



THE AGA KHAN UNIVERSITY

eCommons@AKU

Department of Surgery

Department of Surgery

February 2017

Re-structuring university hospital's internship program using kern's six-step model of Instructional design

M. Tariq

Aga Khan University, muhammed.tariq@aku.edu

Muhammad Shahzad Shamim

Aga Khan University, shahzad.shamim@aku.edu

Amna Subhan Butt

Aga Khan University, amna.subhan@aku.edu

Sana Saeed

Aga Khan University

Zia Ur Rehman

Aga Khan University, ziaur.rehman@aku.edu

See next page for additional authors

Follow this and additional works at: https://ecommons.aku.edu/pakistan_fhs_mc_surg_surg

 Part of the [Surgery Commons](#)

Recommended Citation

Tariq, M., Shahzad Shamim, M., Butt, A., Saeed, S., Rehman, Z., Virani, B., Ashraf, A., Qamar, I., Farah Qamar, ., Rizvi, R., Tariq, S., Naeem, Q. (2017). Re-structuring university hospital's internship program using kern's six-step model of Instructional design. *MedEdPublish*, 6, 11-20.

Available at: https://ecommons.aku.edu/pakistan_fhs_mc_surg_surg/479

Authors

M. Tariq, Muhammad Shahzad Shamim, Amna Subhan Butt, Sana Saeed, Zia Ur Rehman, Barkat Virani, Asghar Ashraf, Irum Qamar, Farah Qamar, Raheela Mohsin Rizvi, Swaleha Tariq, and Qurratulain Naeem

Re-structuring a University Hospital's Internship Program Using Kern's Six-Step Model of Instructional Design

Muhammad Tariq[1], Muhammad Shahzad Shamim[2], Amna Subhan[3], Sana Saeed[4], Ziaur Rehman[5], Barkat Virani[6], Asghar Ashraf[7], Irum Qamar[8], Farah Qamar[9], Raheela Mohsin[10], Swaleha Tariq[11], Qurratulain Naeem[12]

Corresponding author: Dr Muhammad Tariq muhammed.tariq@aku.edu

Institution: 1. Aga Khan University, 2. Aga Khan University, 3. Aga Khan University, 4. Aga Khan University, 5. Aga Khan University, 6. Aga Khan University, 7. Aga Khan University, 8. Aga Khan University, 9. Aga Khan University, 10. Aga Khan University, 11. Aga Khan University, 12. Aga Khan University

Categories: Curriculum Planning, Educational Strategies, Curriculum Evaluation/Quality Assurance/Accreditation

Received: 14/02/2017

Published: 28/02/2017

Abstract

Background:

Internship is a phase of training wherein a graduate learns in the context of practice, acquiring skills under supervision so that he/she may become capable of functioning independently. We are reporting the process of curriculum restructuring for strengthening the Internship Program at this university hospital.

Methodology:

We used Kerns' six-step model to evaluate and restructure the internship curriculum.

Step 01: Problem Identification & General need assessment- Thorough literature review revealed Internship as the crucial year of training that needs to be fashioned around the competencies required to make good doctors.

Step 02: Targeted Need Assessment- Focused group discussions and questionnaire based survey were done in order to identify the gaps in the existing internship program.

Step 03: Goals & Objectives- The aims and objectives were made to make the Internship Program a qualitative learning experience and a transition year from medical college to specialty training for Interns.

Step 04: Educational Strategies- Strategies were developed to fill in the gaps which were identified in the need assessment survey including the educational sessions, orientation and objectives of program.

Step 05: Implementation- The restructured curriculum was shared and was then implemented with full support from all stakeholders.

Step 06: Evaluation and Feedback- The program will be evaluated after 1 year of implementation.

Conclusion:

Kern's six step approach to curriculum development is an effective method for revamping the curriculum for interns and thereby enhancing the quality of the Internship program in our setup.

Keywords: Internship, curriculum, restructuring, instructional design

Introduction

Hey doctor, are you ready to practice medicine? Have you completed your training as an intern? Medical intern is a term used in some countries to describe a physician in training who has completed medical school and has a medical degree, but does not yet have a full license to practice medicine unsupervised. This one-year period is designed with a view to train them for their future roles and is being recognized as a critical period (GMC 2009). The transition from medical student to junior doctor has long been considered a significant rite of passage. By rotating through different disciplines, the exposure to specific areas in clinical medicine and surgery prepares the newly qualified doctor for deciding and entering their future specialty of choice (Meintjies 2003). The duration and goals of internship program of various countries have been shown in table 01. In Pakistan, medical graduates have to complete a mandatory one-year internship training in PMDC (Pakistan Medical & Dental Council) recognized hospital in order to obtain PMDC certificate for practicing medicine in Pakistan, and is popularly known as the House Job.

