pursuing licensure as an APN, whether CNS or NP, must complete a master's degree in nursing through the university-based system. CNS specialization areas include medical and surgical, pediatric, mental health and psychiatric, geriatric, and maternity nursing. NP specialization is currently focused on community health.

**Career development opportunity:** In Thailand, due to a lack of physicians, there is a crucial need for APNs to work in primary care settings, especially those located in the rural parts of the country. Nurses in rural practice face many challenges, such as geographical isolation and limited resources, making it difficult to attract nursing professionals to work in rural health care delivery (Chinlumprasert, n.d.). To meet this need, the Nursing Council of Thailand, along with government assistance, must continue innovative initiatives to entice advanced practice nurses into the area of rural health care.

# Taiwan



**Nursing in Taiwan:** The first official nursing program in the country was set up in 1947 by the Taiwanese Government (Chen, 2005; Shiau & Chen, 1997). As the demand for nurses increased, academic programs in nursing were established at the vocational level in high schools, as well as in institutes, colleges and universities. The first graduate nursing program offering a master's degree was started in 1979, and the first doctoral program began in 1997 (Department of Health, 2000). By 2008, educational programs to meet the demands for nursing professionals had expanded to 39 schools, including 14 associate, 25 undergraduate, 16 master's and 11 doctoral programs (Department of Statistics, 2008). The Nurses Association of the Republic of China was first founded in 1914 and later renamed the Taiwan Nurses Association (TWNA) in 1999. The TWNA works to promote the standards for professional nursing practice, education and research on both the national and international levels (TNA, 2008).

## Admission requirements

The minimum requirement to practice nursing at a professional level in Taiwan is that of being an RN. Hospitals and other health care institutions offer various programs to train nursing assistants. However, nursing assistants are not licensed as professional nurses and usually work under the guidance of RNs performing basic nursing tasks.

## Career pathways

**General nursing practice:** There are two types of licenses recognized in Taiwan to practice nursing: RN and RPN. The Ministry of Examination in Taiwan offers both RN and RPN license examinations. Both exams are comprehensive in scope and cover subjects in basic medicine, pathophysiology, pharmacology, medical-surgical nursing, pediatric nursing, maternal-child nursing and psychosocial nursing. The RPN examination is considered more difficult because it tests more theoretical and conceptual nursing knowledge as well as advanced medical knowledge.

**Advanced nursing practice:** In 2000, Taiwan began the development of an NP system to improve collaboration between physicians and nurses and to provide continuous and comprehensive patient care. Previously, nurses in many hospitals and some clinics who were acting in advanced roles were often viewed as "physician assistants." In recognition of the expanding role of nurses in the health care system, the Department of Health established national standards for training and licensure for NPs to ensure a high level of competency as APNs.

**Career development opportunity:** Chronic diseases present an important area for career development in Taiwan, where 8 out of 10 leading causes of death are due to chronic diseases (Taiwan Government Information Office, 2008). For patients with chronic diseases and their family, the provision by health care professionals of terminal care support has been insufficient. Although Dr. Co-Shi Chao (known as the "Mother of Hospice Care") has been promoting the need for hospice and palliative care since 1993 (Chao, 2005), cultural acceptance of the hospice concept, the living will and the DNR directive has faced some resistance in the general society. Recently, with the support of the Government and religious and medical leaders, the need for hospice and palliative care services has become more widely accepted in Taiwanese society. To address these needs, more nurses need to be prepared at the advanced practice level to offer palliative treatment and support in acute care hospitals, home care settings and hospice centers.

# Annexure 2: Acronyms and Abbreviations



| S No. | Acronym | Description |
|---|---|---|
| 1. | AACN | American Association of Critical Care Nurse |
| 2. | ANM | Auxiliary Nurse Midwife |
| 3. | AYUSH | Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy |
| 4. | ASHA | Accredited Social Health Activist |
| 5. | ADN | Associate Degree in Nursing |
| 6. | APNs | Advanced Practice Nurses |
| 7. | BSN | Bachelor of Science in Nursing |
| 8. | CDC | Centre for Disease Control |
| 9. | COPD | Chronic Obstructive Pulmonary Disease |
| 10. | CME | Continuous Medical Education |
| 11. | CNE | Continuing Nursing Education |
| 12. | CN | Certified Nurse |
| 13. | CNS | Certified Nurse Specialist |
| 14. | CNA | Certified Nurse Administrator |
| 15. | CRBSI | Catheter - related bloodstream infection |
| 16. | CRUTI | Catheter - related urinary tract infection |
| 17. | DNR | Do not resuscitate |
| 18. | ER | Emergency Room |
| 19. | GDP | Gross Domestic Product |
| 20. | GoI | Government of India |
| 21. | GNM | General Nursing & Midwifery |
| 22. | HDU | High Dependency Unit |
| 23. | ICU | Intensive Care Unit |
| 24. | IFI | International Financial Institutions |
| 25. | IMR | Infant Mortality Rate |
| 26. | INC | Indian Nursing Council |
| 27. | LHV | Lady health visitor |
| 28. | NHM | National Health Mission |
| 29. | NP | Nurse Practitioner |
| 30. | NABH | National Accreditation Board for Hospitals & Healthcare Providers |

| S No. | Acronym | Description |
|---|---|---|
| 31. | OT | Operation Theatre |
| 32. | OPD | Out-patient department |
| 33. | PHC | Primary Health Centre |
| 34. | PHN | Public Health Nurse |
| 35. | RN&RM | Registered Nurse & Registered Midwives |
| 36. | RN | Registered Nurse |
| 37. | RPN | Registered Professional Nurse |
| 38. | SWOC | Strength Weakness Opportunity Challenges |
| 39. | SNC | State Nursing Council |
| 40. | TNAI | Trained Nurses Association of India |
| 41. | TWNA | Taiwan Nurses Association |
| 42. | UN | United Nations |
| 43. | UHC | Universal Health Coverage |
| 44. | VAP | Ventilator Associated Pneumonia |
| 45. | WHO | World Health Organization |
| 46. | WB | West Bengal |



# Acknowledgements

We are grateful to the entire FICCI Task Force on Nursing Reforms who provided their guidance and inputs in preparing this report.

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EYIN1608-073
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