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particular. They are also working with their specialty committee to help transition all orthopedic training programs in Canada to become competency-based, as per the Royal College Competence by Design mandate, and are working with colleagues at the American Board of Orthopedic Surgeons to see how they transitioned to competency-based training.

10. University of Alberta

One challenge for the school is the reengagement of clinical faculty.

11. College of Physicians and Surgeons of Manitoba

Like many of the other Canadian regulatory bodies, the organization is challenged by the introduction of a broad-based, formal regulation for all health care providers (part of a revalidation movement).

12. University of British Columbia

After undergoing a substantial growth and expansion in the distribution of both its undergraduate and postgraduate medical education, the school will now focus on consolidation and will be challenged by determining how to grasp opportunities and challenges that come along with that process.

13. Memorial University

A major challenge for the school is competency-based medical education, specifically how to deal with the weaker residents (appeals and remediation).

14. University of Calgary

From the postgraduate perspective, the school is challenged by the implementation of competency-based medical education. More broadly, the Cumming School of Medicine is initializing its strategic plan and is working to strengthen its local and global partnerships, and to enhance its focus on social accountability.

15. Collège des médecins du Québec (CMQ)

In light of Quebec's recent transformation in how care is delivered, the organization is facing the challenge of ensuring that the quality of residency training stays the same or improves within that new environment and the reality of decreased health care resources.

16. Queen's University

A big challenge for the school is to get approval to transition all of its Royal College specialties to competency-based education over the next two years.

17. University of Ottawa

Competency-based medical education was identified as a big challenge, specifically the associated IT challenges with implementing CBME. The university has been working with its IT Department and PhD educationalists to develop electronic tools that can facilitate assessments being done on iPads and computers.

18. McGill University

Competency-based education is the school's biggest challenge, in particular within a difficult reform to the province's health care system and a bunch of cuts. The school perceives an opportunity for true collaboration with allied health care professionals and colleagues across the country and globally to build and effectively use existing resources.

19. University of Saskatchewan

The school's biggest challenge is to have an effective system of distributed medical education at the undergraduate and postgraduate levels.

20. Canadian Nurses Association

One of the association's main challenges is the implementation of its strategic plan that is centered on primary health care and the advancement of the certification of its specialty nursing programs.

21. Northern Ontario School of Medicine

The school is challenged with transitioning from being a start-up to a sustainable business model of distributed, community-engaged learning. They are looking for ways to continue to support, develop and engage its 1300+ clinical faculty across Northern Ontario.

22. McMaster University

The school is trying to find ways to build on its history of innovation in medical education as they enter into Competence by Design and competency-based medical education and to try to make sure that they bring that strength forward in their planning and implementation.

23. Pontificia Universidad Católica de Chile

One of the university's biggest challenges is to achieve excellence in international standards of its 65 postgraduate programs and to spread that experience in the rest of Latin America.

24. Peking University First Hospital (PUFH)

The hospital has collaborated with the Royal College for the past 3-4 years and is working to introduce CanMEDS across the country. Their main challenge is accreditation from the Royal College.

25. Hong Kong Academy of Medicine

Their biggest challenge is credentialing, regulating what physicians can do, where they do it and when they do it.

26. The Hong Kong Academy of Anaesthesiologists

Their biggest challenge is their ongoing process to revise their curriculum, which is more than 10 years old. They are updating it to a competency-based curriculum.

27. Royal College of Surgeons in Ireland

Like many surgical training bodies, they face the challenge of continuing to make a surgical career practical for trainees – particularly those in "generation X." They are also working to identify an approach to deal with bullying and harassment within the culture of surgical training.

28. Kuwait Institute for Medical Specialization (KIMS)

The biggest challenge for this institute is to continue to progress in its collaboration with peers and the Royal College of Physicians and Surgeons of Canada; and advancement of work in assessment, faculty development and communication.

29. Lebanese American University

The school implemented CanMEDS seven years ago and its biggest challenge is accreditation at the graduate and postgraduate level, as well as looking at ways to collaborate with the Royal College of Physicians and Surgeons of Canada to continue to deliver world class education in a small country.

30. Facultad de Medicina UNAM

One challenge is to have the global medical education research community output that's put in scholarly journals and starting it within our own medical education for the university.

31. Patan Academy of Health Sciences

Their main challenge is determining how to deal with the unstable political situation and still manage to get leaders to innovate and commit to improve the health of populations.

32. Tribhuvan University Institute of Medicine (Nepal)

One challenge for the institute is how to improve their postgraduate medication training, without taking attention away from undergraduate education.

33. University Medical Center Groningen

The school recently introduced a new undergraduate and graduate medical program based on CanMEDS and the Lancet Commission report. Their greatest challenge is to now include leadership in their medical programs to educate young doctors to become change-agents.

34. Royal Australasian College of Surgeons

Two main challenges: (1) working with their specialty societies to eliminate bullying, harassment and discrimination from their training programs; (2) determine how to assess the progress and stage of their trainee, provide effective feedback and a more collaborative model of training as they move further into competency-based training.

35. West African College of Surgeons

Their challenge is to harmonize the standards of training between Anglophone and Francophone members, as well as move as much of their training as possible out of big teaching hospitals and into community hospitals.

36. Oman Medical Specialty Board

Their biggest challenge is getting international accreditation for all of their programs.

37. College of Physicians and Surgeons Pakistan

Their challenge is to maintain an accreditation standard – find enough places and maintain them among an ever increasing number of postgraduate schools.

