MPH - BOS - 2

Central University of Kerala
Department of Public Health and Community Medicine

Board of Studies (BoS) - 16/05/2017 & 17/05/2017
Meeting Minutes

The Department of Public Health and Community Medicine, Central University of Kerala conducted the Board of Studies (BoS) meeting on 16th and 17th May 2017. It was the first BoS meeting since the establishment of the department in 2016. The venue was Conference Hall, Central University of Kerala, Main Campus, Periya. The meeting started at 9.45 am and ended at 2.00 pm on both days. The panel members included invited subject experts, Dean, School of Medicine and Public Health, Assistant Registrar (Academic), Central University of Kerala, Head of the Department and other faculty members of the Department of Public Health and Community Medicine. The attendees of the meeting were as follows: -

BoS Attendees:
Invited subject experts

- **Prof. (Dr.) K R Thankappan,** Professor Emeritus, Achutha Menon Centre for Health Science Studies (AMCHSS), Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram.
- **Prof.(Dr.) Vijayakumar. K,** Consultant, State Health Systems Resource Centre(SHSRC), Thiruvananthapuram.
- **Prof.(Dr.) B. Unnikrishnan,** Associate Dean and Professor, Department of Community Medicine, Kasturba Medical College(KMC), Mangalore.

Representatives from the Central University of Kerala (CUK)

- **Dr. Rajendra Pilankatta,** Dean, School of Medicine and Public Health and Associate Professor, Department of Biochemistry, Central University of Kerala.

HOD In-charge and the Faculty Members

Dr. Madhu Unnikrishnan, Assistant Professor and HOD In-charge

- **Dr. Elezebeth Mathews,** Assistant Professor
- **Dr. Sibasis Hense,** Assistant Professor
- **Ms. Jayalakshmi Rajeev,** Assistant Professor
- **Mr. Prakash Babu Kodali,** Assistant Professor

*Absentees: Prof(Dr.) V. RamanKutty, Shri. Sureshan Kandathil

The first day of BoS meeting (16/05/2017) started with the welcome address by Dr Madhu Unnikrishnan, Head of the Department (i/c). Dr Madhu gave a brief introduction of the Central University of Kerala, the Department of Public Health and Community Medicine as well as the objectives of the BoS. Thereafter, he welcomed all experts and faculty to the meeting, and briefed the agenda for two days of BoS meeting.

The agenda for discussion in the BoS meeting was proposed by the Department with approval from the Dean, School of Medicine and Public Health and Assistant Registrar (Academic), CUK. The main items discussed in the BoS are given below.

1) Discussion on 'Name of the Department, Title of the Programme and Objectives of the MPH Programme.
2) Decision to be taken on the minimum "Eligibility criteria with respect to educational qualifications for MPH admission"
3) Discussion on the "MPH programme structure for all the semesters"
4) Discussion on the "Evaluation pattern for all courses in the MPH programme"
5) Discussion on recruiting an Associate Professor with specialization in Bio-statistics

The MPH programme structure was discussed semester wise. Semesters I and II were discussed on the first day and Semesters III and IV on the second day of the BoS meeting. However, revisit of the first day's discussion was required in some cases.

The details of agenda-wise discussion and the final recommendation by the BoS are given below.

Agenda: 1 Name of the Department, Title of the Programme, Objectives of the Programme:

Dr Madhu Unnikrishnan presented the items before the BoS members.

i. Name of the Department

The first item presented before the BoS was re-naming the department from 'Department of Public Health and Community Medicine' to 'Department of Public Health'. Dr Madhu opened the issue for discussion mentioning the following crucial points: -

a) Currently the department offers only one programme i.e. Master of Public Health (MPH)
b) Community Medicine is a medical speciality which requires Medical Council of India

guidelines to be followed.

c) The CUK follows University Grants Commission and Ministry of Human Resource Development guidelines.

d) There may be a Community Medicine Department upon the University starts a medical college in the future.

Recommendation: All the expert members in the panel agreed to propose the new name for the department i.e. *Department of Public Health.*

ii. Title of the programme

The name of the programme offered by the department is 'Master of Public Health'. Since all members consented with the title, *no change was proposed in the BoS meeting.*

iii. Objectives of the MPH programme

The current MPH programme did not have any specific objective. Therefore, the following objectives were proposed for discussion

- Train young, experienced and cross-cultural graduates across multiple disciplines to undertake challenging responsibilities in the contemporary and dynamic healthcare eco-systems.
- Develop core, desirable and exemplary competencies among the graduates for practice, training and research in public health.
- Build capacities of graduates for leadership and innovative roles in the health and allied sectors.

