CBE Evaluation Approaches and Tools

Serial No.	Citation	Link to article	Who/what was evaluated? (students, faculty, curriculum, health facility, etc.)	If students were evaluated, indicate the type of student (i.e., medical, dental, nursing, etc.) and their level in school (i.e. pre-clinical, clinical, first year vs. final year, etc.)	Where did this evaluation take place? (country)	What evaluation framework or design was used?	What evaluation tool was used?	Is a copy of the tool used in this evaluation published and available?	Where it is not described/published, should the tool be requested?	What indicator(s) was used to measure success of the CBE program?	What was the level of success documented for this evaluation?	What is the relevance of the evaluation to CBE in Africa?	Categorization according to the Kirkpatrick Model of Program Evaluation	Additional comments
1	**Abdel Rahim, I. M., Mustafa, A. E., & Ahmed, B. O. (1992). Performance evaluation of graduates from a community-based curriculum: the housemanship period at Gezira. Med Educ, 26(3), 233-240.**	http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2923.1992.tb00159.x/abstract?systemMessage=Wiley+Online+Library+will+be+disrupted+Saturday%2C+15+March+from+10%3A00-12%3A00+GMT+%2806%3A00-08%3A00+EDT%29+for+es	Performance of Medical Graduates was evaluated as judged by their supervisors to assess the effectiveness of a new medical curriculum	Medical Graduates' clinical and professional performance	Egypt (University of Gezira Medical School)	Quantitative study	Pre- and post-assignment questionnaire, based on 3 and 5 point scales	No	No	Assessment of Students' knowledge and cognitive abilities, clinical skills, and judgement and attitudes	Evidence of effectiveness of the programme in producing clinically competent and professionally acceptable doctors as judged by their senior professionals	African CBE programmes can utilize the questionnaire from this study to assess performance of medical students and effectiveness of CBE programs	Level 2- Learning and Level 3 - Behaviour	
2	**Al-Dabbagh, S. A., & Al-Taee, W. G. (2005). Evaluation of a task-based community oriented teaching model in family medicine for undergraduate medical students in Iraq. BMC Med Educ, 5, 31. doi: 10.1186/1472-6920-5-31**	http://www.biomedcentral.com/content/pdf/1472-6920-5-31.pdf	Evaluation of a task based community oriented teaching model of family medicine for undergraduate students in Iraqi medical colleges	Final Year medical students participated in the programe	Mosul, Iraq (Mosul College of Medicine)	Experimental study, students were divided into an intervention group (exposed to new training) and control group (standards curriculum)	Pre- and post-test questionnaires to students, Case Management exercices, checklists, and rating scales filled by chief investigators using direct observation of students, 5 point scale for task analysis, evaluation of reports and flow charts	Yes (refer table 6-11)	No	Students' knowledge of family medicine and development of essential permformance skills, test results for knowledge and skills, students' attitude towards clinical training at PHC clinics, communication skills	Favourable, implementation group experienced significantly more knowledge and skillls than the control group, high degree of student satisfaction with planning, organization, and implementation of the intervention activities	CBE in Africa can learn from task based community oriented teaching model developed in Iraq for medical students and assessment tools mentioned in the paper to design better evaluation studies	Level 1, 2, and 3	
3	**Azizi F. Evaluation of the community-oriented medical education in two medical schools in Sudan. East Mediterr Health J. 2003 Jan-Mar;9(1-2):191-200.**	http://applications.emro.who.int/emhj/0901_2/emhj_2003_9_1_2_191_200.pdf	Curriculum, medical students, medical school graduates	Graduates of 2 medical schools programs evaluated.	Sudan/Khartoum Medical School and Gezira Medical School	This study consisted of two parts. Part 1- a questionnaire was administered to the deans of both medical schools asking about the medical education programs in general as well as the CBE programs. Part 2- a questionnaire was administered to current medical students, graduates from the two medical schools, health personnel (nurses, occupational therapists, technicians), and Ministry of Health officials in the provinces where the CBE programs existed.	Questionnaire	No (but can be deduced from results)	No	Community-oriented competencies of graduates 3-7 years after graduation and health indicators of the provinces of both medical schools	Graduates felt that the knowledge and skills they gained from the CBE program in medical school was applicable to their current clinical work.	Clear recommendations to improve community-oriented medical education in Africa are detailed in this article.	Level 1: Reaction, Level 2: Learning, Level 3: Behavior	
4	**Birden HH, Wilson I. Rural placements are effective for teaching medicine in Australia: evaluation of a cohort of students studying in rural placements. Rural and Remote Health 12: 2167.**	http://www.rrh.org.au/publishedarticles/article_print_2167.pdf	Medical students who had completed a rural placement during the final year of their UWS medical program	Final Year medical students participated in the programe	Australia: Unversity of Western Sydney Medical School	Mix method evaluation using quantitative survey and focus group	46 item quantitative survey consisting of 37 closed-ended and nine open-ended. The survey was modified from a validated instrument used by Irby DM, Ramsey P, Gillmore G and Schaad D.	No	Yes.	Community Placements are modelled on the Flinders University Parallel Rural Community Curriculum (PRCC). Indicators included overall experience of students across variables prior to arriving at placement, on arrival and clinical experience	Responses noted enthuasiam increase about being away from main campus, clinical experience more comprehensive than metropolitian area, community welcoming and supportive, more quality time from clinical educators and different view of community	Aspects of the placements are summarised in the tool using rating scores. This information may be more relevant to the schools who wish to find out the students experiences of CBE	Level 1: Reaction & Level 2: Learning	Birden has shared tools and volunteered any help we may need. Wished us well with development of tools
5	**Chang LW, Kaye D, Muhwezi WW, et al. "Perceptions and valuation of a community-based education and service (COBES) program in Uganda." Med Teach. 2011;33(1):e9-15.**	http://informahealthcare.com/doi/pdf/10.3109/0142159X.2011.530317	Students, faculty, site tutors	Medicine, dentistry, nursing, radiography, and pharmacy students who had already participated in at least one community-based education and service programs (COBES) rotation	Uganda/Makerere University College of Health Sciences	Internet-based survey were administered to students, faculty, and site tutors to assess their perceptions and valuation of COBES training at Makerere University	Internet-based survey	No	Yes	1. Preparedness for the CBE experience 2. Sufficiency of stipend for the CBE rotation 3. Quality of accommodation at CBE site 4. Overall value of the CBE experience to your overall training 5. Tutor assessment and student valuation	All groups generally perceived the program positively and valued the COBES experience. However, several key areas for improvement were identified, including the need for better stipends/facilitation, improved accommodations, more training and better preparation for tutors and students, and improved learning conditions and resources.	This evaluation was conducted in Africa under similar context to the MEPI institutions	Level 1: Reaction	Tool recevied
