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A Triadic Approach to Medical Education: Holistic, Fully Integrated and Exclusive Undergraduate Curriculum

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Abstract

This paper proposes a novel undergraduate medical curriculum that provides three independent programs of General Medicine, General Surgery, and Obstetrics & Gynecology respectively. As proposed, students would be admitted under one of the above three proposed streams and be awarded degrees of MD-General Medical Practice (MD-Med) or MD-General Surgical Practice (MD Surg) or MD-Obstetrics & Gynecological Practice (MD-Obs & G) upon graduation. This curricular model would ensure that students admitted into each specific program are exclusively trained in those respective areas for four years more practically and robustly to become more suitable for specialization in areas within those three streams with better competence upon graduation as compared to the current curricular models. This program would also ensure that existing disciplinary redundancies could be eliminated under the proposed three streams thereby providing a more fulfilling clinical training and experience. This paper offers a totally integrated program in each one of the proposed three specialties under the broad umbrella of Undergraduate Medical Sciences providing a hands-on holistic hospital-based training for each stream aimed at graduating 'fit to practice' community doctors endowed with knowledge, skills and attitudes to better serve the community in their respective fields upon graduation.
Keywords: Innovative medical curriculum, Integrated medical curriculum, Hospital based medical curriculum, Innovation in Medical education.
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1. Introduction

"To Medicine, we commit, both as career and vocation: Understanding the reality of our own mortality, we endeavor, instead, to heal our fellow human beings and free them from constraint, so that they may flourish… We embark upon this calling with humility, fervor and love for humanity."
(McGill Medical Class of 2012, Pledge at White Coat Ceremony)

The above pledge is a modern-day expression of the Hippocratic oath. It re-energizes the commitment of medical doctors to primarily function as healers and not as sophisticated technicians who are neither effectively motivated nor adequately trained to perceive human life and health as a combination of body, mind and spirit that can be effectively healed under appropriate treatment protocols with better knowledge, competencies, care and compassion.

The fundamental goal of medical training has historically been the inculcation of values of compassion and a holistic approach to the human being and in this context, the bedside encounter between a patient and physician has been pivotal to the practice of medicine. This time-honored vocational contract not only provides the basis for trust and accelerated healing for the patient but is also an important source of fulfillment for the physician. This commitment is fundamental to accurate diagnosis and high-quality patient-centered care (Society of Bedside Medicine). The human being made of body, mind and spirit is a holistic synchrony of the body and mind that is unique to the individual.

It is believed that the focus of modern medical education based on the Euclidean linear mathematical model of reductionism should be grossly modified to incorporate a more holistic and humanistic approach to patient care with medical undergraduate training exclusively taking place in the hospital setting, with a priority in introducing lifestyle issues, alternative forms of therapy, and the role of diet and nutrition in the control and treatment of major chronic illnesses among others.

The human body is a non-linear entity, but we have continued to use the linear model of deterministic predictability to validate an exclusive state of interventional and drugs-based therapy thus making it questionable (Lenzer, 2006). Over-dependence on such a quantitative approach offers a distorted perception of reality and over-reliance on measurable parameters while disregarding intangible factors in relation to healing which could be addressed as 'tyranny of the measurable' (Remde et.al, 2018). The Institute of Medicine audit has shown medical training and

interventions in poor light and that is worrying (Starfield, 2000). Undergraduate and even resident training under existent curricular norms might thus require modification to prepare physicians to treat the chronic conditions in a better way (Darer et.al, 2004).

Despite a plethora of relevant studies, opinions on how basic sciences can best be integrated with clinical sciences are at best inconclusive, and appropriate balance of basic and clinical sciences is required to overcome the existing challenges regarding integration in curricula (Bandiera, 2013). The result is that most of the basic medical science knowledge is forgotten by the time students enter clinical clerkship and as a result, undergraduate medical curricula need to be restructured to address these intrinsic setbacks. Following four years of undergraduate medical training, and three-to-five years of postgraduate (residency) training, if medical practitioners are essentially focused in very narrow areas of specialty, then such individuals could well be trained to perform activities that basically require skills without necessarily undergoing the complexities of factual information overload in medical school (Brook, 2009).