The Aga Khan University Hospital has been running the internship program for the past 25 years and is overseen by an Internship Committee. It is a one year program which is being approved by Pakistan medical and dental council (PMDC). The supervisory body has been involved in carrying out informal feedback from the interns to improve the quality of program. The Post graduate medical education has been involved in conducting internal and external reviews of the Postgraduate programs since 2005. The first internal review of the internship was conducted in 2011 followed by external review in 2012 by international educational and subject experts. This review projected certain areas requiring improvement in the internship program. In order to meet these expectations the internship committee was re-constituted by the Dean Medical College which comprises of specialty experts from all areas including medical educationist. The Committee reviewed the existing program to identify gaps and to develop and implement strategies to improve the program in a systematic way.

Intermittent curriculum restructuring through program evaluation can enhance the quality and effectiveness of an educational program. This can be carried out by a systematic instructional design process, which is an approach towards the development of education and training programs in a systematic fashion. Authors have suggested that it is a creative, active and an iterative process (Gustafson & Branch 2002). Instructional design identifies the process of intended learning; an approach towards development of teaching and learning strategies and the system to evaluate the effectiveness of instruction (Stewart 2009). Gustafson and Branch (2002) described the ADDIE approach (Analyze, Design, Develop, Implement and Evaluate) as the core element of any instructional design. More than 60 instructional design processes have been described and newer models are emerging (Fink 2003), however a six step approach developed by physician educators at Johns Hopkins University faculty development program is logical, dynamic, systemic and interactive Kern, Thomas, & Hughes, 2009). Ideally, any instructional systems model should identify the outcomes of the instruction, develop the instruction, and evaluate the effectiveness of the instruction (Gagne, Briggs, & Wager 1992).

The current paper describes the process used to enhance the quality of the Internship Program at Agha Khan University Hospital, Karachi by using Kern's six-step instructional design model (fig.1), which incorporates the core elements of ADDIE approach.

Methods and Steps of Kern's Model of Instructional Design

Design:

We have used six-step approach described by Kern (1991) as a preferred instructional design process to evaluate and restructure the curriculum of Internship Program at our university.

Following are the details of the processes undertaken by the committee to improve the Internship Program. These processes are based on Kern's six-step model.

Step 1: Problem Identification and General Needs Assessment

The one year internship program at Agha Khan University comprises of combination of rotation whereby the interns choose their rotation according to their area of interest and get the flavor working in medicine & allied and surgery & allied. We follow work place based assessment model in internship program considering it as crucial period for the acquisition of skills and hands on experience.

Step 2: Targeted Needs assessment

This is the key step to bring about motivation in the learners and can align resources with the strategy, build relationship among stakeholders, clarify the impact of the problem and provide data, insight for decision making (Sleezer, 2014). The beauty of our program is its diversity with graduates coming from every corner of the country and therefore they have variable clinical exposure but their overall aim is to have diverse clinical experience in this one year period of internship in order to learn patient care, gain confidence and decide about choosing a professional career path. Besides this, internship is a mandatory requirement to obtain a licensure to practice medicine in Pakistan. In order to identify the strength, weaknesses and issues related to our current

Internship program, report of external and internal audit was initially reviewed which identified that despite of the wealth of clinical experience, academically oriented faculty and internship curriculum, there is a need to revamp the program in terms of its structure, methods of assessment, teaching and learning strategies in order to make this year a continuum of training from undergraduate through postgraduate training. In the light of this report, Focused group discussions (FGDs) were carried out with interns, residents and Faculty regarding internship orientation, rotations and academic activities. Based on these FGDs, 3 separate questionnaires (7 point Likert's scale, based on same themes, mentioned earlier) for feedback were designed for interns, residents and Faculty.

2A: Results of Need Assessment Survey: We received total 109 responses (67 interns, 30 residents and 22 faculties). Despite of the fact that the overall satisfaction of the interns for the internship program was reported to be 75.4%, it was identified that 50.9 % (n=33) of interns and 63.6% (n=14) of faculty were unsatisfied with the Internship orientation. They felt that there is lack of practical demonstration (40%) and clinic/ward orientation (12%) during orientation. The percentage of interns and residents unsatisfied with the combination of the rotation was found to be 60% (n=29 interns and n= 7 residents). Thirty six percent (n=8) of faculty reported no defined internship objectives in their respective departments. Pre-rotation objectives were not communicated to 63.1 % (n=41) interns. Sixty four percent (n=42) interns were satisfied with inpatient services in terms of learning opportunities. The percentage interns not satisfied with the opportunities and supervision of hands on for procedures was found to be 66.2% (n=43). Nineteen (29.3%) interns and 13 (40.2%) of residents were unsatisfied with the content of PGME mandatory academic session. These highlighted issues were discussed in internship committee meeting and prioritized in order to delineate the plan for reforming the internship program.