38. Philippine College of Physicians

Their biggest challenge is working with specialty and subspecialty groups; it's common practice to have different specialties organizing their own subspecialties, the problem is trying to convert that and take only eight specialty societies to try to harmonize and standardize their specialists.

39. King Saud bin Abdulaziz University For Health Sciences

The school's challenge is to make all residency training programs in their organization comply with international accreditation standards.

40. Sudan Medical Specialization Board

They are challenged with responding to a growing demand for health care and medical speciality in the country and region, while at the same time maintaining and improving the quality of its medical program.

41. Karolinska University Hospital Institute (University of Sweden) and residency programs in Stockholm

They cover all 2000 residents in 50 programs, which is itself challenging and now complicated by a transformation in the health care system for the university in Stockholm: they are abandoning the department as the ultimate viewpoint for the speciality and moving to an extreme value-based health care system. This change poses many challenges, particularly for planning new curriculum.

42. University Hospital of Wales

This university representative candidly shared that their biggest challenge is to prevent their government from destroying what she thinks is the best residency program in existence.

43. General Medical Council

Their main challenges relate to the three "G's": (1) Goldilocks bureaucracy: how to create a regulatory framework that enables all educators to do the right thing as lean and efficiently as possible; (2) Globalization: the European Union allows free movement of people but doesn't always ensure that the standards are equivalent; (3) Global views around professionals: there has been great work done around competency and granulating health care practice, but would like to see how we can perform a global view around professionals and how we promote excellence and not just tolerate competence.

44. Royal College of Physicians of London

The college drafted its charter almost 500 years ago and has taken on the challenge of trying to redefine what the role of the hospital is in today's society. This has implications for the balance between generalism and specialism, the relationship between hospitals and communities, and for education. A second speaker (medical director of joint Royal Colleges) added that a challenge is to reform all of their curricula to deliver the patient challenge of aging, chronic disease management and complexity and at the end of the day trying to reverse or improve a little bit overspecialization.

45. Royal College of Physicians of Ireland

The college recently had an external review and the greatest challenge is implementing competency-based medical education and retention of their trainees, many of whom leave the country to practice elsewhere.

46. Royal Australian and New Zealand College of Psychiatrists

Their challenge is implementing a competency-based scholarly program.

47. Federation of State Medical Boards

One current challenge is medical education of regulation at medical school level and pos-medical school; they are also in discussion with medical regulatory colleagues about revalidation (or maintenace of licensure).

48. Sultan Qaboos University

They have a local challenge of unifying their programs for accreditation by an international institution.

49. ACGME International

Their challenge is to help members through accreditation and to reach standards they wish and need for their citizens.

50. French Federation of Medical Specialties (Fédération des Spécialitiés Médicales)

There are now three representative structures that work together. They are challenged by continuing professional development and thinking about recertification of doctors and to professionalize the professional experiences of each specialty.

51. China National Medical Education Center

A major challenge for them is implementing reforms to improve the efficacy of their tests and to make better links between medical education and the examination.

52. Association of Faculties of Medicine of Canada

Their major challenge is to take all the wonderful work done by their medical education partners and accreditors and find a way to implement that in an environment where schools are dealing with reduced resources and funding.

53. The College of Family Physicians of Canada

Their major ongoing challenge is to ensure their residency curriculum and training accreditation standards and subsequent continuing professional development provides the cognitive, procedural and cultural skills and attitudes needed to provide generalist care and comprehensive care to establish enduring relationships with patients and communities of different sizes in Canada.

APPENDIX B: ROUNDTABLE DISCUSSION SLIDES

Below is a compilation of roundtable responses under each of the four assigned themes, arranged by table number.

I. Specialization vs Generalism

II. Mobilization of Leadership

III. Shaping health education to fit global health issues

IV. Competency Based Medical Education (CBME)

Specialization vs Generalism

- Table 1
- Table 3
- Table 5
- Table 7
- Table 11
- Table 15
- Table 17

Table 1

- **How have you utilized the Lancet report to implement the transformation in your system?**

- China:
  - Exam board representation
  - Current – two stages (clinical skills, clinical writing), both taken one year after graduation from medical school; physician association in charge after residency and exams are institution-based
  - Transformation – research on multi-stage exams
  - System and culture – specialization
- Lebanon:
  - Four-year medical degree (North American model); 12 residency programs – passing defined by the program
  - Transformation – accreditation for medical degree and residency programs
  - System and culture – specialization
- Canada:
  - Good mix of generalist and specialist, but still push for more specialization

- **With increasing trend toward specialization, how can a system of education ensure best care of populations?**

- Create a culture where generalists are valued and respected
- Help population understand the benefits of generalist care – educate patients
- Value and benefit to the patient
- Value to trainees – should consider making a generalist a specialty
- In China – want to see specialist
  - Believed to be more educated

    - Specialist = smarter
    - Specialists are paid more
- Huge culture shift
- Educate the population!

- **Is generalism valued in health care/educational systems? Why or why not?**

    - China – no; specialist seen as smarter, paid more, knows more, more experience
    - Lebanon – no; specialist seen as smarter, paid more, knows more, more experience, has studied more/more educated
    - Canada – yes; must go through family doctor to see specialist; many would like to be able to avoid family doctor if they could

- **What system requirements are required to commit to generalism?**

    - Public support
    - Change in perception/value of generalist
    - Remuneration
    - Political changes

Table 3

- **How have you utilized the Lancet report to implement the transformation in your system? – not on topic, our use of report**

    - Netherlands: Medical students (400) divided into four communities of practice (e.g. global health, sustainable health care etc.) with faculty of similar interests – one group has focus on generalists – emphasis on geriatrics
        - Sharing (e.g. on leadership development)
    - Australia: moving towards CBME in postgraduate (hybrid model)
    - Mexico: Our ability to enact recommendations when we are in positions of power in politics
    - TISLEP – international collaborative for MD leadership development, co-production with patients and learners, but should we be doing inter-professional leadership curriculum development?