6	**Chastonay, P., Vu, N. V., Humair, J. P., Mpinga, E. K., & Bernheim, L. (2012). Design, implementation and evaluation of a community health training program in an integrated problem-based medical curriculum. Medical Education Online, 17.**	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3387672/pdf/MEO-17-16741.pdf	Evaluation of a community health programme for medical students as part of an integreted medical curriculum evolved over 15 years in Geneva		Switzerland (University of Geneva)	Qualitative and quantitative study	Retrospective and prospective Analysis of meeting minutes, student satisfaction through questionnaires, competencies of teachers on 5 point Likert scale, student participation rates, review of exam documents for students' performance, self administered questionnaires to assess achieved goals	No	No	Educational Innovations, new developments in curriculum, interactions between students and community, students' satisfaction, active participation in the programme and their success at certifying exams	Positive response, students' direct exposure and practise in community health environment proved to be an effective training approach to broaden their education by offering them a community perspective of health and disease	CBE in Africa can learn lessons from the Community Health programee curriculum design and evaluation methods to plan and conduct CBE in a better way (refer to tables)	Level 1- Reaction and Level2- Learning	
7	**Coles, C.; Grant, J.G.(1985). "Curriculum evaluation in medical and health-care education." Medical education 19(5): 405-422.**	http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2923.1985.tb01345.x/abstract	Introduces teachers and researchers in medical education to current ideas and approaches to curriculum evaluation and research	N/A	Southampton, England	Introduces a general model for curriculum evaluation in medical education	N/A	N/A	N/A	Describes steps in curriculum evaluation including methods of data collection, analysis and interpretation and decision making to affect educational development	N/A	CBE in Africa can utilize the curriculum evaluation model and guidelines on how to conduct such evaluations to affect educational development	N/A	Important baseline article

8	**Dehaven, M. J., Gimpel, N. E., Dallo, F. J., & Billmeier, T. M. (2011). Reaching the underserved through community-based participatory research and service learning: description and evaluation of a unique medical student training program. Journal of Public Health Management & Practice, 17(4), 363-368.**	http://www.nursingcenter.com/_PDF_.aspx?an=00124784-201107000-00014_	Evaluation of Community Based Participatory Research (CBPR) projects	Medical students (fellows) enrolled in a 9 week fellowship Programme annually: Post Doctoral	USA: University of North Texas Health Sciences Center	Pre/Post test surveys	5 point Likert scales, Wilcoxon signed rank test used to assess statistical significance	Yes	No	Fellows reported on attitude about the program, mentors and their community projects, research knowledge. Community partners reported on attitude about program and fellows, fellows' level of cooperation and responsibility, familiarity with needs of medically underserved and knowledge of applying local solutions to health problems	Favourable	Medical schools in Africa can learn lessons for promoting medical students to participate in community based research programmes and utilize the pre and post survey exercise and indicators to evaluate.	Level 1: Reaction & Level 2: Learning	
9	**Diab P, Flack P. Benefits of community-based education to the community in South African health science facilities. Afr J Prm Health Care Fam Med. 2013;5(1), Art. #474.**	http://www.phcfm.org/index.php/phcfm/article/viewFile/474/584	Evaluation of benefits of CBE to the communities	Views about CBE of Community leaders, patients and supervisors at CBE sites were evaluated	South Africa (Limpopo, KZN and Western Cape)	Exploratory Qualitative Study, Focus Group Discussions and interviews	FGDs with the help of an interview guide	No	No	Indicators for success were improved service delivery, reduction in hospital referrals, home visits, community oriented PHC, improved communication with Patients (short term benefits) and improved teaching through better academic-community relation and students' improved understanding of health system (long term benefits)	Successful, Communities were benefitted from CBE with a good training site-community site partnership	The study explains benefits of CBE to communities which can help in obtaining better community support for planning and conducting CBE programmes in Africa	Level 1 - Reaction	
10	**Edelstein, R. A., Reid, H. M., Usatine, R., & Wilkes, M. S. (2000). A comparative study of measures to evaluate medical students' performances. Academic Medicine, 75(8), 825-833.**	http://journals.lww.com/academicmedicine/Fulltext/2000/08000/A_Comparative_Study_of_Measures_to_Evaluate.16.aspx	Evaluation of students' performance in National Board of Medical Examiners (NBME) exams and their attitudes towards traditional Vs new mordalities for performance measurement.	4th Year Medical Students	USA (University of California, Los Angeles)	Mix of qualitative and Quantitative	Data gathered from examination records and Clinical Skills Survey (CSS), records of students' demographics, past performances and speciality choices (Non Primary Vs Primary Care) researched	Yes (refer tables for evaluation parameters)	No	Results of Examinations, Students' rankings of merits of examinations in assessing different physician attributes, students' perceptions of accuracies of examinations, gender and ethic differences in performances, Students' perceptions of strengths and weaknesses of evaluation methods, the accuracy with which evaluation methods measure students' abilities.	Positive, evident that performance examinations measure different physician competencies and use a multi faceted approach to assessment.	African Medical schools can take lessons from CBX (computer based case simulations) and PBX (standardised patient examinations) and clinical skills survey (CSS) methods of evaluating medical students' performance as compared to traditional approaches.	Level 1 - Reaction	
11	**Elam, C. L., Sauer, M. J., Stratton, T. D., Skelton, J., Crocker, D., & Musick, D. W. (2003). Service learning in the medical curriculum: developing and evaluating an elective experience. Teach Learn Med, 15(3), 194-203.**	http://www.tandfonline.com/doi/abs/10.1207/S15328015TLM1503_08?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed#.UyNgS_IdVg0	Students and Course evaluations to link a service learning elective with a pre existing course.	Medical students in small groups perform an asset-needs assessment and design a service project for communities to work with.	Kentucky, USA (University of Kentucky, College of Medicine)	Qualitative and descriptive study	Surveys, Interviews, Reflection questionnaires, Likert scales	No	Yes	Evaluations of student performances, perceptions and course evaluations, their desires and motivation to serve populations, observations and assessments of students	Successful, achieved its objectives	Evaluation of the experience was conducted over two years	Level 1- Reaction and Level 2- Learning	Tool received; not very useful.