Step 3: Goals and Objectives

The goals and objectives were derived from the needs assessment and opinions from the key stakeholders, including the various Program Directors, Program Coordinators, Chief Residents and Interns. The overall goal was to revamp the Internship Program from an 'apprenticeship' type training experience to a formal, structured, educational, clinical program, complete with learning objectives, curriculum, class room based teaching, hands-on workshops, career counseling, assessment, graduation, etc. The aims and objectives were to make the Internship Program a qualitative learning experience and a transition year from medical college to specialty training for Interns. Each specialty that receives Interns was required to develop their specialty specific learning objectives, which were to be documented in the form of a revised Internship Manual.

Step 4. Strategies

After identification of gaps, several meetings of internship committee were undertaken and groups were formed to overcome the gaps in consensus with the internship committee chairs and members. Each group was assigned a separate area to work upon and the recommendations were discussed and accepted once approved by the larger group of members. The details for each identified area with the recommended remediation are discussed below.

- **4a - Educational Strategies:** Revised, bi-annual, simulator-based, hands-on surgical workshops were introduced as part of the teaching schedule. These workshops are organized at the commencement of each

6 months surgical rotation, i.e. in January and June, and address important surgical skills for interns, which are difficult to teach otherwise. The list of mandatory teaching sessions was reviewed by all specialty representatives and major changes were made. The revised list is attached as (Appendix 2). The committee recommended encouraging the involvement of interns in research projects, which they could continue after their respective rotations. The Internship Coordinating Committee (ICC), after extensive discussion and after reviewing the requirements of PM&DC as well as departmental needs, developed a combination of rotations both in Medicine & Allied and Surgery & Allied disciplines. Allocation of rotation is purely on merit and is based on the performance of candidates in entrance test and Multiple Mini Interviews. However, while reviewing the survey questionnaire feedback, the Internship Committee identified a number of combinations that has the potential to be revised. The modified combination of rotations is developed so that every intern is now exposed to a balanced rotation. This would require increasing 10 additional positions (from current 70 to 80). A widespread discontent was also noted among interns regarding some of the rotations, especially the exposure to outpatient clinics and operating rooms. It was recommended to include weekly exposure to clinic and operating room for each rotating intern. Learning Objectives related to knowledge, skills, attitudes, expectations and responsibilities were delineated for all rotations as depicted as an example in (Appendix 1) which describes objectives for Internal Medicine rotation. The internship manual, developed in 2007, was also revised. It is recommended that a half-day hands-on training of Basic Life Support be made a mandatory part of the interns' orientation or within the first month. Communication skills workshop for interns was planned.

- **4b - Orientation:** As discussed earlier on, the interns were not satisfied with the clinical exposure during orientation. Previously the interns used to have one and half day of ward orientation with more emphasis on the ward area orientation with no pre calls system. So considering it the major area that needs improvement, it was planned to better orient the newly inducted Interns with work place based and clinical experience on top of conventional didactic orientation. The orientation days were increased from three to six days with more emphasis on ward orientation and a three days overlap with outgoing interns (outgoing and new interns pairing) and maximizing the exposure by putting them on call for a day prior to formal joining. Financial remuneration for both groups was also adjusted to account for the extra days at work.
- **4c - Interns Forum:** As highlighted in the external review report, the Internship Program was lacking ownership as opposed to residency or fellowship programs. To address this, the Interns Forum was introduced as one of the strategies. This provided a platform to the Interns to share their experiences, issues and concerns in each of the rotations and opportunity to the Committee to address the genuine issues as far as possible. This also gave a sense of ownership to the interns.
- **4d - Open discussion and individual meetings on career counseling:** In addition to a formal lecture on career counseling, an open discussion was introduced as part of the academic activities. The committee also recommends identifying a core group of faculty members who would volunteer as interns' counselors, available through prior appointment all-round the year and interns were also encouraged to contact individual faculty members for dedicated career counseling session. The interns may choose to discuss career decisions with one or more faculty members of their choice from within the core group. These meetings are to be arranged by the interns themselves, or through the internship Committee.
- **4e - Recreational Activities & Leaves:** Patient care environment is stressful for all medical, para-medical and administrative staff, especially the Interns who are front-line service providers and are exposed to vulnerable situations on a daily basis. Recreational activities are therefore essential to promote quality of life, emotional and psychosocial well-being and to provide opportunity for socialization. To offer solace and relaxation to the Interns, the Internship Committee now organizes social events each year. The committee has also made arrangements to insure that interns are able to avail all, or most of their allocated

leaves.