Integrative Medicine is described as a system of medicine, which regards the whole person, including body, mind and spirit, to be axiomatic wherein people are treated as a continuum. The body's natural healing abilities can be promoted to further the process of healing (Ornish, et al, 1998, 2008). In this context, healing methods like Ayurveda, Qi Gung and other forms of whole body and spiritual healing are notable and merit incorporation in integrated curricular settings. The importance of Palliative and Critical Care that incorporate psychosocial and spiritual factors in addition to the physical domain cannot be underestimated, and these need to be included effectively in an integrated curriculum to expose students to contemporary and ethical issues (Doyle, et al, 2004).

In view of the above considerations, this paper contemplates to create an innovative and fully integrated curriculum that proposes to replace ‘fit to pass’ graduates with a curriculum that makes them ‘fit to practice’ within one of the three suggested selective streams of medical training as proposed (vide infra) and enables them to serve their communities with better sense of compassion, practical knowledge and skills, and be weaned off the misguided belief in the singular reductionist approach wherein the human being is considered to be just a collection of organ systems that can be targeted specifically within the body.

Medicine has not only changed substantially since Abraham Flexner wrote his seminal report over a century ago transforming the holistic bedside training-based system formulated by Sir William Osler into a laboratory-based reductionist approach to human disease and suffering, but its curricular focus appears to have lost its way along the path in the context of whether the content that we teach is clinically relevant.

1.1 The Argument

Should there be a pressing need for curricular reorganization in light of the above deficiencies? Are we creating competent doctors who are able to deal with normal day-to-day ailments of the community by individualizing care or are we only graduating students who have successfully passed a certifying examination to treat illnesses through a collectivist approach where the individual is subordinated to generalized mandates through heavy use of polypharmacy and possibly needless interventions? It might also be asked in context whether we are graduating students who are only fit to pass but not fit to practice? Whichever curriculum we happen to adopt must address these questions with a frank degree of sincerity. While projecting the utility and success of a competency-based curriculum, do those very competencies prepare the average graduating student to begin the doctor-patient encounter and extend it with the independent ability to recommend appropriate management strategies following graduation as expected?

1.2 The Issue with Integration

An integrated curriculum may be defined as “education that is organized in such a way that it cuts across subject matter lines, bringing together various aspects of the curriculum into meaningful association to focus upon broad areas of study” (Shoemaker, 1989). The importance of the term ‘integrated curriculum’ has gained popularity in medical education, but logistics of how this can be effectively achieved practically by its design, implementation and evaluation continue to remain enigmatic.

A common question faced by educators is “who integrates? Is it the student or the teaching faculty”? Faculty on the clinical side state that unless integration occurs at the hospital setting in explaining the clinical problem on real cases, there can be no clear cut and effective integration. Thus, there is a perceived lack of an integrative learning environment wherein, application of knowledge, critical thinking, and logical and hypothetico-deductive reasoning are not given disciplinary priority and that basically conflicts with the integrative approach.

A common criticism of the Flexnerian approach is that students are not able to appreciate the relevance of basic sciences as applied to clinical practice, and it is therefore preferable to encourage students to think as doctors from the day they enter medical school (Harden, 1986). In traditional and integrated curricula, the focus in the formative years is principally directed towards basic sciences with incorporation of the clinical domain progressively as and when applicable. Basic science rather needs to be integrated into the clinical scenario, in the hospital setting, and thus, clinical issues with real patients should represent the platform on which the essential basic science concepts should be incorporated for better clarity.

The term integration refers to situations in which knowledge from different sources interrelate in ways that foster understanding and performance of the professional activities of medicine (Regehr, 1996). Too often, integration activities are presumed to be achieved automatically which results in integration becoming an end in itself rather than as a means towards effective learning in terms of knowledge, skills and attitudes. The two most prominent models for integration applied over the past few decades have been the 'Integration Ladder' (Harden, 2000) and the 'Ten Ways to Integrate Curriculum' (Fogarty et.al, 1991).