12	**Genet S, Faculty of Medical Sciences, Jimma University, Jimma, Ethiopia. "Evaluation of Team Training Program as one of the strategies of community-based medical education of Jimma University." Foundation for Advancement of International Medical Education and Research (FAIMER) (Abstract ony).**	http://www.faimer.org/education/fellows/abstracts/03genet.pdf	Curriculum, strategy of the CBE program	-	Ethiopia/Jimma University	Medical students and faculty were administered a questionnaire. Open-ended questions about the programs objectives were asked. Some community members and other stakeholders were also interviewed	Questionnaire	No	No	Positive feedback from students, faculty, community memebers, and other stakeholders	Students and faculty are knowledgeable about the core CBE strategy but only half of student respondents agreed it helped them identify health problems. There was a decline in the interest towards the core CBE strategy by faculty despite appreciation of objectives. Supervision was good but community participation and interventions were poor. Collaboration between community leaders, stakeholders and the university was poor	This article provides an approach for evaluating a specific strategy within a CBE program in Africa	Level 1: Reaction	
13	**Heestand Skinner DE, Onoka CA, Ofoebgu EN. Community-based education in Nigerian medical schools: students' perspectives. Educ Health (Abingdon). 2008 Jul;21(2):83. Epub 2008 Sep 5.**	http://www.educationforhealth.net/temp/EducHealth21283-5352091_145200.pdf	Medical students	Final year medical students	Nigeria/20 accredited medical schools	Systematic survey of CBE programs in 20 medical colleges in Nigeria through self-assessment by medical students who paticipated in CBE programs. The survey focused on the 21 generic objectives for CBE defined and validated by Kristina et al. (Kristina TN, Majoor GD, Van Der Vleuten CPM. Defining generic objectives for community-based education in undergraduate medical programmes. 2004. Medical Education, 38, 510-521.)	Survey questionnaire	No	Yes	Knowledge and skills gained during CBE experience	Students reported overall increases in knowledge and skills at the fair to good level. A positive corelation between the length of CBE experience and self-ratings of knowledge and skills was observed.	This evaluation was conducted in Africa under similar context to the MEPI institutions	Level 1: Reaction & Level 2: Learning	No response from authors
10	**Huang, W. Y., & Malinow, A. (2010). Curriculum and evaluation results of a third-year medical student longitudinal pathway on underserved care. Teaching & Learning in Medicine, 22(2), 123-130.**	http://www.tandfonline.com/doi/abs/10.1080/10401331003656611?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed#.UyNgbPIdVg0	An Underserved care pathway curriculum (Longitudinal Ambulatory care experience) designed to help interested students prepare to be clinicians for the underserved, was evaluated	Curriculum evaluated by 3rd year medical students	Houston, Texas, USA (Baylor College of Medicine)	Pre and post Self Assessments by students	Pre and post assessment and End of pathway evaluation rating by students in the form of rating and reflection essays	Yes	N/A	Gain in students' knowledge, skills and attitudes towards delivery of community based health care, barriers to health care, faculty's establishment of a learning environment	Curriculum successfully rated by students, improvement in students' knowledge and skills in underserved care, further research needed to clarify outcomes of program	Evaluation rating questionnaires and 3rd year underserved pathway curriculum can be explored to take messages for better designing of CBE programmes in Africa.	Level 1- Reaction and Level 2 - Learning	
11	**Irby, D. M., et al. (1991). "Characteristics of effective clinical teachers of ambulatory care medicine." Academic medicine: journal of the Association of American Medical Colleges 66(1): 54-55.**	http://journals.lww.com/academicmedicine/pages/articleviewer.aspx?year=1991&issue=01000&article=00017&type=abstract	Evaluates clinical teachers in ambulatory care settings and impacts of clinical environment on teaching effectiveness	N/A	University of Washington, US	Quantitative Study	Survey Questionnaire for medical students to rate teachers on their teaching behaviours	No	No. It is an old study, 1991, revised tools are available presently)	Overall teaching effectiveness was predicted by (1) involved me in learning process (2) communicated expectations for my performance (3) stimulated my interest (4) interacted skillfully with patients	Characteristics of clinical teachers in ambulatory care settings were similar to those found in prior studies of ward teaching		N/A	

12	**Jinadu, M. K., Ojofeitimi, E. O., & Oribabor, P. (2002). Evaluation of an innovative approach to community-based medical undergraduate education in Nigeria. Educ Health (Abingdon), 15(2), 139-148.**	http://old.educationforhealth.net/EfHArticleArchive/1357-6283_v15n2s6_71366511 6.pdf	Evaluating impact of CBE programmes on medical education in Nigeria, Student Evaluation for performance	Medical students were evaluated by field assessments, reports and community based projects and written examination	Nigeria (Obafemi Awolowo University)	Qualitative and quantitative study	Self Administered Questionnaires for medical students, in depth interviews of key stakeholders, Focus Group Discussions of selected community members with interview and FGD guides	No	Yes	Improved community perceptions of CBE programmes, Better PHC educational environment, change in perceptions of students on community needs	Successful, Medical students in innovative schools were more oriented to CBE and more sensitive to community needs with better PHC exposure than conventional schools, better learning methods.	Primary Health Care exposure for students	Level 1- Reaction and Level 2- Learning	No response from authors
13	**Kalishman S. "Evaluating community-based health professions education programs." Education for Health, Vol. 15, No. 2, 2002, 228 – 240.**	http://www.educationforhealth.net/temp/EducHealth152228-5368645_145446.pdf	Nothing evaluated. This is an article providing models and tools for evaluating community-based health education programs	-	-	The paper is organized around a group of questions for CBE as a reference. Topics included are: why evaluation is wanted, what kinds of questions can be addressed through evaluation, who are the stakeholders, who should conduct the evaluation, what methods can be used, and how to analyze data and report results from the evaluation. Examples related to community-based health professions programs are included.	Various models and tools	Examples of possible questions related to different methods are given.	-	-	-	The models and tools referenced in this paper could be adapted to the African context	N/A	Prescribed reading.