Step 5. Implementation

Implementation can be viewed as a developmental process with four stages: generating support, planning for change, operationalizing implementation and ensuring viability (Lemon 1994). The initial draft of recommendations was discussed in internship committee, then in departmental postgraduate committee comprising of program directors of all subspecialties, chaired by Director Postgraduate Programs.

- **5a - Resources:** After careful planning, support from all stakeholders was taken in order to implement the curriculum smoothly. Approval from Post graduate medical education committee (PGMEC), Exam cell (EC), Medical college faculty committee (MCFC) and Dean medical college was obtained, and the modified curriculum was shared and was positively acknowledged by each. The provision of adequate resources, programs for faculty development, and logistic support for coordinating various activities throughout the year was ensured.
- **5b - Barriers:** With the utmost support of the University leadership the anticipated barriers (time, funding etc.) was addressed. Considering this year and important bridge of training between medical graduation and residency training, the Faculty assured their enthusiastic involvement in the program. The courses/teaching sessions has been designed and communicated in a timely manner in order to avoid the overlapping with the Faculty's clinical commitments.
- **5c - Introduction:** After addressing the barriers and obtaining the support, the restructured internship curriculum was implemented in January 2014.

Step 6. Evaluation & Feedback

Evaluation is defined as the identification, clarification and application of criteria to determine the merit or worth of what is being evaluated (Fitzpatrick, 2011). This step is the one that directly affects and should evolve in concert with the other steps in the curriculum development process. In postgraduate medical education, the curriculum is not completed without a well-structured evaluation system in place. Assessment plays an integral role in identifying and responding to learning needs and helps both the individuals and the program to improve their performance. Keeping the abovementioned importance of evaluation in mind, the plan is to review the program after a year using the same questionnaire.

- **Users** - interns enrolled in internship program, residents of various disciplines and faculty members.
- **Uses** - To guide improvement in the overall program, identification of the areas for faculty development and addressing in case if any barriers arise during one year of implementation to ascertain the sustainability of program.
- **Ethical concerns** - The Ethics Review Committee (ERC) of the Aga Khan University approved the study. Informed consent was taken from the study participants.

Summary

Internship is the vital period of the medical career, the year when the fresh minds are casted and prepared to enter

the world of healers and this transition from medical student to the junior has long been considered a significant rite of passage (Blackwell 1986). Pakistan Medical and dental Council (PM&DC) defined this year as fulltime clinical work in PM&DC recognized hospitals and thereby its main aim is to get the clinical experience and get proficiency in dealing with the lives. Considering its importance, the internship training program needs to be evaluated on regular basis and revamping of the identified gaps should be done in order to make our interns competent. The achievement of milestones for each competency is required in residency training. The stepwise strategy proposed by Kerns' (Kerns' 1991), helps in systematic development/ restructuring of a curriculum. For a successful development of curriculum, the process really never ends; rather it is the continuum cycle of implementation, evaluation and revamping. There is not much data available regarding structuring of programs for junior doctors/ interns according to the defined competencies and this may be the strength of our study. The utilization of Kerns' instructional design for only one program in our Institute may act as our limitation. Further researches are recommended in order to report its application in other clinical programs.

Tables

Table 1: Internship Goals and Duration

Countries	Internship duration	Internship objectives/goals
Australia	1 year	To consolidate and expand the knowledge and skills of the interns in order to improve the patient care and safety
South Africa	2 year	The purpose of medical internship is to equip trainees with the knowledge and practical skills of medical practice in order for them to become independent, competent and safe medical professionals having obligations to patients, health systems and communities.
India	1 year	The program is designed in order to train the interns for their future roles as doctors and service providers to community
Pakistan	1 year	The program is competency based model of training under supervision to be an effective and independent doctor in future.