Newer educational technologies such as skills training (Patrick, 1992) and PBL have brought education within the control of the objective-driven curriculum by variably substituting simulation for reality without the personal influence of clinical teachers upon pupils (Schidmt, 1993) particularly in the hospital (bedside) setting.

Following Abraham Flexner's seminal report, most medical schools adopted the 2+2 curriculum in which the first two years were separated from two later years of clinical training (Anderson, 1993). Today however, becoming a physician is not just a three- or four-year proposition, but almost a decade long training program. The return to the basic sciences in clerkship model has seen re-introduction of basic science concepts while learning takes place in clinical situations (Spencer, et.al. 2008, Patel, 1984). The path of least resistance for shared teaching is the isolated delivery of basic science and clinical content and this is likely to have minimal effect on the effectiveness of integration. Moreover, clinical subject matter experts tend to use related basic science knowledge when they confront clinical problems (Bohuizen, 1992, Rikers, et al, 2004).

In the area of assessment too, it is relevant that the assessment of integrated learning should reflect students' critical understanding of how the basic sciences relate to the clinical domain and not the mandated ability of them to just recall facts (Mandin, 2000). Focusing on assessment must not only allow direct evaluation of student learning but should also train students to see the importance of integration that must be formally incorporated within the curriculum and the assessment, since assessment is known to drive learning and an integrated platform should exist to effectively incorporate horizontal and vertical integration into test items (Chakravarty et.al, 2005). New educational technologies such as skills training and PBL have brought education within the control of the objective-driven curriculum by substituting simulation for reality. All that sounds like the curriculum 'without the personal influence of clinical teachers upon pupils' (Schimdt, 1993).

1.3 Competency based Education

Competency Based Medical Education (CBME) has been around for over a decade, and curricula employing those standards have to a certain extent, de-emphasized training time (Frank, 2010). Outcomes-driven approaches have had the advantage of fostering innovation determined by those outcomes and alternative processes put in place to achieve the same (Asch, et.al, 2014). Medical education is currently mainly assessed through intermediate outcomes such as performance in examinations. This stereotype is unable to effectively test clinical competency and decision-making abilities. There is an increasing recognition among medical and other health science educators that traditional disciplinary education does not effectively conform to the current demands of interdisciplinary learning (Wartman, et.al, 2001, Irby, 2010), and this isolated discipline-based model of education lacks the element of connectivity between different learning experiences (Jacobs, 1989) and thus, the role of curricular integration has emerged as an important strategy in healthcare education (Husband, 2014). Integration of basic and clinical sciences has been a focal point in medical education reform but still remains to be effectively achieved.

A medical curriculum created towards developing key competencies that enable a fresh graduate to deliver responsible community health care at a basic level could thus be seen as a promising step towards alleviating the problem. This calls for a meaningful and methodological departure from the traditional approach of singularly constructing curricular components exclusively around educational objectives (Modi, 2015). While bioscience knowledge has grown exponentially, curricular adjustments incorporated in timetables have not. Students are burdened with an overpowering body of factual knowledge thus creating a disproportionate balance between knowledge, skills and attitudes, and with a significant challenge to the concept of integration itself. Where decisions need to be made as to what to include and retain in the curriculum, there has been no rational basis for

this. As a result, most curricula are to a variable extent challengeable on grounds of validity and relevance. The problem is compounded by decisions on inclusion that are mostly taken by the leading exponents in their disciplines who are fascinated by their own subject but appear to value other subjects to a lesser degree (Walton, et.al, 1993).

A curriculum should preferably not be viewed only as an aggregate of separate disciplinary domains but rather as a program of study where the whole is greater than the sum of its parts (Harden, 1997). Various curricular strategies are present that attempt to fulfill curricular goals and these include the Spiral curriculum, System based programs with themes, Outcomes based education, Core curriculum with special study modules, Problem based learning, Team based learning, Competency based curriculum and Palliative care among others.

2. Method: Proposed innovative and totally integrated curricular structure

"Rather than see the rise of a caste of clinical Brahmins, I would prefer a return to the French system still in part effective which ensures that each and every professor in a medical school whether chemist, anatomist, pathologist, or physiologist is kept in touch with the profession by giving him a hospital service" – Sir William Osler (Osler, 1962).