14	**Kaye DK, Muhwezi WW, Kasozi AN, et al. "Lessons learnt from comprehensive evaluation of community-based education in Uganda: a proposal for an ideal model community-based education for health professional training institutions." BMC Med Educ. 2011 Mar 1;11:7. doi: 10.1186/1472-6920-11-7.**	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3056836/pdf/1472-6920-11-7.pdf	Curriculum	-	Uganda/22 health professional training institutions	Curriculum review to assess the nature, purpose, outcomes, and methods of instruction and assessment of the CBE programs at 22 institutions. Site visits to these institutions and their CBE sites, to assess the learning environment (infrastructure and resources). In-depth interviews with key people (alumni and community members) involved in running CBE at the institutions and community, to evaluate CBE implementation,	Document review, key informant interviews	No	No	Presence of a formal CBE curriculum, identified learning outcomes, and CBE competencies at the institutions	Deficiencies were found in the design and implementation of CBE at several health professional training institutions, with major flaws identified in curriculum content, supervision of trainees, inappropriate assessment, trainee welfare, and underutilization of opportunities for contextual and collaborative learning	This article has a proposal for a model CBE curriculum for training health professionals	Level 1: Reaction	
15	**Kristina, T. N., Majoor, G. D., & van der Vleuten, C. P. M. (2005). Does CBE come close to what it should be? A case study from the developing world. Evaluating a programme in action against objectives on paper. Education for Health, 18(2), 194-208.**	http://www.ncbi.nlm.nih.gov/pubmed/16009614	To test the suitability of established method for curriculum development for evaluation of CBE programmes		Indonesia (Deponegoro University, Semarang)	Qualitative	Documentary Analysis, Participatory observation, Staff interviews	Yes (refer to tables 1 and 2)	No	Students' ability to identify health problems, invent realistic solutions, design and implement health interventions, transmit health education sessions, work in a PHC and other community settings,take patient referral decisions and participate in health teams.	Good opportunities for CBE but major shortcomings in implementation - underutilization of opportunities, jeopardization of facilities in comunity, more time needed in community to assess health needs jointly and impact of activities conducted.	CBE in Africa can utilize **Cole and Grants' method** for evaluation of CBE curriculum in developing countries in order to assess if it works in community.	Level 2 - Learning and Level 3 - Behavior	Article by Coles and Grant (1985) Curriculum evaluation in medical and health care education. Medical Education. 19:405 found.