These three objectives were accepted with consent from all panel members.

Agenda 2: Minimum eligibility criteria for admission into the MPH programme

Mr Prakash Kodali introduced the existing eligibility criteria and the proposed criteria to the BoS members with the rationale and called for a discussion. Two categories of eligibility criteria were proposed (one with all Bachelor's degree in Health Sciences and Masters in Social Sciences discipline being eligible to apply for MPH, and second with all the Bachelors in Health Sciences and all the Bachelors in Social Sciences with 2year experience in the health sector. Of these options, the later was rejected and former was accepted with changes.

Discussion: With regard to second criteria, Dr Thankappan opined that usually students go for masters after a bachelor's degree. Dr Vijayakumar viewed that there should be stringent criteria of selection at the beginning itself in order to improve the standards of the programme and increase the likelihood of employability among the students. Therefore, there are chances that two years of experience after the bachelor's degree might dilute the quality of the MPH programme since it may be difficult to secure exceptional candidates, to which Dr Rajendra Pilankatta agreed.

Dr Madhu inquired (to Dr Rajendra Pilankatta) if it is possible to include interview in the screening procedures for the intake of MPH students. However, Dr Pilankatta said that it may not be possible to conduct interview for one department considering logistic reasons. Dr Thankappan mentioned that Tata Institute of Social Sciences is also admitting students with a bachelor's degree however they have a stringent screening process such as interview in addition to the written examination. He also pointed out that when the eligibility criteria are broad, it will invite more diverse pool of applicants. Dr Unnikrishnan inquired whether the Central Universities have a common curriculum for MPH? Dr Madhu answered him that there is no such common curriculum as of now. After the discussion, it was decided to remove the criteria "bachelor's degree with experience in the health sector". In addition to the educational qualifications proposed by the Department it was also decided that Masters in Life Sciences discipline, Statistics, Allied Health Sciences and bachelor's in professional courses such as Engineering, Law and Agriculture can also be included. The discussion on eligibility criteria extended to the second day to clarify certain doubts raised after the first day of the discussion. A summary of the discussion is given below:

- The first one was with respect to engineering streams. Are all Bachelors in engineering eligible was the question. For this, experts recommended to keep it open for Bachelors in all the streams of engineering to be eligible to apply for MPH admission.
- Dialogue about M.Sc. in Clinical Research being eligible was also brought in to discussion. The panel believed that M.Sc. in Clinical Research could be made eligible.
- However, given that several universities offer the course even in distance means, it was decided that UGC approved programme may be considered eligible.
- **Additionally, it was decided to add the condition, "All courses as approved by UGC" to the title above the list of eligibility criteria for educational qualifications.**

- Disciplines such as Political Science and Geography were added in to the Social Sciences group
- With respect to MBAs, panel members agreed that all MBAs can be considered eligible to apply for MPH.
- Dr.Vijayakumar pointed out that Masters in Humanities disciplines could be included to make the course more inclusive and hence the course "Master's in Philosophy" was also added in to the eligibility criteria.

Recommendation: Following a detailed discussion on the eligibility criteria with respect to minimum educational qualification for MPH admission, BoS members recommended the following categories of educational qualifications: -

- Bachelor's Degree in Health Sciences (MBBS, BDS, AYUSH, Nursing, Veterinary Science)
- Bachelor's Degree in Allied Health Sciences (Optometry, Audiology, Physiotherapy, Pharmacy and Medical Lab Technology).
- Bachelor's Degree in Engineering disciplines, Agriculture and Law.
- Master's degree in Life Science disciplines (Botany, Zoology, Biochemistry, Microbiology, Biotechnology, Nutrition, Anatomy, Clinical Research and Physiology)
- Master's Degree in Social Science disciplines (Economics, Sociology, Social Work, Public Policy, Public Administration, Anthropology, Demography, Psychology, Philosophy, Political Science and Geography)
- Master's Degree in Management - MBA (all specializations), Health Management/ Administration, Hospital Management/Administration.
- Master's Degree in Statistics