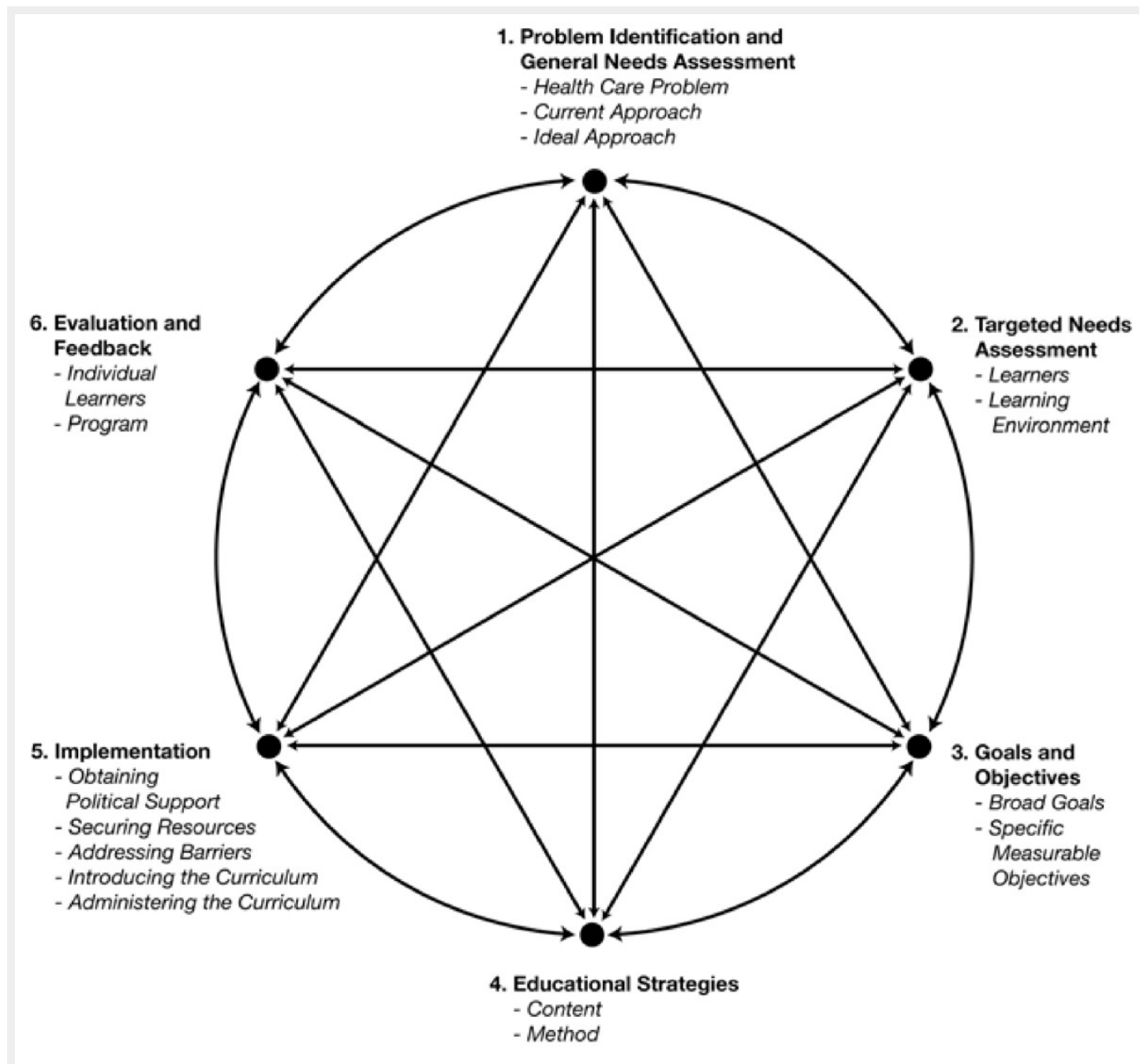
Table 2: Selected results of Need Assessment Survey

Total number of responses received (n) = 109
--

#	Items	Respondents	Response n (%)	
			<4	>4
1-	The orientation provided at the beginning of your internship was helpful.	Interns	33(50.8)	29(44.6)
		Residents	11(36.7)	17(56.7)
		Faculty	14(63.6)	2(9)
2-	Satisfaction with the specialty combinations offered at the start of internship	Interns	29(44.6)	33(50.8)
		Residents	7(23.3)	19 (63.3)
		Faculty	3(13.6)	14 (63.6)
3-	Satisfaction with the exposure and learning opportunities offered in the following areas: <ul style="list-style-type: none"> • Outpatient • In-patient 	Interns	34(52.3)	29(44.6)
		Residents	8 (26.7)	15 (50)
		Faculty	11(50)	8(36.4)
		Interns	22(33.8)	42(64.6)
		Residents	6(20)	18(60)
		Faculty	5(22.7)	14(63.6)
4-	Satisfaction with the	Interns	43(66.2)	20(30.8)

	opportunities and supervision for hands on procedures.	Residents	13(43.3)	14(46.7)
		Faculty	15 (68.2)	6 (27.3)
5	Overall satisfied with internship	Interns	15(23.1)	49(75.4)
		Residents	11(36.7)	15(50)