16	**Ladhani Z. "Assessment in community-based education. Principles of Assessment in Medical Education." New Delhi: Jaypee Brothers; 2012. p. 191-204.**	http://www.jaypeedigital.com/ChapterSpecific.aspx?id=9789350258859&sno=WCcfhuY9BTY%3d&sr=1	Nothing evaluated. This is a chapter discussing community-based education assessment in various settings	-	-	Topics in this chapter include: CBE indicators, comprehensive approaches to CBE assessment, assessments of student performance, essential points in the construction of checklists, roles of members of the assessment team, measurement approaches to assess performance, measurement approaches to assess content knowledge, difficulties with student assessments in CBE, planning assessment for CBE, designing assessment methods for CBE	Various models and tools	Yes	-	-		The models and tools referenced in this paper could be adapted to the African context	N/A	
17	**Lamus F, Jaimes C, Serrano N. "Action research outcomes at a community health education program." Foundation for Advancement of International Medical Education and Research (FAIMER) (Abstract only)**	http://www.faimer.org/education/fellows/abstracts/09Lamus.pdf	Students, impact of the CBE program on the communities	Medical students (level unknown)	Colombia/Universidad de La Sabana	Final project reports submitted by medical students as part of their CBE program were reviewed. Focus groups and in depth interviews with students, community leaders and faculty were conducted.	Focus group discussions, key informant interviews, review of final project reports	No	No	Seven characteristics were evaluated to develop a model of student-community collaboration for improved health: approach to the community; engagement and understanding the community; needs assessment; establishment of goals and objectives; development of a plan; intervention implementation; evaluation of results; and dissemination of results.	Evaluation of the results led to the development of a systematic model for CBE at this institution.	Could potentially be generalizable to the African context but would need more details.	Level 1: Reaction	
18	**Leone-Perkins, M., Schnuth, R. L., & Lipsky, M. S. (1999). Students' evaluations of teaching and learning experiences at community- and residency-based practices. Family Medicine, 31(8), 572-577.**	http://www.researchgate.net/publication/12809856_Students'_evaluations_of_teaching_and_learning_experiences_at_community-_and_residency-based_practices/file/79e4150de1b6410b2c.pdf	Students' perceptions of preceptor teaching behaviours and their performance information at community and residency based based sites were evaluated	3rd year medical students who completed a 4 week rotation in family medicine at community and residency based sites	Philadelphia and Chicago (MCP-Hahnemann University School of Medicine and Northwestern University)	Quantitative Study	Surveys (students completed 2 post rotation evaluation forms), used 5 point Likert scale to evaluate preceptors teaching, Clinical performance and written exam grades were used to evaluate students' clinical performance.	Yes	No	Performance of students in final clerkship exam and clinical tasks, level of student satisfaction with preceptors' teaching and their interaction with the preceptors, preceptors' availability	Overall Favourable, Students clinical performance better for community sites, No significant difference in rating of preceptors at residency Vs community sites	CBE Programs in Africa can take lessons from evaluation tool used in the study (questionnaires)	Level 1 - Reaction and Level 3 - Behaviour	

19	**Leung, G. M., Fielding, R., Chan, M. F., Lee, A., Cheng, Y. H., Yu, C., & Lam, T. H. (2002). The development and evaluation of an integrated community-based, patient-centred learning activity at the University of Hong Kong. Medical Education, 36(10), 992-995.**	http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2923.2002.01277.x/abstract?systemMessage=Wiley+Online+Library+will+be+disrupted+Saturday%2C+15+March+from+10%3A00-12%3A00+GMT+%2806%3A00-08%3A00+EDT%29+for+essential+maintenance	Evaluation of Patient Care Project (PCP), an integrated patient centered, community based learning activitiy	First and second year medical students who took up the course to contribute to community welfare, participated in the evaluation	University of Hongkong	Quantitative Study	Survey Questionnaires filled by students, patients and tutors, Tutors' performance rated by students on 4 point Likert scale	No	Yes	Tutors' performance, students' perception of whether their core objective have been from the course, patients' reported experiences with students, Tutors' appraisal of students' performance (grasping of concepts, skills acquisition)	PCP proved out to be a successful course for community based learning and patient centered methods	Learning objectives for the Patient Care Project (PCP) page 994 Figure 1	Level 1- Reaction and Level 2 - Learning	No response from authors, but probably covered by tool in next article.
20	**Leung, K.-K., Liu, W.-J., Wang, W.-D., & Chen, C.-Y. (2007). Factors affecting students' evaluation in a community service-learning program. Advances in Health Sciences Education, 12(4), 475-490.**	http://link.springer.com/article/10.1007%2Fs10459-006-9019-1	Evaluation of Community Service Learning Programme after a 2 week training for medical students	5th Year Medical students who had completed service learning programm	Taiwan, National Taiwan University College of Medicine	Questionnaire Surveys to collect quantitative data	questionnaires based on Fund for Improvement of Post secondary Education(FIPSE) survey instrument (Elyer and Giles, 1999), answers on 5 point Likert scales	Yes	No	Students' Attitude towards social service and citizenship, commitment to take up community service, quality of community service learning courses and skills acquired from the programme	Overall Favourable, Students' belief of community service is positive but they are reluctant to serve in a personal capacity	CBE programmes in Africa can utilize the three scale FIPSE instrument for evaluation	Level 1: Reaction & Level 2: Learning	
21	**Lovato, C., Bates, J., Hanlon, N., & Snadden, D. (2009). Evaluating distributed medical education: what are the community's expectations? Medical Education, 43(5), 457-461.**	http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2923.2009.03357.x/abstract	Community's perceptions on impacts of undergraduate medical education programme in underserved areas is evaluated.	Community leaders as key informants	Vancouver, Canada (University of British Columbia)	Exploratory Qualitative study	Semi Structured interveiws with key informants from different fields of Communities	No	No	Community's perceptions of current and future impacts were measured including improved recruitment and retention of health workforce including primary care doctors, access and quality of health care, expanded services, increase in partnerships withing and outside community, community change and development	Impact not clear due to small sample size (8) and limitation to single community, more evaluation and research needed to explore broader community impacts	To evaluate communities' perception on CBE in Africa, inputs from non health fields such as business, politics, education, media etc. can be taken (as done in this study) to get a wider perspective	Level 1- Reaction	
22	**Lynch, D. C., Teplin, S. E., Willis, S. E., Pathman, D. E., Larsen, L. C., Steiner, B. D., & Bernstein, J. D. (2001). Interim evaluation of the rural health scholars program. Teaching and Learning in Medicine, 13(1), 36-42.**	http://www.tandfonline.com/doi/abs/10.1207/S15328015TLM1301_7?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed#.UyNiR_ldVg0	Assessing the effectiveness of RHSP (Rural Health Scholars Programme) with the aim of increasing the number of physicians who will practise PHC medicine in rural areas.	Medical Students attend a 5 weeks community based preceptorship in rural areas during their medicine course	North Carolina, USA (East and North Carolina University)	Group comparison design, post intervention comparison made between RHSP participants Vs Non participants	Questionnaire to ascertain career interests of students	No	No	Proportion of scholars who matched for primary care residencies in rural areas	Successful, RHSP is meeting interim objectives to increase the number of physicians practicing in remote rural areas. Medical students who participate in RHSP are more likely to choose family medicine and primary care residencies in community hospitals.	Can gain lessons from Rural Health scholar program curriculum.	Level 1- Reaction and Level 3 - Behaviour	