- **With increasing trend toward specialization, how can a system of education ensure best care of populations?**

        - Different patient outcomes vs equity of access (geography)
        - Subspecialization
        - Intensive care – physical and logistic (e.g. anesthesiologists covering intensive care)
        - Patient-centered – good triage, handover, team – GP/consultant
        - Educational standards & team-based care
        - Credentialing standards
        - Regionalization/hybrid networks/other practitioners – configuration of service that is patient-centered
        - Surveillance of standards – big data
        - Traveling doc

- **Is generalism valued in health care/educational systems? Why or why not?**

    - Covert pressure – hidden curriculum, prestige, not rewarded, not accepted by patients/families
    - On the other hand we want a primary care provider/generalist providers in our teams
    - Our MD profession - Influences of public perception
    - Episodic clinics vs continuity clinics

- **What system requirements are required to commit to generalism?**

    - Education
    - Regulation
    - Public perception – realization of value

Table 5

- **How have you utilized the Lancet report to implement the transformation in your system?**

    - Yes, in general terms
        - Move to competency-based education
        - Breaking down silos between teams= intraprofessional
        - Meeting needs of community (Northern Ontario School of Medicine, social accountability mandate)

        - **With increasing trend toward specialization, how can a system of education ensure best care of populations?**

    - Matching human health resources training to overall geographic needs, get graduate training where they are needed (most graduates practice in area where they did GME training)
    - Making generalism more desirable through 'generalism plus' idea (i.e. advanced expertise in an area)
    - Graduate as generalist, upscale according to local needs through modular training

- **Is generalism valued in healthcare/educational systems? Why or why not?**

- Not universally
- Problem is we don't consider population health needs when someone decides their specialty training
- Arrogance of the individual?
- Reward system does not value generalism
- Challenge includes selection criteria to medicine
- Need more accountability between MD and publically-paid system where for example a FHT would be responsible to geographic area rather than cherry picking patients
- In some systems it is valued (Northern Ontario School of Medicine)
- Think that specialties are only ones who generate new knowledge
- Competency-based model could work either way

- **What system requirements are required to commit to generalism?**

- Social accountability mandate, make it a principle:

        - Practice at peak of scope of practice
- Cycle back to health service needs

Table 7

- **How have you utilized the Lancet report to implement the transformation in your system?**

    - Two levels: front line care and system level
    - Assumption that we need more generalists: is there consensus?
    - Have we done the population a disservice by specializing to the extent that we have in all professions?
    - Increasing complexity in patients' health care needs
    - How do we help generalists meet special needs in terms of care?
    - Ensure that those patients who do need specialists have access to them.
    - Multidisciplinary approach may be preferable to a generalist approach (better integration of family physicians and specialists).
    - A strong primary care level is essential to preventive medicine.
    - Lancet report hasn't necessarily been used, as such, much of the work has been common sense.
    - Integrated teams (across professions) are important for knowledge sharing in order to better meet the needs of patients.
    - Specialists should constantly be working with students.

- **With increasing trend toward specialization, how can a system of education ensure best care of populations?**

    - Many public health interventions have had a greater impact on health – these are not necessarily within the purview of physicians who have more impact on individual health.
    - Young physicians working in the periphery are forming stronger networks.
    - Values are fundamental
    - Networks of care: integration of public health with health care workers (systems)
    - Technology can help diminish distances (break isolation) in order to favour networks.
    - Policy and infrastructure are key (ex. SARS crisis in Ontario because public health infrastructure was underfunded).

- **Is generalism valued in healthcare/educational systems? Why or why not?**

    - It's not valued
    - The teachers are specialists.
    - Research and publications are done by specialists.
    - Very difficult to be a good generalist.
    - Not as respected as specialized medicine.
    - Too much lip service paid to generalists but they're not compensated adequately.
    - Patient expectation to see a specialist even though it may not be necessary.

- **What system requirements are required to commit to generalism?**

    - Power, politics and pounds.
    - Student debt pushes med students towards specialization.

Table 11

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - Improvement has been in the big cities/western style medical schools; 1960-70's China became isolated.
  - Strictly to be curriculum-centered
  - Recently seeking to apply problem-based learning – early 2000's, 2006-08
  - Difficult to move such a large system quickly
  - Caring about narrow processes
  - The report provided a context for change
  - Using PBL to drive team-based approach

- **With increasing trend toward specialization, how can a system of education ensure best care of populations?**

  - Learning team-based care is key
  - Collaboration
  - Consider how to ensure focus on people/humans and not solely the disease condition
  - Ensure students know how to use problem solving to serve the whole patient

- **Is generalism valued in healthcare/educational systems? Why or why not?**

  - In big tertiary hospitals perhaps not due to complexity
  - Doctor – you don't belong to me
  - The system may reinforce the physician to specialize
  - Different systems are structured to 'flow' patients first through generalists
  - In some systems, the specialist is seen as 'more' expert

- **What system requirements are required to commit to generalism?**

  - In undergraduate, provide experience in community health centres
  - General practitioners be part of the education process
  - Value research and publishing focused on generalism
  - Build generalism into accreditation
  - Commonly available information will support a 'generalism' approach (i.e. Electronic Patient Records)

Table 15

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - How to change?
  - In certain areas – balance of generalist/specialist is reversed
  - What about rewards/salary/promotions/academic
  - Value similarly
    - o But still disagreements regarding longer training being valued more highly
  - Why is specialty training longer than generalist training??
  - Design training paths based on outcomes?
  - Efficiency of training?