Figure 1: A six-step approach to curriculum development (Kern, 1991)



Take Home Messages

- Internship is a crucial period of training for acquiring skills under supervision.
- A good internship program prepares an intern to function independently and safely in future.
- Curricular restructuring is required for improving the quality of internship program.
- Kerns six-step model is an effective method for reforming curriculum.

Notes On Contributors

Muhammad Tariq is an internist. He is the interim Associate Dean, Education, FHS, Associate Professor & Section Head Internal Medicine. At the time of this intervention, he was serving as the Program Director

Internship program at Aga Khan University Hospital. Tariq has extensive interest in medical education and is FAIMER Fellow (Philadelphia) & MHPE (Maastricht). He has a number of educational intervention and publication on his credit. Muhammad Tariq, made substantial contributions to the conception and design of the work, contributed in data collection, analysis, and interpretation. He drafted the manuscript and made the final approval of the version to be published.

Muhammad Shahzad Shamim is an Assistant Professor & Consultant Neurosurgeon and Internship Program Director. He contributed in designing the idea, data collection and analysis

Amna Subhan is an Assistant Professor & Consultant Gastroenterologist and contributed in designing the work, data collection and analysis.

Sana Saeed is Senior Instructor & Consultant Pediatrician and pursuing Masters in Health Professional education. She contributed in data collection, analysis, interpretation and drafting the final manuscript.

Barkat Virani is Manager PGME and has contributed in data collection

Irum Qamar is an Assistant Professor, Emergency Medicine and has contributed in data collection, analysis and interpretation

Ziaur Rehman is an Assistant Professor & Vascular Surgeon and has contributed data collection, analysis and interpretation

Asghar Ashraf is an Assistant Professor & Anesthesiologist and contributed in data collection, analysis and interpretation

Farah Qamar is an Assistant Professor & Pediatric Infectious disease expert and also the Coordinator internship program. She has contributed data collection, analysis and interpretation

Raheela Mohsin is an Associate Professor & Consultant Gynecologist and has contributed data collection, analysis and interpretation

Swaleha Tariq, is an Assistant Professor & Family Physician and has contributed data collection, analysis and interpretation

Qurratulain Naeem was Chief Resident, Internal Medicine and currently working as senior Medical Officer. She has contributed in data collection

Acknowledgements

We acknowledge the Postgraduate Medical Education Department for continuous support and guidance.

Bibliography/References

BLACKWELL, B. (1986). Prevention of impairment among residents in training. *Journal of American Medical Association*, 255:177-8

<https://doi.org/10.1001/jama.1986.03370090099032>

Branch, W. T., jr. & Paranjape, A. 2002. Feedback and reflection: teaching methods for clinical settings. *Acad Med*, 77, 1185-8.

<https://doi.org/10.1097/00001888-200212000-00005>

Calman, K. C. 1992. The preregistration year. In: Downie, R. S., Charlton, B. (ed.) *The making of doctor: medical education in theory and practice*: Oxford University press.

Collins, A. 2006. *Cognitive Apprenticeship*. The Cambridge Handbook of learning sciences Cambridge, UK:, Cambridge University Press.

Cousins, N. 1981. Internship: preparation or hazing? *Journal of American Medical Association*;2445:377

<https://doi.org/10.1001/jama.1981.03310290045025>

COUNCIL, G. M. 2009. *Tomorrow's doctors*, GMC.

Down, I., Clark, J. 2008. *Medical Leadership*. *Medical Education and Training: From Theory to delivery*, 171. Oxford University Press.

Epstein, R. M. 2007. Assessment in medical education. *New England Journal of Medicine*, 356, 387-96.

<https://doi.org/10.1056/NEJMra054784>

Fink, L. D. 2003. *A self-directed guide to designing courses for significant learning*, University of Oklahoma.

Fitzpatrick, J. L., Sanders, J.R., Worthen, B.R. 2011. Evaluation's basic purpose, uses and conceptual distinctions. In: Fitzpatrick, J. L., Sanders, J.R., Worthen, B.R (ed.) *Program Evaluations Alternative Approaches and Practical Guidelines*. 4 ed. Boston: Pearson Education, Allyn&Becon.