23	**Mabuza LH, Diab P, Reid SJ et al. Communities' views, attitudes and recommendations on community-based education of undergraduate health sciences students in South Africa: A qualitative study.Afr J Prm Health Care Fam Med. 2013;5(1), Art. #456**	http://www.phcfm.org/index.php/phcfm/article/viewFile/456/646	Communities' perception about CBE	Communities's views, attitudes and recommendations were evaluated regarding CBE undertaken by the students from multiple disciplines of Health Sciences (nursing, occupational therapy, speech and language therapy, audiology, pharmacy and physiotherapy) to improve the quality of community support for CBE programmes	South Africa (Limpopo, KZN and Western Cape)	Exploratory Qualitative Study, Focus Group Discussions and interviews	FGDs with the help of an interview guide	No	No	Success was measured in terms of perceived improvement of service delivery, better referral to hospitals and reduction of workload on site staff and students' acquisition of practical skills and confidence.	Favourable response.CBE was seen to benefit the communities, students and host institutions	The study throws light on community's views about CBE which can help in better designing and conduction of CBE programmes in Africa and address community barriers encountered during CBE.	Level 1 - Reaction	
24	**Mak, D. B., Plant, A. J., & Toussaint, S. (2006). "I have learnt ... a different way of looking at people's health": an evaluation of a prevocational medical training program in public health medicine and primary health care in remote Australia. Med Teach, 28(6), e149-155.**	http://informahealthcare.com/doi/pdf/10.1080/01421590600776404	Prevocational Medical Practitioners' (PMPs) knowledge and understanding of a Public Health Medicine and PHC training program, Program's influence on PMPs.		Australia (University of Western Australia, Notre Dame and Curtin)	Exploratory Qualitative Study	Mid course Structured Telephonic Interviews, Analysis of reports, Conference presentation, newsletters and publications written by PMPs, post course written questionnaire	No	No	Practical experience in clinical patient management, ability to apply new skills to situations, ability to manage STIs, Immunization, knowledge of public health service delivery issues such as access to health care, determinants of health outside health system, personal growth and future aspirations.	PMP program was successful in teaching students basic tools of public health care, PHC and their application.	Characteristics of Kimberley Prevocational Program Page 153 Figure 1	Level 1- Reaction and Level 2 - Learning	
25	**Mbalinda SN, Plover CM, Burnham G, et al. "Assessing community perspectives of the community based education and service model at Makerere University, Uganda: a qualitative evaluation." BMC Int Health Hum Rights. 2011 Mar 9;11 Suppl 1:S6. doi: 10.1186/1472-698X-11-S1-S6.**	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3059478/pdf/1472-698X-11-S1-S6.pdf	Community members, site tutors	-	Uganda/Makerere University College of Health Sciences	A stratified random sample of 11 community-based education and service programs (COBES) sites was selected to examine the community's perception of Makerere's CBE program. Key informant interviews of 11 site tutors and 33 community members were completed. This study evaluated the COBRES model assessing: the engagement of the community in identification, implementation, and evaluation of the community activities, the effectiveness of the student communication, the value of the health interventions, and the sustainability of the student designed community programs.	Key informant interviews, review of student community reports	No	Yes	Positive feedback from community members (qualitative data)	Communities hosting Makerere students valued the students' interventions and the COBES model. They reported witnessing health benefits of fewer cases of disease, increased health seeking behavior and sustainable healthcare programs.	This approach was unique in that it evaluated the quality and benefit of a CBE program from the perspective of the communities where the students worked.	Level 1: Reaction	Tool received.

26	**Mpofu R, Imalingat A. "The Development of an instrument for assessing community-based education of undergraduate students of community and health sciences at the University of the Western Cape." Educ Health 2006;19:166-178**	http://www.educationforhealth.net/temp/EducHealth192166-5431754_150517.pdf	Students, faculty	Undergraduate students doing Physiotherapy, Occupational Therapy, Social Work, Human Ecology, Dietetics, and Nursing	South Africa/University of the Western Cape	Existing documents relevant to the assessment of CBE were collected and analyzed to provide background information. Focus group discussions were held with lecturers from various departments, key persons from the departments, and post-graduate students. All discussions were were audiotaped and later the data analyzed into emerging themes.	Focus group discussions, document review	Yes	No	Knowledge transferable skills, attitudes and professionalism	A standard instrument for assessing community-based learning activities was developed.	The focus was on developing a method for assessing student performance/learning, rather than on CBE evaluation per se.	Level 1: Reaction & Level 2: Learning	
27	**Mudarikwa RS, Mcdonnell JA, Whyte S, et al. "Community-based practice program in a rural medical school: Benefits and challenges." Medical Teacher 2010. 32(12); 990-6. Available from: (doi:10.3109/0142159X.2010.509417)**	http://informahealthcare.com/doi/abs/10.3109/0142159X.2010.509417	Students, representatives from community organizations (community educators)	First year medical students (pre-clinical)	Australia/Gippsland Medical School, Monash University	Students and representatives from community organizations (community educators) evaluated the community-based practice program (CBPP) using questionnaires, focus groups and interviews.	Questionnaires, focus group discussions, and individual telephone interviews	No	No	For students - community services, interactions, research projects. For community educators - CBPP learning experience, students' involvement, research project, placment logistics.	Because the evaluation was done at the end of year one, there is limited data to unequivocally claim that the program fully meets its overall objective; however, there are positive outcomes and pointers to success.	Similar contextual settings and challenges	Level 1: Reaction & Level 2: Learning	
28	**Naidu CS, Zweigenthal V, Irlam J, London L, Keikelame J. "An evaluation of university of Cape Town medical students' community placements in South Africa." African Journal of Primary Health Care & Family Medicine. 2012;4(1):7.**	http://phcfm.org/index.php/phcfm/article/viewPDFInterstitial/448/486	Students, community stakeholders	Fourth-year edical students	South Africa/University of Cape Town	At UCT, fourth-year medical students conduct community-based research projects and follow-up health promotion interventions during their Public Health training. A total of 32 projects were randomly selected out of 232 projects undertaken during 2006, 2008 and 2009. Two students and a stakeholder involved with each project were sampled.	Standardized survey emailed to students, in-depth interviews held with stakeholders	No	Yes	For student - confidence in development of research and health promotion skills, assessment of the value of the community-based placements, Perceived benefits and challenges. For stakeholders - value of student placements, benefits and challenges of student placements	Despite the challenges, both students and stakeholders viewed the placements favourably and felt they achieved the learning outcomes and provided benefits for stakeholders and the communities.	This evaluation was conducted in Africa under similar context to the MEPI institutions	Level 1: Reaction & Level 2: Learning	Tool received.