- Context of training matters; patient populations are very different

- **With increasing trend toward specialization, how can a system of education ensure best care of populations?**

  - Academic structure is an issue
    - Research, promotion requirements
    - Specialist societies in silos
  - Define what is needed for generalist competencies
    - Curriculum/labs/imaging/therapeutics/continuum of care
  - Not in the structure of current training in Canada at present
  - Maintain general competencies once in practice – (e.g. general intake of GI for a percentage of time)
    - Don't lose the general competency
  - Systems issues – access choices made by patients vs gatekeeper role of generalism
  - Start with outcomes – if patient choosing inappropriate specialist → gap of care

- **Is generalism valued in healthcare/educational systems? Why or why not?**

  - Sweden - seven medical themes in hospital and five functional areas
    - many different specialties in each thematic area
  - Aligns with Greenway Report
    - no training programs in Cardiology, for example
    - start all with general training and then specialization based on workplace-based requirements – more of a CME approach
  - How to train for this?
  - Competencies for generalism – specialists should have them also
  - Always look at the patient as a whole

- **What system requirements are required to commit to generalism?**

  - Define generalism
    - Challenging
    - Distinguish generalism vs generalist
      - "ist" Individual practice broad-based
      - "ism" Important for all
      - How to meet broader needs of community
  - Early general training leads to more/better patient-centered care
  - Reform the UME curriculum – define exit competencies for generalism
    - Then specialize
    - Internship a "waste of time"
    - Where to train for this?
    - Are the tertiary hospitals the "right place" for generalist competencies

Table 17

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - Moving toward competency-based education moving to using general competencies
  - First issue – what does it mean to be competency-based and understanding the concept not only from residency education but also faculty development
  - Time-based versus competency-based

Mobilization of Leadership

- Table 2
- Table 4
- Table 8
- Table 10
- Table 11
- Table 12
- Table 14
- Table 18

Table 2

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - Categorical no
  - Informing, yes, Kuwait
  - Partially, yes, Sudan
  - Centralised system weak - link in this policy particularly
  - Philosophy driving policy…

- **How can you enhance leadership capacity?**

SYSTEM » Monoculture » Unconscious bias » Leadership cultures » Transactional leadership	EDUCATION » Raising awareness » Articulate need » Include Outcomes » Leadership » Faculty development » Champions » Danger of Informal arrangements
IMELF » Individual » Champions » Role models » Mentors » Standards » Fellowships	REGULATION » Set outcomes » Include in curricula » Credentialing » Assurance » Caution on over regulation – Goldilocks » Importance standards

- **Is there anything unique about leadership in medical education?**

  - Generic vs contextual
  - Safety and patients
  - Types and principles
  - Followership and leadership
  - Credibility as a professional
  - No longer a proper doctor
  - Dual role in leadership
  - Uniqueness of service provider and education

- **What specific strategies can global education leaders do to promote collaboration?**

  - Collegiality
  - Networking
  - Community of practice leaders
  - FMLM HMI
  - Leadership is lonely
  - Sharing novel practice
  - FIRE and pilot GMC
  - Criticality – academic discourse

<u>**Table 4**</u>

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - No one had used the report; however there was use of the concepts
  - Regulator at the table noted the requirement as part of the continuing professional improvement of physicians
  - Curriculum being developed in various programs in Australia, Canada and United Arab Emirates

- **How can you enhance leadership capacity?**

  - Not everyone is a leader – but should be identified through education process (as early as medical school but also later – internship and residency)
  - Different levels of leadership. How do you facilitate the development of leadership which includes "followership"?
  - Leadership occurs in different environments and has different requirements – within practice, within the profession within the team within the system.
  - Simulation and stimulation is critical to leadership development.
  - Often the educational colleges leave it at the program or discipline level.

- **Is there anything unique about leadership in medical education?**

  - Trust is required
  - Followership is critical
  - Respect and listening, while not unique to medical systems, is absolutely essential when dealing with different professions in the same system
  - Ability to recognize their limitations and the power of their societal position
  - Avoid "generalization of expertise"; even extends to teaching, the cultural recognition of wisdom "Hakeem"

- **What specific strategies can global education leaders do to promote collaboration?**

  - Promote leadership - system doesn't tend to recognize the role of medical leadership. Leadership is not valued as much as the clinical work – requires better recognition
  - Divergence between education and health funding: Iran has ministry of health and medical education; Memorial University in Newfoundland has funding for medical

school from Ministry of Health); Australian hospitals pay the postgraduate student but not the teachers.
- Examples of drivers of change: "Queens Conference" of 1965 placing postgraduate education under University oversight; increasing the role of accreditation driving change – happening internationally; United Arab Emirates has accreditation from the MOH, often their main driver of change; Ait was noted that NHS recognizes role in education and provides time for professional development, not happening as much in Australia.