Agenda 3: Discussion on MPH Programme Structure for all semesters

There was an elaborate discussion on this item and many times it was required to go 'back and forth' in the whole semester plan to came to consensus.

i. Discussion on MPH Programme Structure for Semester-I and Semester-II

Dr Elezebeth Mathews presented the current and proposed courses for semester I and II of the MPH programme. She also explained the rationale for making the changes in the current syllabus. One of the rationales was to streamline the courses to impart the knowledge in a sequential manner. Additionally, the faculty also wanted to incorporate some new areas of relevance in contemporary public health and equalize the number of credits in each semester to reduce the burden for the students.

Discussion: Dr Vijayakumar and Dr Unnikrishanan expressed that there is an overlap between Epidemiology and Biostatistics when coming to measuring events and it has to be taken into account when teaching these courses. Dr Vijayakumar pointed that these courses should be planned in such a way that the students may not lag behind graduates from other states and also advised to include more field activities while teaching epidemiology. All expert members emphasized on teaching systematic review and meta-analysis since these are used widely. Therefore, it was decided to segregate the Epidemiology course into basics and advanced.

Dr Thankappan viewed that Semester-I had more quantitative courses to which Dr Elezebeth answered that the Qualitative Research Methodology course is also taught in Semester-I. She also added that the students would get a good grasp over research methodology if it is delivered in Semester-I.

Dr Vijayakumar indicated that the course 'Public Health Legislation' may be included as a separate course since it is a weakly addressed, but an important area in public health. It was also discussed that the resources of the Department of Legal Studies, CUK could be utilized to deliver the course. There was also some discussion on emerging courses such as Molecular Epidemiology, Human Resources for Health and it was agreed to include them as electives.

Dr Vijayakumar expressed his view that social causes of illness like poverty etc. may be captured along with the marginalized sections of the society. In the discussion, it was decided to include a new course 'Health Inequities' as suggested by Dr. Elezebeth Mathews and later agreed by the BoS members since it is an important and contemporary to the discipline of public health.

ii. Discussion on MPH Programme Structure for Semester-I and Semester-II

Dr.Sibasis presented the current course structure of Semesters III and IV, and the proposed changes in it with the rationales.

Discussion: In the current course structure, all the electives are offered in Semester-I along with two core courses. However, the experts suggested that the electives may be spread across Semesters I, II and III. In addition, BoS members consensually proposed following changes also to the complete course structure.

- The course 'Public Health Legislations' was added to core courses in Semester-III (As per Day 1 Discussion).
- The courses 'Health Technology and Informatics', 'Advanced Biostatistics' and 'Health Inequities' will be transferred from Semester II to Semester III.

- With respect to Semester IV, all experts agreed to the proposal of adding 'Internship' in place of 'Integration and Wrapping up' in the present curriculum along with Dissertation.
- With respect to credits distribution, given that Semester IV is for 6 months; and a duration of 4 and 2 months are exclusively devoted for Dissertation and Internship respectively, experts suggested to allocate 12 credits to dissertation and 6 credits to internship, which was agreed upon by all the members of BoS.
- In addition, it was also decided to develop 'evaluation guidelines' for internship in order to ensure more objectivity for giving credits.
- The experts insisted to have the relevant tie-ups and MOU's with institutions for the students to secure internship at various health organizations.
- It was agreed upon that there should be an empaneled list of organizations where the students could go for internships.
- Since it has been decided to add 'Advanced Epidemiology' as an elective; the experts proposed to change the name of the course "Epidemiology" in Semester I to "Basic Epidemiology". All the members of BoS consented to this suggestion.
- The suggested changes were done by the faculty members during the break and were presented to experts which were agreed upon.

The other conclusive points in the discussion were as follows: -

- All members agreed to the equal distribution of credits across semesters and all the courses were rearranged so that each semester constitutes a total of 18 credits.
- The new relevant areas identified during the discussion were incorporated into the syllabus appropriately.