2.1 General requirements and guidelines

Institutional requirements for 150 students: 1000 - 1500 beds 'dedicated teaching hospital' with all departments as outlined in the novel curriculum (vide infra) and facilities with infrastructure for complete academic facilities. All full-time academic faculty members must be medically qualified doctors engaged in clinical practice and teaching basic sciences in their respective fields of specialty. Engagement in research will not be the primary proclivity nor the primary requirement for teachers for fulfilling requirements for appointments and promotion, though research in its own right will be encouraged and financially rewarded. While identifying key documented inconsistencies related to the exclusive use of bibliometrics of Impact factor and Citation analysis for evaluation of faculty performance in institutions of higher education, it is felt that there is urgent need to restore pre-eminence of teaching in universities and the incorporation and application of appropriate metrics for evaluating scholarship of teaching and academic merit, and to reinforce its use as the major determinant for granting promotion and tenure. while scholarship will be assessed on various academic activities including publication of research (Chakravarty, et al. 2018).

Funding sources for research from pharmaceutical companies would be entirely removed and all funding will have to be generated from federal/government sources. This is to remove the overarching control by pharmaceutical companies to control both research as well as medical education which has seen an immense increase in research fraud and conflicts of interest. Corporate administrative control over medical college operations must be de-emphasized if not entirely removed. Only medically qualified faculty members with hospital management training will be appointed to run these institutions.

2.2 Eligibility criteria for students for admission – In the Indian subcontinent setting and for almost all Commonwealth countries, applicants (students) to the proposed medical courses should have graduated from high school. Selection process for placements in the streams of General Medicine, General Surgery and Obstetrics & Gynecology as proposed in the novel curriculum would include - Written, Oral, Performance skills & Aptitude tests followed by selection to any one of the three streams through a final Counselling/Matching Program that factors in academic merit, aptitude, prior indication of choices and availability of seats. In the North American setting, applicants must have a basic graduate degree and the novel curriculum could be appropriately offered as a three-year curriculum incorporating the first year of the proposed four-year program into it. The selection process with the same criteria shall remain identical to the four-year curriculum.

2.3 Credit hours:

In order for the novel curriculum to be universal, it is hereby proposed that the curriculum shall be based on the credit-hour system, where students generally receive credit hours based on the number of "contact hours" per week in the classroom setting for one term and which is termed as Semester Credit Hour (SCH). A contact hour includes any lecture or laboratory time when the professor is teaching students while they apply the course information to an activity.

As per the recommendation of the International Affairs Office, U.S. Department of Education:

- One *lecture* (taught) or *seminar* (discussion) credit hour represents 1 hour per week of scheduled class activity time and 2 hours of student preparation time. Most lecture and seminar courses are awarded 3 credit hours. Over an entire semester, this structure is expected to offer at least 45 hours of class time and 90 hours of student preparation time.

- One *laboratory credit hour* represents 1 hour per week of lecture or discussion time plus 1-2 hours per week of scheduled supervised or independent laboratory assignment, and 2 hours of student preparation time. Most laboratory courses are awarded up to 4 credit hours. This calculation represents at least 45 hours of class time, between 45 and 90 hours of laboratory time, and 90 hours of student preparation per semester.
- One *practice credit hour* (supervised clinical rounds, supervised performance of clinical skills, supervised student teaching, field work, etc.) represents 3 - 4 hours per week of supervised clinical activity. This in turn represents between 45 and 60 hours of work per semester. Blocks of 3 practice credit hours, which constitute a practice course, represent between 135 and 180 total hours of academic work per semester.
- One *independent study hour* (thesis or dissertation research) is calculated similarly to practice credit hours.