Gagne, R. M., Briggs, L.J., & Wager, W.W. 1992. *Principles of Instructional Design*, Harcourt Brace College Publisher.

Gillard, J. H., Dent, T. H., Aarons, E. J., Smyth-Pigott, P. J. & Nicholls, M. W. 1993. Preregistration house officers in eight English regions: survey of quality of training. *British Medical Journal*, 307, 1180-4.

<https://doi.org/10.1136/bmj.307.6913.1180>

Gordon, J., Hazlett, C., Ten Cate, O., Mann, K., Kilminster, S., Prince, K., O'Driscoll, E., Snell, L. & Newble, D. 2000. Strategic planning in medical education: enhancing the learning environment for students in clinical settings. *Med Educ*, 34, 841-50.

<https://doi.org/10.1046/j.1365-2923.2000.00759.x>

GUSTAFSON, K. L., BRANCH, R.M. 2002. What is instructional design? *Trends and Issues in instructional design and technology*.

Harden, J. A. 2009. *Curriculum planning and development. A Practical Guide for Medical Teachers*, Edinburgh,

Elsevier.

KERN, D., THOMAS, P., HOWARD, D., BASS, E. 1991. Curriculum Development for Medical Education. A Six-Step Approach, Baltimore, the John Hopkins University Press.

KERN, D. E., THOMAS, P.A., HUGHES, M.T. 2009. Curriculum Development for Medical Education. A Six-Step Approach, the John Hopkins University Press.

LEMON, M., GREER, T. & SIEGEL, B. 1994. Implementation issues in generalist education. Journal of General Internal Medicine, 9:98-104.

<https://doi.org/10.1007/BF02598124>

Lal, S. 1999. Innovative approaches in the pursuits of teaching- training and research in community medicine. Indian Journal of Community Medicine, 24:8-18

MEINTJIES, Y. 2003. The 2 -year internship training South African Medical Journal.

Sleezer, C. M., Russ-Eft, D.F., Gupta, K. 2014. A Practical Guide to Needs Assessment, San Francisco, John Wiley & Sons.

<https://doi.org/10.1002/9781118826164>

Tariq, M., Syed, N. A., Motiwala, A., Jafri, W., Hameed, K., Islam, N., Riaz, M. AWAN, S., AKHTER, J. & TALATI, J. 2011. Effectiveness of educational interventions in improving clinical competence of residents in an internal medicine residency program in Pakistan. Education for Health (Abingdon), 24, 573.

Tariq, M., Motiwala, A., Ali, S. U., Riaz, M., Awan, S. & Akhter, J. 2010. The learners' perspective on internal medicine wards rounds: a cross-sectional study. BMC Medical Education, 10:53.

<https://doi.org/10.1186/1472-6920-10-53>

Appendices

Appendix 1

Example: Clinical Rotation of an Intern Internal Medicine

1. What are your expectations from an Intern for this clinical rotation

By the end of internal medicine rotation, the intern should be able to:

- (a) Diagnose and manage common clinical diseases seen in inpatient and outpatient medicine.
- (b) Identify and initiate management in inpatient emergencies
- (c) Work effectively as part of the ward team

2. Identify responsibilities of an Intern during this rotation

Intern will be responsible for the following:

- (a) Inpatient evaluation of a patient - including taking the history, physical examination, generating problem list, assessment and plan
- (b) Presentation of the cases during rounds
- (c) Carrying out the orders for patient care as advised by senior team members
- (d) Written documentation- including admission note, orders and discharge summaries
- (e) Mandatory attendance in morning activities daily from 8-9 am and scheduled teaching sessions in afternoon, unless dealing with an acute emergency.
- (f) Must participate in morning report as presenters and other teaching sessions as instructed
- (g) Must be present daily 8-5 for the whole month in ward (except for 3-4 preplanned off days and report to the senior resident
- (h) Must attend clinic with assigned faculty twice weekly (interns and residents must stay till 7 pm in the evening clinic as agreed upon in the department)
- (i) Maintaining highest standards of professionalism
- (j) Work as a team player, collaborate with the juniors and seniors under supervision of the consultant
- (k) Communicate effectively- including with patient and family, colleagues, consultants, other teams and allied medical staff
- (l) Feedback on their performance will be given informally by the senior resident during rotation and formal mid rotation (verbal) and end of rotation written feedback by the consultant

3. What are the Learning Objectives in order to achieve intended learning outcomes/competencies

Related to:

3.1. Knowledge:

At the end of the rotation, the interns should be able to:

- Diagnose, assess and develop a management plan for common inpatient communicable and non-communicable diseases
- Provide health counseling for prevention care in the inpatient and outpatient setting
- Coordinate patient care and management between different inpatient medical settings such as ER, ICU, SCU, and ward
- Demonstrate an understanding of disease etiology, course, prognosis and therapeutic intervention.
- Present clinical problems and discuss them systematically.

