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: I

Core Course

3. Course Code & Title: MPC-51 03 & Basic Biostatistics

Credits: 4

Course objectives:

The objectives of this course are:

1. To provide an introduction to the common concepts of Biostatistics applied in public health.
2. To introduce the MPH students to univariate, bivariate and multivariate statistical procedures
3. To provide hands on experience to MPH students in cleaning, preparing and analyzing statistical data
4. To develop the competencies among the students to make statistical inferences
5. To enable the MPH students use SPSS package to
    - Enter, clean and prepare statistical data for analysis
    - Conduct selected univariate, bivariate and multi-variate statistical procedures

Course outcomes:

On successful completion of the course, students will be able to

1. Understand the numerical statistical data and develop a detailed data analysis plan.
2. Enter and clean the data and conduct statistical analysis using Statistical Package for Social Sciences (SPSS)

3. Draw inferences from the statistical results and discuss on their generalizability.

Skills developed:

On successful completion of the course the student shall be able to manifest quantitative data analysis skills and ability to use univariate, bivariate and multivariate statistical procedure. The students shall also be skilled at using SPSS in statistical analysis. These skills could improve employability of MPH graduates.

Teaching methods: This course will be delivered using a variety of teaching methods which include (but not limited to) classroom lectures, online classes, webinar's, assignments, field work and group work. Additionally, practical training of SPSS will be provided for relevant modules.

Units and Topics	Teaching Methods								Mandatory Readings
Unit-I: Introduction to biostatistics ad its application in public health									
	L	FW	FV	CS	GW	SS	SP	P	
1.1 Scope and application of biostatistics in public health	X								Ahlbom, A. (1993). Biostatistics for epidemiologists. CRC Press.
1.2 Probability theory	X								
1.3 Commonly used distributions in biostatistics - normal distribution	X								

- binomial distribution - passion distribution									Greasley, P. (2007). *Quantitative data analysis using SPSS: an introduction for health & social science*. McGraw-Hill Education (UK).
1.4 Variable, variable types and its prominence in statistical analysis.	**X**							**X**	
Unit-II: Statistical inference ad hypothesis testing									
2.1 Statistical inference	**X**								Ahlbom, A. (1993). Biostatistics for epidemiologists. CRC Press.
2.2 p-value & statistical significance	**X**							**X**	
2.3. Confidence interval and confidence level	**X**							**X**	Du Prel, J. B., Hommel, G., Röhrig, B., & Blettner, M. (2009). Confidence interval or p-value? Part 4 of a series on evaluation of scientific publications. *Deutsches Ärzteblatt International*, *106*(19), 335.
2.4 Hypothesis testing	**X**								
Unit-III: Univariate statistics									
3.1 Measures of central tendency	**X**							**X**	Gertsman, B. B. (2015). Basic Biostatistics: Statistics for public health practice. Burlington, MA.
3.1 Measures of dispersion	**X**							**X**	Glasser, G. J. (1962). Variance formulas for the mean difference and coefficient of concentration. *Journal of the American Statistical Association*, *57*(299), 648-654.
3.3 Prevalence and incidence measures	**X**								Ahlbom, A. (1993). Biostatistics for epidemiologists. CRC Press.

3.4 Non-parametric tests for single sample	**X**								Gertsman, B. B. (2015). Basic Biostatistics: Statistics for public health practice. Burlington, MA.
Unit-IV: Bivariate statistics									
4.1 Measures ad methods commonly used in bivariate analysis	**X**								
4.3 t- test	**X**							**X**	Kim, T. K. (2015). T test as a parametric statistic. *Korean journal of anesthesiology*, *68*(6), 540.
4.4 Correlation analysis	**X**							**X**	Greasley, P. (2007). *Quantitative data analysis using SPSS: an introduction for health & social science*. McGraw-Hill Education (UK).
4.5 Chi-squared tests and Fischer's exact test	**X**				**X**			**X**	Gertsman, B. B. (2015). Basic Biostatistics: Statistics for public health practice. Burlington, MA.
4.6 Non-parametric tests for two sample	**X**							**X**	
UNIT-V: Multivariate statistics									
5.1 Introduction to multivariate statistical approaches	**X**								Gertsman, B. B. (2015). Basic Biostatistics: Statistics for public health practice. Burlington, MA.
5.2 Analysis of Variance (ANOVA)	**X**								
5.3 Linear regression analysis	**X**					**X**		**X**	Schneider, A., Hommel, G., & Blettner, M. (2010). Linear regression analysis: part 14 of a series on evaluation of scientific publications. *Deutsches Ärzteblatt International*, *107*(44), 776.
5.4 Logistic regression	**X**					**X**		**X**	
5.5 Non-parametric tests for three/more sample	**X**							**X**	Gertsman, B. B. (2015). Basic Biostatistics: Statistics for public health practice. Burlington, MA