In the proposed curriculum, students in each stream of study on a semester calendar would require around 120 credit hours. Depending on the requirements, a *Semester Credit hour* would constitute 15-16 contact hours per semester. Normal full-time studying is usually 15 credit hours per semester or 30 credit hours per academic year ("Structure of the U.S. Education System: Credit Systems". US Department of Education. Feb 2008). Given the data, it would assume 1 US credit = 2 European Credit Transfer System (ECTS) = 4 Credit Accumulation and Transfer Scheme (CATS), which many universities accept as a rule of thumb. There are also universities that use 3 US credit = 5 ECTS = 10 CATS. In the end every university can determine their own conversion rate for short term programs.

2.4 The Proposed 4-year Curricular Strategy:

Year 1 (Two semesters): This will be common to all the three streams (General Medical practice, General Surgical practice and Obstetrics & Gynecology practice).

- Semester I
  - History/Evolution of Medicine, Systems of healing, Germ & Terrain theories (1/2 credit)
  - Systems-based Foundational course in General Anatomy, Embryology & Histology (1 credit)
  - Clinical physiology (1 credit)
  - General Pathology (1 credit)
  - Pharmacokinetics & Pharmacodynamics (1/2 credit)
  - General principles in Systems biology (1/2 credit)
- Semester II
  - Communication skills (1 credit)
  - Physics of Imaging (1/2 credit)
  - Medical Statistics (1/2 credit)
  - Basic Life support (1/2 credit)
  - Principles of Palliative care, Introduction to Oriental medicine, Ayurveda, Homeopathy (1 credit).

Years 2, 3 & 4 (Three academic years/six semesters): This will comprise of full-time-in-hospital training in specific branches as follows:

General Medicine Practice: Systems-based focused Anatomical, Physiological and Biochemical basis of disease, Reproductive Pathology, Infection control, Nutrition in metabolic diseases, Internal medicine, Pediatrics, Cardiovascular medicine, Pulmonary medicine, Endocrinology, Nephrology, Neurology, Radiology, Family practice, Critical care, Medical emergencies, Physiotherapy and Rehabilitation, Basic Interventional skills, PBL/TBL sessions, CPC, and Submission of Thesis/Portfolio.

General Surgery Practice: Systems-based focused Anatomical, Physiological and Biochemical basis of disease, Surgical Pathology, Operating room techniques, Anesthesiology, Endocrinology in surgical practice, Infection control, General surgery, Wound dressing techniques, Orthopedics, Plastic surgery, Neurosurgery, Eye & ENT, Radiology, Critical and Trauma care, Surgical emergencies, Nutrition and dietetics in surgical practice, Basic Surgical skills, Psychological & Psychiatric issues in Surgical practice, Physiotherapy and Rehabilitation, Seminars, PBL/TBL sessions, CPC, Submission of Thesis/Portfolio.

Obstetrics & Gynecology Practice: Systems-based focused Anatomical, Physiological and Biochemical basis of disease, Imaging in Obs & G, Nutrition in pregnancy & Lactation, Role of Oriental medicine, Yoga and meditation in pregnancy, Pain management in labor, Infection control including sepsis, Endocrinology in Obs & G, Labor room techniques, Prenatal & Postnatal care, Maternal & Child health, Neonatology, Operating room techniques, Basic operative skills, Assisted Reproductive techniques, Physiotherapy and Rehabilitation, PBL/TBL sessions.

Submission of Thesis/Portfolio.

2.5 Curricular specifics within each stream.

A. General Medicine Practice:

Year 2: PBL/TBL sessions, Approach to the patient including effective Communication skills and History taking (1 credit), Pain management and Nutrition (1 credit), Alternative therapies, Meditation and Yoga (1 credit), Imaging in medical practice + Ambulatory care (1 credit). Submission of Portfolio.

Year 3: PBL/TBL sessions, Nephrology (1 credit), Neurology (1 credit), Endocrinology (1 credit), Medical pathology (1 credit). Submission of Portfolio.

Year 4: PBL/TBL sessions, Pediatrics & Neonatology (1 credit), ICU medicine + Emergency medicine (1 credit), Behavioral medicine & Psychiatry (1 credit), Submission of Thesis. (Figure 1)

Assessment: Continuous assessment through attendance in scheduled Clinical activities including Case presentations, CPC, Seminars etc. 10%. TBL/PBL sessions 10%. Written examination 30%, OSCE and Clinical viva voce 30%. Thesis 10%. Procedures and skills 10%.