Appendix 01

3.2. Skills:

3.2.1 Clinical Skills:

At the end of the rotation, the interns should be able to:
Learn basic physical examination skills under the supervision of the senior resident.

3.2.2 Procedural Skills

- At the end of the rotation, the interns should be able to independently perform:
- Phlebotomy
- Arterial blood gases
- Foleys catheterization
- Assist senior residents in other common inpatient procedures

3.3. Attitude/Professional Behavior:

At the end of the rotation, the interns should be able maintain highest standards of professionalism with regards to:

- Patient care
- Performing as a team member, giving due respect to the hierarchical systems in place
- Collaboration with allied health service providers
- Communicate effectively- including with patient and family, colleagues, consultants, other teams and allied medical staff
- Ethical behavior
- Time management
- Punctuality

4. Teaching & Learning Strategies:

- (a) Case based teaching in rounds and clinics
- (b) Case discussions in morning report once weekly
- (c) Radiology medicine meeting monthly
- (d) Monday morning grand rounds weekly
- (e) Morbidity and mortality monthly
- (f) Clinical practice guidelines monthly
- (g) Core lecture weekly
- (h) Case of the month monthly
- (i) Journal club monthly
- (j) Resident Grand round & EBM monthly

5. Clinical Exposure per week

5.1. Inpatient Exposure

The intern will be part of a medical team, admitting patients every 4th day, presenting in daily rounds, following the patients till discharge.

5.2. Out-patient Exposure:

The intern must attend 2 medical clinics per week. Assignment will be done by chief resident

5.3. OR Exposure: NA

5.4. ER Exposure: NA

6. Assessment & Evaluation:

Tariq M, Shamim M, Subhan A, Saeed S, Rehman Z, Virani B, Ashraf A, Qamar I, Mohsin R, Naeem Q

MedEdPublish

<https://doi.org/10.15694/mep.2017.000038>



Appendix 01

- 6.1. They will be assessed and evaluated by the faculty members.
 - 6.2. Formative verbal feedback will be given at mid rotation to identify and reinforce strengths and their weaknesses, with advice on how to improve.
 - 6.3. A summative written evaluation will be documented and submitted to PGME at the end of the month
 - 6.4. Faculty evaluation by the intern at the end of the month.
7. **Please mention the Team/ call structure in which the Intern would be working including expected work hours per week.**
- 7.1. **Team structure:**
The intern will be placed in a **team** which comprises of
 - Supervising faculty
 - Senior resident
 - Junior residents
 - Intern
 - Student
 - 7.2. **Call structure**
One in four calls
 - 7.3. **Expected work hours per week**
80 ± 10% hours per week

Appendix 2

Modified list of Mandatory generic teaching sessions for internship programs

1. ACLS
2. Anaphylaxis
3. Care of Tracheostomy Tube / Drains Care
4. Career Counseling (2)
5. Chest Injuries (ATLS 2)
6. Altered Mental Status
7. Diabetes management inpatient and out patient
8. Drug Overdose and Poisoning
9. Evaluation and management of per vaginal bleed
10. Seizures Disorder
11. Adult Fluid & Electrolyte
12. Pediatrics Fluid & Electrolyte
13. Management of GI bleed
14. Wound Infections & Cellulitis
15. Evaluation and Management of Hematuria
16. Management of Hypertension
17. Interpretation of ABGs
18. Interpretation of ECG
19. Management of Common Infections (malaria, dengue, enteric)
20. Management of diarrhea in children
21. Management of head injury
22. Management of Polytrauma Patient
23. Polytrauma (2)
24. Musculoskeletal Trauma
25. General Radiology
26. Neonatal Sepsis
27. New born care
28. Shock
29. Stroke
30. Evaluation and Management of Patient with Chest Pain
31. Evaluation and Management of Patient with Dyspnea (include management of asthma, COPD, HF)
32. Evaluation and Management of Acute Abdomen
33. ENT Poutpori (epistaxis, otitis, stridor)
34. Immunization (child and adult)
35. Management of common infections in children
36. Communication Skills & Professionalism & counseling
37. Stress and Time Management

Declaration of Interest

The author has declared that there are no conflicts of interest.