- **What specific strategies can global education leaders do to promote collaboration?**

  - Group meetings such as IMELF to create political environment supportive of medical education
  - Sharing lessons from political decisions - Canada's increase in numbers of undergraduate students resulted in almost all physicians becoming teachers – this drove the need for new skills and professional development
  - Supporting medical education as a legitimate professional development – illustrated by issue that most postgraduate teachers are often voluntary and therefore professional development is not as available, supported or rewarded

Table 8

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - Generally no, but many of the Commission concepts have been enacted
    - Interprofessional education
      - \Australia: forum on health professional education generated new models and reduced barriers (e.g. kids with mental disabilities: students in medicine, physio etc., and families both gained new knowledge)
      - Ireland, professional educators know of Lancet report but also coincidence that educational system was also moving in many similar directions (e.g. clinical scenario populated by learners from different professions)
    - Transformational learning
      - Moving all beyond PBL may confuse so need to parse out
      - Via CanMEDS collaboration centers

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - King Abdulaziz Medical City: CanMEDS collaboration centers as example of Leadership
  - Competency-based education
    - Australia: embracing CBME in many disciplines and has mobilized the leadership
    - China: Royal College/Peking University collaboration agreement, use CanMEDS; faculty development; and train the trainer inculcates leadership; competency-based medical education

- **How can you enhance leadership capacity?**

  - Australia, UK: popular in health services settings to promote targeted (to specific individuals) and tailored (to the context/needs of health service/community) leadership learning opportunities and participating in organizational leadership (shape health system and learners' needs)
  - King Abdulaziz Medical City: Canadian Medical Association's Physician Manager Institute program helpful; developing future leaders could be done through CanMEDS Leader Role
  - Beijing First Hospital: Government has recognized need (problem) and provides financial support to residents in recognized (accredited) programs; process of assessment will weave leadership throughout through CanMEDS and collaboration with Hospital; past Rockefeller programs

- **Is there anything unique about leadership in medical education?**

  - No
  - If take EPAs, lights are turning on throughout the world and provides a pathway for leadership that did not exist before
  - Has medical educational leadership delivered to other leaders? Looking at car manufacturing and other domains, the answer is still no
  - Fail to learn from other sectors (e.g. Harvard-Macey program was founded on lessons from other sectors, building teams)
  - Caution to evolve medical leadership to embrace broader vision

- **What specific strategies can global education leaders do to promote collaboration?**

  - Looking at international support in Africa (for example, care must be given to identify true needs of recipient)
  - Inter- and trans-professional, international, institutional levels of collaboration
  - Open silos: Leaders must be ready to go beyond the interests of their professional group
  - Collaboration between different countries is essential (e.g. dealing with pandemics, tackling innovation)

<u>Table 10</u>

- **How can you enhance leadership capacity?**

  - Teach > medical skills/competencies
  - Focus on system leadership as well as personal leadership capacities – CanMEDS 2015 roles
    - People need competencies and skills
  - Empowerment; increase level of leadership knowledge
  - Personal, local leadership
  - Provide dedicated time to develop as a leader
  - Define stakeholders for education and who is responsible for what
    - Clarity of roles responsibilities - where should leadership be?
  - Set expectations of leadership skills and increase awareness of everyone to take on leadership roles
  - Develop pride in profession
  - Focus on altruism – need to be proud of profession and grow profession

- Don't just teach information – but leadership attributes
- Multiplier effect

Table 11

- **How have you utilized the Lancet report to implement the transformation in your system?**

- Philanthropic leadership – Asia- Australia
- National forums – tested in Chile – curriculum reform- meeting society needs -shortened training- link between education and health system-
    - seeking one curriculum – common standards – in Bangladesh plus invited Lincoln Chen to Bangladesh
- Academic summit - Conference of medical education – standardized – Lebanon – created medical schools – two to six
- Government relations – Advocacy – Ministerial Summits – bring regulators and government together – Canada

- **How can you enhance leadership capacity?**

    - Deliver courses on leadership, how to run a business, how to teach leaders; grassroots education- Canada
    - Include leadership in medical school curriculum- Lebanon – role model; address cost of care;
    - Redefining what it means to be a leader – emphasis to become change agent
    - Leverage CanMEDS – to next level – in the curriculum
        - Leaders needs to have a system approach – more than your own feel
    - To be transformative – need to be active learner

- **Is there anything unique about leadership in medical education?**

    - Balanced view
    - Hippocratic oath – medicine is a public good – social contract
    - Education and medicine – obtain balance – serve community
    - Communication with patients as well as fellow professionals
    - Ethics also is key
    - Cottage industry – medicine is resistant to change? – Difficult to standardize
    - Leadership is transportable

- **What specific strategies can global education leaders do to promote collaboration?**

- More IMELF – Share best practice and learn from others
- Global education – concerted effort needs to be made in leadership development
- You don't know what you don't know

Table 12

- **How have you utilized the Lancet report to implement the transformation in your system?**

    - (representatives from Chile, Canada, Nepal, Bangladesh) Generally and principally 'yes' but specifically 'no' for the most part; The discussion was that specifically, the

- **What specific strategies can global education leaders do to promote collaboration?**

  - Be 'truly' open to collaboration
  - Share and promote resource exchange and use (e.g. innovations and implementation not the same in all countries) – be contextually savvy
  - Obligation of wealthy/resource rich countries to share and exchange ideas more willingly (altruistic)
  - Without this – collaboration is rhetoric
  - Identify a global agenda with defined partners
  - Careful selection of partners built on trust and mutual respect
  - Social accountability from a global perspective
    - Education opportunities for cross-opportunities and learning
    - Sharing of online educational resources

Table 14

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - Implementation of CBME
  - Introducing Leadership for change
  - Workplace-based assessment for working in teams when the environment allows

- **How can you enhance leadership capacity?**

- Making leadership training an accreditation standard.
- Entice and reward involvement in leadership roles.
- Everyone to receive a basic level of leadership training.
- Coaching and Mentoring of the leadership role.
- Fostering and encouraging those with a good skill set to become involved and to offer them resources to become organizational leaders and CEO's.
- Advanced planning and identifying potential future leaders (targeted recruitment).