29	**Omotara BA, Padonu MO, Yahya SJ. "Assessment of the impact of community-based medical education of the University of Maiduguri on communities in three local government areas of Borno State, Nigeria: community leaders' perspectives." Educ Health (Abingdon). 2004 Mar;17(1):6-16.**	http://www.educationforhealth.net/temp/EducHealth1716-5443607_150716.pdf	Community leaders	-	Nigeria/University of Maiduguri Medical College	Focus group discussions were held with community leaders in three rural local government areas where the students worked.The goal of this evaluation was to assess the level of awareness and impact of the community-based medical training of the University of Maiduguri on the health of the community in promoting the ideals of PHC.	Focus group discussions	No	No	Increased knowledge of PHC ideals in the communities due to the CBE program	The community-based medical training of the University of Maiduguri has increased community awareness of preventive aspects for various communicable and non-communicable diseases. In addition it has helped to encourage the communities to participate actively in supporting PHC activities.	This approach evaluated the impact and level of awareness of the CBE program of local communities in Nigeria.	Level 1: Reaction	
30	**Oswald, N., Alderson, T., & Jones, S. (2001). Evaluating primary care as a base for medical education: the report of the Cambridge Community-based Clinical Course. Med Educ, 35(8), 782-788.**	http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2923.2001.00981.x/abstract?systemMessage=Wiley+Online+Library+will+be+disrupted+Saturday%2C+15+March+from+10%3A00-12%3A00+GMT+%2806%3A00-08%3A00+EDT%29+for+essential+maintenance	Evaluation of an innovative Community based Clinical Course (CBCC) integreted with hospital based education	Medical Students go through a 15 months attachment to a general clinical practise	Cambridge, England	Exploratory qualitative study with a mix of different forms of students' assessments	Electronic analysis of clinical contacts of students- patients recorded on palm top, Practise Disease Index and index for tracking patients with hospital appointments used to follow up patients, Assessment of Patients' opinion and feedback about students, Regular debriefing by students recorded for feedback, direct reporting of feedback, interveiws, records of expenditure	No	No	CBCC evaluated in terms of feasibility to conduct such course, examination success of students, analysis of clinical contacts recorded with patients, cost assessment for course	Successful course,feasible to run, more research needed to assess long term clinical attachments in primary care settings	The designed Cambridge CBCC curriculum (available online) can be looked at in order to gain any new and positive point for better designing CBE curriculums in Africa	Level 1 - Reaction, Level2 - learning, Level 3- Behaviour	
31	**Patel, V. L., Yoskowitz, N. A., & Arocha, J. F. (2009). Towards effective evaluation and reform in medical education: a cognitive and learning sciences perspective. Advances in Health Sciences Education, 14(5), 791-812.**	http://link.springer.com/article/10.1007%2Fs10459-007-9091-1	Evaluation in Medical Education, Role of cognitive and learning sciences theories in informing evaluation of medical education, its impact on student learning, performance and competence	This paper offers several recommendations for curricular change and evaluation, theoretically-based within the framework of the cognitive and learning sciences	College of Medicine, University of Arizona, Phoenix, in Partnership with Arizona State University	Exploratory study, provides a review of issues in evaluation of health professions education and its relation with student learning and performance	Highlighted the evidence to support curricular reforms to improve student learning and performance, and several areas where further research is needed (e.g., effects of technology and simulation on learning and performance, evaluation of hybrid curricula, research in natural settings)	No	No	Theries for use when evaluating, eg Adaptive character of thought (ACT-R) theory, Cognitive load theory (CLT)	Evaluation Framework provided with the theory	Curriculum Evaluation and outlines clear goals for curriculum. Recommendations for curricular change and evaluation in medical education within framework of cognitive and learning sciences and highlights areas of further research	Level 2 - Learning and Level 3 - Behavior	
32	**Porter, B., & Naggan, L. (1990). Evaluating a Community-Based Primary Care Internship. In Z. M. Nooman (Ed.), Innovations in Medical Education. New York: Springer Publishing Company, Inc.**	No link available	Evaluation of a Primary Care Internship Programme in terms of impact on delivery of health care and on graduate medical students		Israel (Ben Gurion University, Negev)	Observational, Quantitative	Survey Questionnaires for Students' interviews on entering the programme	No	No	Quality of health care at community clinics (reduced unnecessary lab tests and emergency room referrals), Judicious approach to drug prescription, change in students' perception and beliefs about including PHC as career choice, community goals.	Favouable, community oriented curriculum prepared students well for practicing medicine in community and initiate change in health system.		Level 1- Reaction and Level 2- Learning	
33	**Salmon K, Keneni G. "Student nurses' learning on community-based education in Ethiopia.' Educ Health 2004;17:172-182**	http://www.educationforhealth.net/temp/EducHealth172172-5453206_150852.pdf	Students	Final year nursing students	Ethiopia/Jimma University	A quantitative, descriptive, survey design was adopted, using a single, anonymous questionnaire. Some qualitative data were gained using open-ended questions	Survey questionnaire	No	Yes	1. Student-related factors 2. Mentor-related factors 3. Community-learning environment 4. The level to which the CBE objectives were met	Majority of students reported positively	This evaluation was conducted in Africa under similar context to the MEPI institutions	Level 1: Reaction	Tool received.