The final course distribution in each semester is shown below: -

Semester- I			
	Course Title	**Credit**	**Total**
Core Courses	Introduction to Public Health Practice, Training and Research	3	**15**
	Basic Epidemiology	4	
	Basic Biostatistics	4	
	Research Methodology (Quantitative, Qualitative and Research Ethics)	4	

Elective Courses (Any 1 out of 3)	Pedagogy	3	3
	Disaster Management in Public Health	3	
	Demography	3	
		Total	18

Semester- II			
	Course Title	Credit	Total
Core Courses	Health Management	2	12
	Environment and Occupational Health	3	
	Infectious Disease Epidemiology	2	
	Chronic Disease Epidemiology	2	
	Health Policy and Systems Research (HPSR)	3	
Electives Courses (Any 2 out of 5)	Minor Research Project	3	6
	Project Management	3	
	Human Resources for Health	3	
	Sexual and Reproductive Health	3	
	Geriatric Health	3	
		Total	18

Semester- III			
	Course Title	Credit	Total
Core Courses	Data ~~Analysis~~ Analytics in Health Sciences	3	15
	Advanced Biostatistics	2	
	Health Economics	3	
	Health Technology and Informatics	2	
	Health Inequities	3	
	Public Health Legislations	2	

Elective Courses (Any 1 out of 3)	Advanced Epidemiology	3	3
	Molecular Epidemiology	3	
	Nutritional Epidemiology	3	
		Total	18

Semester- IV			
	Course Title	Credit	Total
Core Courses	Dissertation	12	18
	Internship	6	
	Total		18

Agenda 4. Evaluation of MPH Programme

Ms. Jayalakshmi presented the evaluation method (Choice Based Credit System- CBCS) followed in the university. No change was proposed by the faculty members, and it was made open for the discussion.

Discussion: The experts felt that since the CBCS guidelines constitute the UGC norm, no change could be advocated to it. However, discussion happened about the external examiners for question papers setting and evaluation.

- Dr.Unnikrishnan voiced that in order to ensure the standards of the University, it is better to go with external examiners. Supporting the same, the Dean clarified on the Vice Chancellor's standpoint of having external examiners for the initial few years.
  - Even the Head of the Department (Dr Madhu) opined that since the university follows the method involving external examiners, it is better to go with the existing approach.
  - However, there was a discussion about the question paper setting. ***It was decided that the question paper setting could be done at internal level and the evaluation should be done by the external. This was decided owing to the previous experiences where the questions which were given in an externally set question paper being different or totally out of syllabus from what was taught.***
  - Additionally, it was decided that answer key should be developed for transparent external evaluation.

Agenda 5. Need for a Biostatistician

The need for an additional faculty with the specialization in Biostatistics was presented by Dr Madhu to the members of BoS. It was informed that since the department has at least 2 batches of MPH students at any given point of time, and with the prospect of having PhD scholars and Public Health Projects in future, it was deemed important that the department needs a dedicated biostatistician.

- The experts said that it is difficult to run a public health department without a biostatistician and said that the recruitment should focus on recruiting a bio-statistician.
- The same was voiced by all the members of the BoS. Overall, ***the BoS strongly recommended the recruitment of an Associate Professor with specialization in Biostatistics as soon as possible.***
- *However, given that recruitment takes time and taking into consideration of the current need,* ***the experts insisted to recruit faculty on adhoc basis as immediate measure. This was agreed by all the members of BoS.***

Post BoS:

After the discussion on the need for an Associate Professor in Biostatistics, the overall agenda discussed in the BoS were summarized. Thereafter, Dr Sibasis offered the vote of thanks, which concluded the BoS meeting.

Post BoS, the members of the BoS met the Vice Chancellor, CUK when ***Dr. Vijayakumar stressed on placing the MPH students in National Health Programmes (during field placements) so as to get a handson experience on National Health Programme functioning***. It was also decided to appoint a Community Medicine Expert(MD,Community Medicine) at the position of Associate Professor to strengthen the human resource of the Department and also to strengthen the primary and secondary prevention activities to the public.

5/6/2017

Dr.Madhu Unnikrishnan

Semester: III

Core Course

11. Course Code & Title: MPC 53 02 & Advanced Biostatistics

Credit - 2

Brief description:

Advanced Biostatistics (MPC 53 02) is the second bio-statistics course offered as a core course as part of MPH curriculum at Department of Public Health and Community Medicine, Central University of Kerala. The course takes on from where its predecessor (Basic Biostatistics) has left. The 2 credit course is divided in to 3 modules providing the students with a detailed understanding of the non-parametric tests, regression methods and tools used in quantitative tool development. The students attending this course are expected to have completed basic biostatistics course with an acceptable level of understanding of basics of biostatistics and parametric bivariate and multivariate methods (at least up to one way ANOVA).