B. General Surgical Practice:

Year 2: Approach to the surgical patient including History taking and physical examination (1 credit), PBL/TBL sessions, Principles of Surgery including Anesthesia (1 credit), Surgical materials and techniques (1 credit), General surgery (1 credit), General orthopedics (1 credit), Submission of Portfolio.

Year 3: PBL/TBL sessions, Surgical pathology (2 credits), Imaging and laboratory investigations in Surgical practice (2 credits), Neurosurgery (1 credit), Eye & ENT (1 credit), Supervised independent minor surgical procedures (minimum of 5 recorded cases), Submission of Portfolio (research).

Year 4: PBL/TBL sessions, Operating room techniques (1 credit), Instruments and technology (2 credits), Common surgical interventions including Emergency procedures & Traumatology (1 credit), Different approaches to Pain management (1 credit), Surgical assistance in at least 10 common procedures, Submission of Thesis. (Figure2)

Assessment: Continuous assessment through attendance in scheduled Clinical activities including Case presentations, CPC, Seminars etc. 10%. TBL/PBL sessions 10%. Written examination 30%, OSCE and Clinical viva voce 30%. Thesis 10%. Operative procedures and surgical skills 10%.

C. General Obs & Gyn Practice:

Year 2: PBL/TBL sessions, Approach to the patient including History taking and Communication skills (1 credit). Reproductive Anatomy (1 credit), Reproductive physiology (1 credit), and Biochemistry (1 credit). Reproductive pathology (1 credit). Supervised labor room techniques (Minimum of 5 recorded cases)

Year 3: PBL/TBL sessions, Imaging in Obs & Gyn (1 credit), Nutrition in pregnancy & Lactation (1 credit), Role of Yoga, meditation and group therapy in pregnancy (1 credit), Pain management in labor (1/2 credit), Infection control including sepsis (1 credit), Submission of Portfolio.

Year 4: PBL/TBL sessions. Endocrinology in Obs & Gyn (1 credit), Supervised Labor room techniques, Operating room techniques and Basic operative skills and submission of Portfolio of 5 supervised minor cases (1 credit), Prenatal, Perinatal & Postnatal care, Maternal & Child health and Neonatology (1 credit), Assisted Reproductive techniques (1 credit). Submission of research thesis. (Figure 3)

Assessment: Continuous assessment through attendance in scheduled Clinical activities including Case presentations, CPC, Seminars etc. 10%. TBL/PBL sessions 10%. Written examination 30%, OSCE and Clinical viva voce 30%. Thesis 10%. Procedures and skills 10%.

2.6 Anticipated hurdles: Resistance to curricular reform

- Varied factors including strong long-term traditions, lack of perceived need for change, disciplinary identification of faculty members, departmental protection of curricular time, skepticism of alternative pedagogical views, lack of experience, fear of loss of accreditation etc. (Lane, 2007).
- Infrastructure planning to provide adequate space to accommodate students in the area of bedside teaching in small and large group interactive teaching-learning activities in the hospital setting.
- Overcoming the myth that nothing substantive can be learned unless everything is covered

through didactic teaching, and the notion that all aspects of every basic science subject must be covered in detail prior to clinical exposure.

- Decreasing didactic sessions to incorporate social discussions of learning outcomes in small groups sets aside many important topics that students will not learn, hence affecting the quality of graduate medical students (Gustavo, 2016), (Bland, 2000).

3. Discussion

The Oslerian approach of the primacy of clinical bedside training had maintained the integrity and standards of the medical profession before the Flexnerian laboratory-based reductionist science literally entombed it. It is in this very context that perhaps, clinicians should reflect upon their curriculum and standards rather than be advised by 'educational experts' most of whom have practically no significant expertise in the realm of clinical teaching. In adopting these curricular and educational changes so readily, we appear to have forgotten the true meaning of what it takes to be a ‘doctor’.