- **Is there anything unique about leadership in medical education?**

  - Lack of faculty
  - Understanding the local/national health care system.
  - The physician has responsibility without authority!

- **What specific strategies can global education leaders do to promote collaboration?**

  - Leading by example – role modeling.
  - International exchange and the sharing of best practice/resources.
  - Sharing struggles to learn from others. Who has already addressed the issues and has created some solutions. Be prepared to share what you are not doing well.

- International accreditation
- Examining in other countries
- International Infra structure to enable backbone of collaboration

Table 18

- **How have you utilized the Lancet report to implement the transformation in your system?**
  - Australian and NZ College of Anesthetists and CFPC are living the report principles – the challenge is to sustain. Note in Australia and NZ the residency programs are delivered not by universities, but by accredited hospitals and hospitals are accredited by specialty colleges. Universities have predominant undergrad role.
  - CNA: system elements only at graduate/post doc level
  - AFMC: FMEC is the "new" Flexner. How do principles and vision permeate into various faculties of medicine in Canada

- **Is there anything unique about leadership in medical education?**
  - Credibility in a practice-based discipline is largely based on clinical credibility (although credibility can be earned in other ways and not entirely through practice or credentials).
  - Must always recognize there is a patient "in the education equation."
  - Educators must understand the system; focus not only health care, but also health (e.g. public health, determinants of health, social accountability, etc. almost a "cultural piece").

- **What specific strategies can global education leaders do to promote collaboration?**
  - At CFPC we are involved with Besrour Global Health
  - CNA: part of International Congress of Nursing. Lots of networking within this. Opportunities for shared competencies, curricula, etc. Note all of this requires resources. Similarly for AFMC. A tremendous willingness
  - Australia/NZ: meetings such as IMELF very important. Much collaboration between Canada and Aus/NZ Colleges in this regard
  - Need common IT standards so that curricula can be shared.

Shaping health education to fit global health issues

- Table 2
- Table 4
- Table 8
- Table 10
- Table 11
- Table 12
- Table 14
- Table 15
- Table 16
- Table 18

Table 2

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - No but…

- **How can global resources be used locally to improve medical education?**

  - Accreditation standards and processes and guidelines shared, licensed, customized
  - Professional guidance – Good medical practice,
  - Generic professional capabilities
  - CanMEDS
  - E-learning
  - Faculty sharing

- **Does globalization augment or dilute excellence in medical education?**

  - Yes
    - Sharing, Collegiality, Collaboration
    - Mobile global workforce and Increasing regulatory equivalence
    - As long as ethical recruiting
  - No
    - Globalization undermines cultural and local characteristics - sterile or universal
    - Policy tourism
    - Assumes one size fits all
    - Solutions need to be locally relevant
    - If recruitment unethical

- **How can we truly embrace inter-professional team training?**

- Multi-professional standards for professional curricula
- Inter-professional Outcomes focused on team learning
- CAIPE outcomes
- Cultural component – medicine needs to be more open minded less insular
- Valuing it
- Measuring it
- Studying it
- Linkage to safety
- Faculties of Health Professions… ban Medical Schools!

Table 4

- **How have you utilized the Lancet report to implement the transformation in your system?**
    - What are the global issues – the cultural and health diversity of peoples and the mobility of people especially health care workers
    - Recognizing there is a difference between active recruitment "poaching" and personal freedom to be move countries
    - Australia in the process of defining global health competencies for Anesthesia.
    - UAE is cosmopolitan but 85% of physicians and health care workers are from other countries which creates cultural sensitivity issues (nurses only 3% Muslim). Some have no experience with evidence-based medicine or critical appraisal. Have to set up with workshops, mentoring.
    - Many countries are not looking at education and service from a perspective of the system and this is a continuing barrier.

- **How can global resources be used locally to improve medical education?**
    - Providing education locally rather than taking practitioners to the major centers. Bring expertise to the care environment rather than take the provider to the learning environment. Supports competence-based education
    - Local graduates need to balance between the need to know about global heal vs the need to manage specific clinical problems. Focus must be on the local health needs with knowledge of the global.
    - CanMEDS a good example of resource adapted to local environment in Australia whereas, in UAE there are individuals who know about them but not widely applied. Another example is Australia's surgical expert review on harassment is being used in Canada to modify curriculum

- **Does globalization augment or dilute excellence in medical education?**
    - Mobility, accessibility, internet distribution of knowledge – may augment and dilute.
    - When used for poaching, it is bad for both service and education in country of origin
    - Importing international physicians may negatively impact health education – become different role models. Professional development is necessary and may be a barrier
    - Visiting learners may dilute the experience of local learners. They may also come with inappropriate levels of knowledge. (high school students in the OR in underserviced environments)
    - Diversity of population might benefit from globalization. Canada has communities from various countries and globalization of health care may benefit them
    - Aboriginal population treatment in different countries (both negative and positive) provides insights and learnings