Course Objectives:

1) To impart the essential quantitative data analysis skills to the Master of public health students.
2) To enable students, understand the application of advanced data analysis methods in analysing quantitative data
3) To provide hands on training to the students in analysing health data by application of advanced statistical methods.

Skills Developed:

On successful completion of the course the students will be skilled at applying multivariate data analysis procedures (linear and logistic regression), assessing reliability and validity of tools and use of non-parametric statistical tests. The students will also develop working level skill in SPSS.

Modules	Section	Topic	Contents
1(Non-Parametric Tests)	**Non-Parametric Tests (one sample)**	Kolmogrov-Smirnov Test Sign Test	- Assumptions of the Tests - Outlining Null/alternate hypothesis - Performing the tests/computing test statistic

		Wilcoxon signed rank test	- Hypothesis testing and interpretation
	Non-Parametric Tests (Two Sample)	Sign test for two samples Median Test Wilcoxon Signed Rank Test (two samples) Wilcoxon-Mann-Whitney U-test	- Assumptions of the Tests - Outlining Null/alternate hypothesis - Performing the tests/computing test statistic - Hypothesis testing and interpretation
	Non-Parametric Tests (K-Sample)	Median test for K-samples Kruskal-Wallis K sample test Friedman's Test for RBD	- Assumptions of the Tests - Outlining Null/alternate hypothesis - Performing the tests/computing test statistic - Hypothesis testing and interpretation
	Linear Regression	Simple linear regression Multiple linear regression	- Mathematical basis for linear regression - Assumptions and requirements of linear regression - Regression line and regression equation - Computing Regression coefficients (β_0 and β_1) - Conducting linear regression using SPSS - Interpretation of regression coefficients - Interpretation of SPSS output for linear regression (interpretation of r^2, standard errors, calculation of confidence intervals for beta coefficients)

2 (Regression Analysis)	**Logistic Regression**	Binary logistic regression	- Mathematical basis for binary logistic regression (probability, odds, odds ratio, natural log, anti-log) - Sigmoid curve and its prominence in predicting a binary dependent variable. - Assumptions of Binary logistic regression - Performing Binary logistic regression using SPSS - Interpretation of the results of Binary Logistic regression (interpretation of ODDs, Calculation of probability of outcome variable etc.)
		Multi nominal logistic regression	- Mathematical basis for Multi nominal logistic regression - Assumptions of logistic regression - Performing multi nominal logistic regression using SPSS - Interpretation of the results of Multi nominal logistic regression
3(Statistical Procedures in quantitative Tool Development)	**Test(s) for internal reliability**	**Cronbach's Alpha**	- Introduction to Cronbach's alpha - Statistical basis for cronbach's alpha (including assumptions and sample size required) - Manual computation of Cronbach's alpha - Computing Cronbach's alpha using SPSS - Interpretation of Cronbach's alpha.
	Factor Analysis	**Exploratory factor analysis**	- Introduction to factor analysis (basic uses and methods - Basic Assumptions and Procedural Guidelines - Procedure for conducting Factor Analysis - Interpretation and reporting the results of factor analysis
		Confirmatory factor analysis	

Books:

1) Daniel and Cross. (2013). *Biostatistics a Foundation for Analysis in Health Sciences.* 10th Edition. WILEY publications.
2) Manju Pandey. (2015). *Biostatistics: basics and advanced*. MV Learning. ISBN: 978-81-309-2753-4
3) Good, P., & Hardin, J. (2003). Common errors in statistics (and how to avoid them). John Wiely & Sons.

Weblinks:

1) https://people.exeter.ac.uk/SEGLea/multvar2/pathanal.html

2) http://www.statsoft.com/Textbook

3) https://www.researchgate.net/profile/Keith_Widaman/publication/232585482_Factor_Analysis_in_the_Development_and_Refinement_of_Clinical_Assessment_Instruments/links/00463521bc1179a08c000000/Factor-Analysis-in-the-Development-and-Refinement-of-Clinical-Assessment-Instruments.pdf

4) https://stats.idre.ucla.edu/spss/faq/what-does-cronbachs-alpha-mean/