The Oslerian principles of focused bedside teaching appear to have been lost with the decline of traditional teaching while focusing on information technology, teamwork, communication skills and management (Franklyn, 2009), despite the fact that there exists a large body of literature on curriculum integration and its dynamic extension (Mennin, 2010). The result is that medical graduates who get their certification are practically unable to perform clinical duties independently in a community or hospital setting, while the real integration and hands-on approach takes place for all practical purposes exclusively during Internship and Residency training. The days of the ‘hospital teaching round' where an experienced physician demonstrated the techniques and skills in elucidating facts from the patient, appear to have been lost (Ahmed, 2002).

The proposed novel curriculum questions and challenges the existing setup with an overwhelming application of reductionist science, technocracy, polypharmacy, overarching control by the pharmaceutical industry, and provides a fully integrated and practical hands-on holistic approach towards medical education and training. The curriculum incorporates domains neglected in conventional curricula including Systems biology, role of nutrition and diet in treatment of chronic illness, upholding ethical issues, inclusion of supportive and adjunct therapies including Ayurveda, Oriental medicine, Homeopathy, Pain management and spiritual healing, while reducing the unitary predominance and exclusivity of the Western reductionist laboratory-based approach as the only valid form of health management.

The novel curriculum in addition, recommends removal of a large body of unnecessary information from existing curricula that is forced down the throats of students in medical schools for decades in order to primarily validate an overwhelming assessment system and support the survival of basic scientists who are hired as full-time teachers but are persuaded to mainly engage in research in very restricted areas of disciplinary expertise. However, challenges to this novel proposal of hospital-based bedside education against prevailing curricula are expected to be profound.

4. Conclusion

Health service is neither management of disease nor life expectancy. It is the expectancy of health. The Flexner report has already taught us the dangers of establishing a confining and ultimately damaging standard (Tauber, 1992). A more effective solution is to practically get rid of the error altogether and this paper proposes to rejuvenate the brilliance of the Oslerian model of bedside training by offering a comprehensive program for deep and effective integrated learning by providing a novel curricular approach that is holistic, robust and multi-faceted, and provides a specialty-based approach to medical education.