- **How can we truly embrace inter-professional team training?**
    - Recognize that competencies don't belong to a particular profession
    - Global health issues especially outbreak control demonstrates and promotes inter-professional teams
    - Experiences in different countries' systems may enhance IP learning
    - Learning from the patient – about their area of expertise improves their relationship. Also their involvement in the team care.
    - Major barrier is the professional silo

- Professions have separate acculturation processes
- Different professions have different age cohorts progressing at different rates
- Regulatory bodies are separated
- Educational programs are often in different physical and care arenas

Table 8

- **How have you utilized the Lancet report to implement the transformation in your system?**

    - Generally no: core /underlying concepts remain to be resolved
    - Commitment to curb "active recruitment" from under-resourced countries?
    - Movement of medical practitioners is difficult: foreign credential recognition, acculturation
    - Conflict between aspirations of regulators and medical education goals
    - Low success with cultural competency and safety in curriculum

- **How can global resources be used locally to improve medical education?**

    - CanMEDS: informs training in many countries from undergraduate to continuing professional development
    - CanMEDS Collaboration Centers
    - Institutional collaboration to achieve systemic change

- **Does globalization augment or dilute excellence in medical education?**

    - Augments, when adapted to indigenous context
    - Caution with regard to "free" services that do not focus on local capacity building
    - Dilutes, when "visiting learners" impede opportunities for local trainees
    - Caveat: a right balance is mutually enriching
    - Consider attached funding

- **How can we truly embrace inter-professional team training?**

- Recognize extent of silos
- Recognize differences in local context (type of health professions differ in various jurisdictions)
- Recognize that competencies don't belong to one group
- Exploit simulation: critical scenarios, role playing, etc.

Table 10

- **How have you utilized the Lancet report to implement the transformation in your system?**

    - Lots of principles being followed already – not necessarily "because of" the Lancet report
    - Was it the Lancet commission report that stimulated – e.g. Northern Ontario School of Medicine – or did it just give exemplars?

Table 16

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - International accreditation – increase cross border experience and reduce poaching of resources form unserved populations
  - Distribution issues for doctors – train where might want to work
  - Export competence and outcome based training
  - External collaboration supports less developed systems
  - E-learning and shared learning over internet
  - The content and the how of implementation of system change
  - Diseases are different

- **How can global resources be used locally to improve medical education?**

  - Social media
  - IT technology
  - Open electronic library access
  - Open access lectures
  - Journals open source
  - Mismatch of resources locally ensure infra structure
  - Population education and education of women
  - Preventing disease
  - Locally relevant and not harmful

- **Does globalization augment or dilute excellence in medical education?**

  - Enhances when understand problems
  - Competition open to global health care
  - Drives standards up – global competition
  - Learn from elsewhere /others depth and breadth
  - As resources shrink learn to work lean
  - Teaching without resources

- **How can we truly embrace inter-professional team training?**

  - Classroom learning together
  - Integrate early – think of as health science providers
  - Simulation-based education helps team learning
  - Reduce power base and tribalism
  - Big cultural change
  - Integrated training with different roles taking longer
  - Mixing roles (e.g. prescribing)
  - Mixing scope of practice to free up doctor time
  - Practicing at a higher level
  - Understanding others roles
  - Understanding the determinants of health and the needs challenges faced
  - Whose global issues – make do within communities
  - Learned helplessness

Table 18

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - In retrospect, reinforcing what we are doing at CFPC and in Aus/NZ regarding education/service link, and social accountability
  - NOSM work predated the report
  - Report is useful in distilling issues clearly, recommending institutional reform
  - In some institutions report may have precipitated action
  - Learnings have not moved to nursing realm and perhaps to other allied health realms. Important CNA be at meetings like this

- **How can global resources be used locally to improve medical education?**

  - Sharing informational resources
  - Partnering and collaboration between countries to develop curricula, etc.
  - Need supporting IT but how that info is applied is important
  - Organizational and institutional social accountability cultures are important
  - Almost always there are bilateral learnings
  - Easier route to high quality care, models, through learning from others.

- **Does globalization augment or dilute excellence in medical education?**

  - Cannot be "one size fits all"
  - Context-specific application of globalization learnings
  - Globalization could, in the best of worlds, lead to international training standards that confer portability for all medical school grads into residency programs. This might be a two-edged sword

- **How can we truly embrace inter-professional team training?**

  - Need a work environment where teams actually exist in clinical practice
  - Define roles/responsibilities
  - No "teams for teams' sake"
  - Must be patient at the centre, with appropriate services (i.e. providers) around
  - Universities themselves may not be fertile places to model teams and team training.

Competency Based Medical Education (CBME)

- Table 1
- Table 3
- Table 5
- Table 7
- Table 11
- Table 17

Table 1

- **How have you utilized the Lancet report to implement the transformation in your system? (intersect between education and the health system)**
  - Although not explicitly stated or known, we are all using components of the Lancet report to implement CBME
  - In Canada, competency framework existed before CBD – CanMEDS 2005 was based on competencies
  - China – conducting research on competency-based exams
- **What are the metrics required to show competency?**
  - Ultimate – performance in the clinical area; scorecard; adverse events; quality and safety
  - CBD standard - EPA's and milestones
  - Depends on the competency – some can be clearly measured and assessed whereas others are more abstract
  - Exams – clinical skill test
- **Is the quest a global one? Why or why not?**
  - Yes!
  - Recent discussions include 'competency' as a concept
  - Traditional exams look more at 'medical expert' competencies, versus intrinsic competencies
  - Need to also look at clinical reasoning and competency with skills
- **Is institutional or instructional change more important in the transformation to CBME? Why?**
  - Institutional
  - Change the way people approach the issue – top-down approach
  - Instructional
  - Grassroots – more sustainable
  - Both!
  - Context very important