Unit-VI: Sample size estimation									
6.1 Basic principles of sample size calculation	**X**								Devane, D., Begley, C. M., & Clarke, M. (2004). How many do I need? Basic principles of sample size estimation. *Journal of Advanced Nursing*, *47*(3), 297-302.
6.2 Sample size estimation in public health research	**X**								Charan, J., & Biswas, T. (2013). How to calculate sample size for different study designs in medical research? *Indian journal of psychological medicine*, *35*(2), 121. Röhrig, B., du Prel, J. B., Wachtlin, D., Kwiecien, R., & Blettner, M. (2010). Sample size calculation in clinical trials: part 13 of a series on evaluation of scientific publications. Deutsches Ärzteblatt International, 107(31-32). Hajian-Tilaki, Karimollah. "Sample size estimation in epidemiologic studies." *Caspian journal of internal medicine* 2, no. 4 (2011): 289.
1.1 Internet tools for sample size calculation (overview of OpenEpi)	X					X		X	Website: https://www.openepi.com/Menu/OE_Menu.htm
Unit-VII: Data preparation, data cleaning and data presentation									
7.1 Data preparation and data cleaning	X							X	

7.2 Presenting statistical data using tables and figures	X								Spriestersbach, A., Röhrig, B., Du Prel, J. B., Gerhold-Ay, A., & Blettner, M. (2009). Descriptive statistics: The specification of statistical measures and their presentation in tables and graphs. Part 7 of a series on evaluation of scientific publications. Deutsches Ärzteblatt International, 106(36), 578.

L- Lecture; FW- Field work; FV - Field Visit; CS - Case study; GW- Group work; SS- Self-study; SP- Seminar presentation; P-Practical

Evaluation: As per CBCS guidelines, this course will be evaluated for 100 marks with a Continuous Evaluation (CA) component of 40 marks and End-Semester Evaluation (ESA) component of 60 marks. CA would be conducted through Examinations, Assignments and Presentations.

Additional Readings

1) Landau, S. (2004). *A handbook of statistical analyses using SPSS*. CRC.

2) Blanca, M. J., Alarcón, R., Arnau, J., Bono, R., & Bendayan, R. (2017). Non-normal data: Is ANOVA still a valid option? Psicothema, 29(4), 552-557.

3) Barton, B., & Peat, J. (2014). Medical statistics: A guide to SPSS, data analysis and critical appraisal. John Wiley & Sons.

4) Starkweather, J., & Moske, A. K. (2011). Multinomial logistic regression. *Consulted page at September 10th: http://www. unt. edu/rss/class/Jon/Benchmarks/MLR_JDS_Aug2011. pdf*, *29*, 2825-2830.

5) Glasser, M. (1964). Linear regression analysis with missing observations among the independent variables. *Journal of the American Statistical Association*, *59*(307), 834-844.

6) Chao, Y. C. E., Zhao, Y., Kupper, L. L., & Nylander-French, L. A. (2008). Quantifying the relative importance of predictors in multiple linear regression analyses for public health studies. Journal of occupational and environmental hygiene, 5(8), 519-529.

7) Victor, A., Elsäßer, A., Hommel, G., & Blettner, M. (2010). Judging a plethora of p-values: how to contend with the problem of multiple testing-part 10 of a series on evaluation of scientific publications. Deutsches Arzteblatt International, 107(4).