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Figure 1

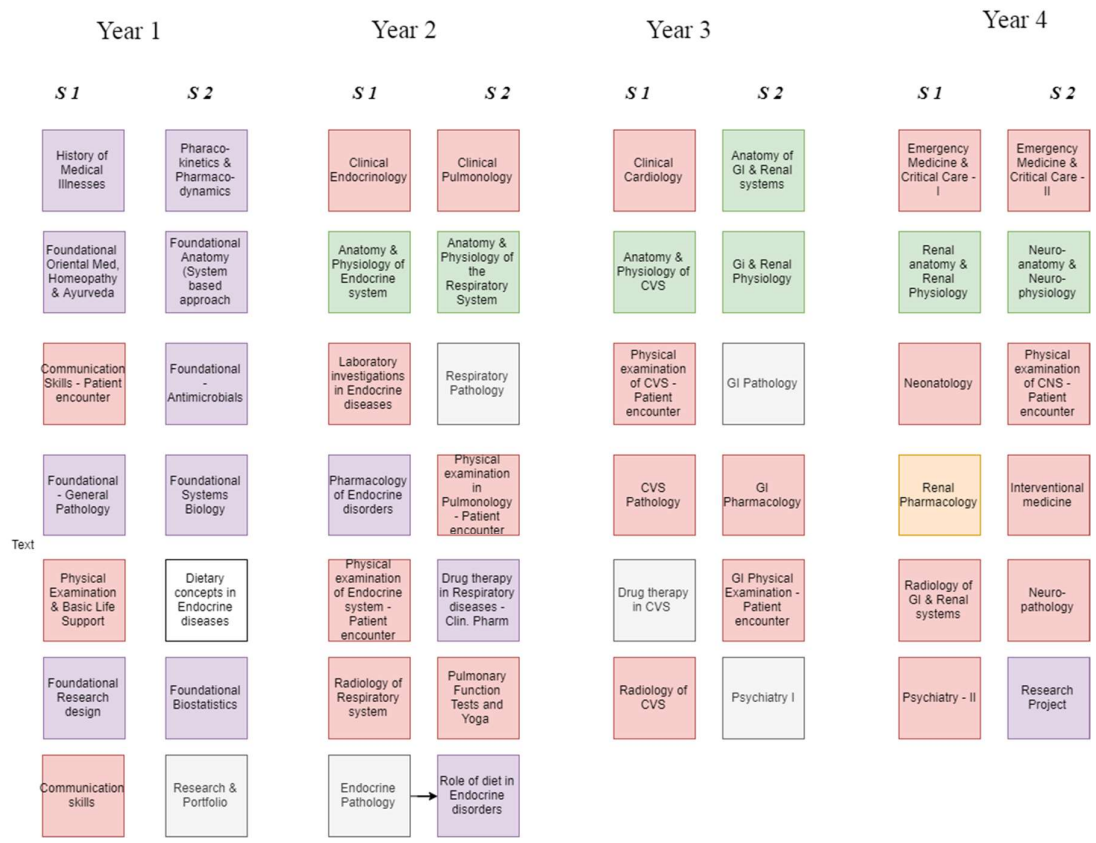

Figure 2

General Surgical Practice (MD-SURG)

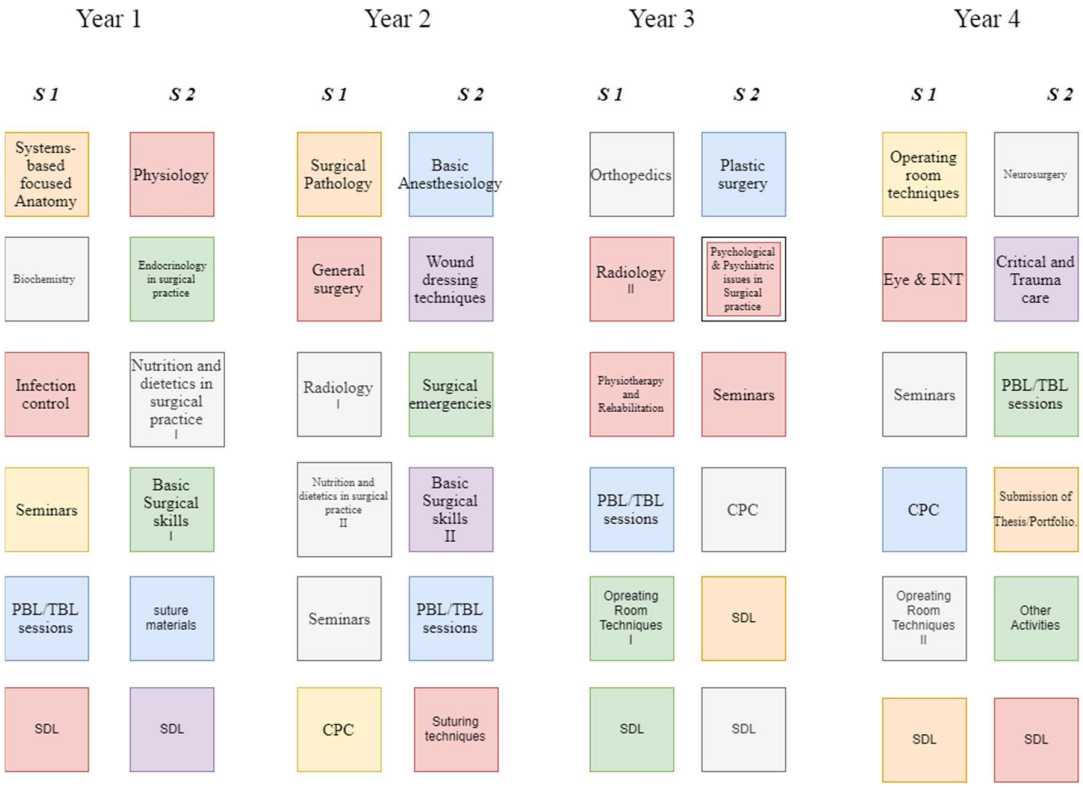

Figure 3

Obs & Gyne Practice (MD-OBS & G)