Table 3

- **How have you utilized the Lancet report to implement the transformation in your system?**
  - International Collaboration on CBME – how many countries represented?
  - Consultation with other stakeholders

- **What are the metrics required to show competency?**

  - Assessment and program evaluation
  - Formative and summative assessment
  - E.g. DOPs, 360, observation, traditional tests, simulations
  - Cumulative performance, look at trends
  - Narrative comments: feedback with observation
  - All competencies not just medical expert – professionalism, communication etc.
  - Program evaluation:
  - Outcome measures – meeting patient needs, longitudinal, big data, satisfaction – learner experience, learning environment, faculty experience

- **Is the quest a global one? Why or why not?**

  - Yes – society ready and wants it – social accountability,
  - Will need to be context/community specific/cultural context/specialty specific
  - Some things are core and others are specialty-specific
  - Worries about transfer across borders – need to ensure credentialing

- **Is institutional or instructional change more important in the transformation to CBME? Why?**

- Equally important
- Institutional – professional society etc. stakeholders, need them as enablers
- Instructional – implementers, granularity

Table 5

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - In Canada, Royal College mandated: orthopedics, medical oncology, ENT have started already, defined rollout over the next few years. Family medicine implemented two years ago.
  - In Hong Kong: College of Surgeons has begun CBME; College of anaesthesia is planning for it. Each specialty has its own College that makes its own plans for educational approach.
  - US in phase three. Working toward milestones 2.0. 6 ACGME milestones apply to everyone. Starting to use competency-based language in accreditation (competent, proficient).

- **What are the metrics required to show competency?**

  - Depends on specialty: First define the competencies and milestones needed.
  - Repeated observation over time.
  - Map back to IHI Triple Aim: population health, cost of care, patient experience
  - Need self-assessment and reflection: this is the approach to mastery
  - Leading indicators vs lagging indicators
  - Knowledge: multiple choice, vignettes, case based oral
  - Skills: How to anticipate what is coming down the pipe?
  - Other sources: MSF

- **Is the quest a global one? Why or why not?**

    - Yes: global concepts of teaching around competence, e.g. developing world teaching breastfeeding in a community

- **Is institutional or instructional change more important in the transformation to CBME? Why?**

    - Need both

<u>**Table 7**</u>

- **How have you utilized the Lancet report to implement the transformation in your system?**

    - CBME is being implemented in U.S., U.K., Pakistan (assessment phase) and Canada
    - Outcomes have to be clearly defined.
    - Move away from the concept of time-based competency.
    - In some countries, we're moving in the right direction but there is still much to be done (hybrid design).
    - Still in development and has to be proven as the best way to train physicians.
    - ROI: will it lead to better care?
    - Is CBME a determinant of health?
    - There are grey zones – how does CBME allow us to deal with uncertainty?
    - How do you assess if the competency has been acquired?

- **What are the metrics required to show competency?**

- Milestones, direct and observation, evaluation, multiple observers, committee work, skills, attitudes, 360s, feedback (including patient);
- Define the role of the healthcare team;
- Ensure that residents feel they are in a safe learning environment.
- Ensure we have the resources and the metrics.

- **Is the quest a global one? Why or why not?**

    - Yes
    - We all need a doctor who can do the right thing for the patient.
    - Improved outcomes
    - From competency to excellence – do we want physicians to be good or great?
    - Should competency be relative to resources, regional disparities, cultural considerations, etc.?
    - Critical thinking no matter what the situation is.

- **Is institutional or instructional change more important in the transformation to CBME? Why?**

    - Both are important
    - They are interdependent
    - Institutional:
    - Policies and procedures have to allow observation and metrics

Table 11

- **How have you utilized the Lancet report to implement the transformation in your system?**

- Competency-based medical education is very new to China
- First question is – what does CBME mean?
- The report played an important role to begin the journey
- Report provided the concept to build on
- Lancet report influenced the national policy

- **What are the metrics required to show competency?**

  - Formative assessments
  - OSCI as an assessment tool to measure multiple competencies in different contexts
  - Multiple dimensions – not right or wrong
  - Metrics about learning
  - The ability to deal with issues in a comprehensive way
  - Judgment must be applied to measure

- **Is the quest a global one? Why or why not?**

  - Countries will apply it differently
  - It should be a global one Why – CanMEDS was very helpful in creating a patient but it took 15 years for it to develop
  - Developing jurisdictions can learn from those who have walked the path
  - And – the experience of developing jurisdictions will inform the development of competencies over time
  - Recognize that change will need to be managed

- **Is institutional or instructional change more important in the transformation to CBME? Why?**

  - Both are important for different things
  - Institutional is leader driven – authority policy and resources
  - Curriculum, faculty development and assessment
  - When you start – having institutional authority and resources is a key enabler
  - Policies without the work underneath is insufficient

Table 17

- **How have you utilized the Lancet report to implement the transformation in your system?**

  - Yes, to plan and implement CBME. It helps recognize that competence is readiness to practice.

- **What are the metrics required to show competency?**

  - The struggle of what are the metrics of competency and how best to measure them is the fundamental question.
  - Defines scope and core elements of a particular specialty. This is very valuable

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