34	**Shannon, C. K., Baker, H., Jackson, J., Roy, A., Heady, H., & Gunel, E. (2005). Evaluation of a required statewide interdisciplinary Rural Health Education Program: student attitudes, career intents and perceived quality. Rural & Remote Health, 5(4), 405.**	http://www.rrh.org.au/publishedarticles/article_print_405.pdf	West Virginia Rural Health Education Partnerships (WVRHEP) programme evaluated , students spent at least 12 weeks in a rural settings	Students from 10 disciplines - clinical psychology, dentistry, dental hygiene, medicine, nursing, pharmacy, occupational therapy, physical therapy, physician assistants and social work at clinical level	USA, West Virginia University	Pre and Post evaluation Questionnaires	Online questionnaires - baseline and post rotation, attitudinal responses quantified on ordinal scales	No	Yes	Students' attitudes on curricular components, overall rotation quality, clinical experiences, career intents, community activities and social obligation.	Favourable	Association between percieved quality of the rural experience and increased interest in rural health, social responsibility and confidence in becoming part of the community	Level 1: Reaction & Level 2: Learning	No response from authors or department.
35	**Shuval, K., Berkovits, E., Netzer, D., Hekselman, I., Linn, S., Brezis, M., & Reis, S. (2007). "Evaluating the impact of an evidence-based medicine educational intervention on primary care doctors' attitudes, knowledge and clinical behaviour: a controlled trial and before and after study." Journal of Evaluation in Clinical Practice, 13(4), 581-598.**	http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2753.2007.00859.x/abstract?systemMessage=Wiley+Online+Library+will+be+disrupted+Saturday%2C+15+March+from+10%3A00-12%3A00+GMT+%2806%3A00-08%3A00+EDT%29+for+essential+maintenance	Evaluation of a programme to assess impact of an educational intervention consisting of Evidence Based Medicine (EBM) on family doctors' clinical performance, change in their knowledge and attitudes towards EBM	N/A	Israel	Experimental (controlled trial) with intervention and control arms	Cross Sectional Study at baseline, Before and After Study evaluation by questionnaires about attitudes to, barriers to and utilization of EBM, examining drug prescription and test ordering records from hospital's database	Yes (refer to Tables 6 to 10)	No	Family Doctors' test ordering performance, drug utilization by their patients, their attitude towards EBM, EBM total knowledge score, their ability to formulate clinical questions,Medline and Cochrane searching skills, understanding of research concepts	Intervention had a positive influence on doctors' attitudes and knowledge , though it was unable to change their clinical behaviour	CBE in Africa can learn from and incorporate Teaching and curriculum of Evidence based Medicine (EBM) (refer Table 3) for Doctors in order to improve their clinical behaviour and explore research questions.	Level 1- Reaction, Level 2- Learning and Level 3- Behaviour	
36	**Smilkstein, G., & Gordon, K. (1990). An Evaluation Procedure for a Medical Student Program in Support of Community-Oriented Primary Care. In Z. M. Nooman, H. Schmidt & E. Ezzat (Eds.), Innovations in Medical Education: An Evaluation of Its Present Status. New York: Springer Publishing Company, Inc.**	No link available	Evaluation of a Pilot programme i.e Community Health Advancement Program (CHAP) aimed to recruit and train medical students oriented towards Community Oriented Primary Care (COPC).		USA (University of Washington, School of Medicine, Seattle)	Experimental study with Hypothesis (Students were divided into 2 cohorts - CHAP and Non CHAP students	Numbers were counted from medical school application forms for selected residency and choice of research project, plotted on 4 square correlation matrix and % deducted	No	No	Medical Students' Choice of Residency/house office positions (Family practice Vs others), Research Choices (PHC delivery Vs hospital oriented clinical research), their choice of research projects (COPC Vs other topics)	Positive, CHAP influenced students in their choice of residency (more in Family Medicine) and Choice of research projects (Most COPC as compared to Non CHAP students.	CBE programmes in Africa can learn lessons from curriculum and operationalization of the Community Health Advancement Programme (CHAP) in Seattle	Level 1 - Reaction and Level 2- Learning	
37	**Wallace, P., Berlin, A., Murray, E., & Southgate, L. (2001). CeMENT: evaluation of a regional development programme integrating hospital and general practice clinical teaching for medical undergraduates. The Community-Based Medical Education in North Thames. Med Educ, 35(2), 160-166.**	http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2923.2001.00763.x/abstract?systemMessage=Wiley+Online+Library+will+be+disrupted+Saturday%2C+15+March+from+10%3A00-12%3A00+GMT+%2806%3A00-08%3A00+EDT%29+for+essential+maintenance	To evaluate effectiveness and feasibility of introducing shared hospital and general practice clinical teaching for medical undergraduates		London, UK (Imperial College of Medicine and UCL)	Qualitative exploratory study, experimental design to compare new teaching model with conventional teaching	Mix of methods applied to identify differences between students going through the course with the ones on conventional teaching, teaching observational studies, Interviews and questionnaire surveys, audit of clinical topics covered using teaching logs, Objective Structured Clinical Examinations (OSCE)	No	No	Increase in number of participants for course, increased acceptability of the program, increase in clinical competence of GPs, Increase in teaching abilities of tutors	Program was successful and students were positive about teaching, though the hospital clinicians were less positive.		Level 1 and 2	