



THE AGA KHAN UNIVERSITY

Report
2018-2020

RISING TO THE CHALLENGE

**Responding to the Needs of
Global Public Health**



**DEPARTMENT OF
COMMUNITY HEALTH SCIENCES**
AGA KHAN UNIVERSITY



THE AGA KHAN UNIVERSITY

Rising to the Challenge: Responding to the Needs of Global Public Health

Report of CHS Department - 2018-2020

Department of Community Health Sciences,
Aga Khan University



His Highness the Aga Khan

Chancellor, Aga Khan University

Address at the 16th Convocation of the
Aga Khan University
December 6, 2003

<https://www.aku.edu/convocation/pk/Pages/chancellor-speech-2003.aspx>

“ Much AKU research will focus on pressing issues of public policy. This naturally follows the precepts of Islam, that the scientific application of reason, the building of society and the refining of human aspirations and ethnics should always reinforce one another.

The University – and notably the Department of Community Health Sciences – is already developing strength in applied research. This has enabled it to develop very productive relations between AKU scholars and scientists and provincial, federal and aid agency policy makers in such fields as nutrition, educational testing, maternal and child health, immunization strategies and vaccine development and epidemiology.”

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Acronyms

A&F	Administration and Finance	LSHTM	The London School of Hygiene and Tropical Medicine
ACHR	Advisory Committee for Health Research	MBBS	Bachelor of Medicine and Bachelor of Surgery
AEFI	Adverse Event Following Immunization	MH	Mental Health
AKDN	Aga Khan Development Network	MNH	Maternal and Neonatal Health
AKF	Aga Khan Foundation	MNHR	Maternal and Neonatal Health Registry
AKHSP	Aga Khan Health Services, Pakistan	MONHSRC	Ministry of National Health Services Regulation and Coordination
AKU	Aga Khan University	MOU	Memorandum of Understanding
AMR	Antimicrobial Resistance	MPH	Master of Public Health
BM&GF	Bill and Melinda Gates Foundation	MSc	Master of Science
BMC	BioMed Central	NCD	Non-communicable Diseases
BMJ	British Medical Journal	NDC	Nationally Determined Contribution
CEP	Continuing Educational Programme	NGO	Nongovernmental Organization
CEPH	Commission for Education in Public Health	NMH	Non-communicable Diseases and Mental Health
CHORUS	Community-led Responsive and Effective Urban Health Systems	OPD	Outpatients Department
CHS	Community Health Sciences	PESSI	Punjab Employees Social Security Institution
CMR	Community Medicine Residency	PHC	Primary Health Care
COE WCH	Centre of Excellence in Women and Child Health	PhD	Doctor of Philosophy
COME	Community Oriented Medical Education	PPP	Public Private Partnership
COVID-19	Coronavirus Disease – 2019	PRH	Population and Reproductive Health
CPSP	College of Physicians and Surgeons Pakistan	PURPOSE	Project To Understand & Research Preterm Pregnancy Outcome & Stillbirth-South Asia
CSR	Consulting Services for Research	RHP	Rural Health Programme
DCP3	Disease Control Priorities 3rd edition	RTI	Research Triangle Institute
DMU	Data Management Unit	SDG	Sustainable Development Goal
E&B	Epidemiology and Biostatistics	SEPA	Sindh Environmental Protection Agency
EMR	Eastern Mediterranean Region	SHRUC	Super High Risk Union Council
EMRO	Eastern Mediterranean Regional Office	SMART	Specific, Measurable, Attainable, Realistic, Time bound
EOH	Environmental and Occupational Health	SONAM	School of Nursing and Midwifery
EPI	Expanded Programme on Immunization	SPAS	Sindh Peoples' Aman Ambulance Services
FCDO	Foreign Commonwealth and Development Office	SRHR	Sexual and Reproductive Health Research
FCPS	Fellow College of Physicians and Surgeons	SUN	Scaling up Nutrition
Gavi	The Global Alliance for Vaccines and Immunization	TB	Tuberculosis
GIS	Geographic Information System	UGME	Undergraduate Medical Education
GNRU	Global Network for Women's and Children's Health Research	UHP	Urban Health Programme
HASS	Health and Social Sciences	UK	United Kingdom
HIV	Human Immunodeficiency Virus	UN	United Nations
HPM	Health Policy and Management	UNICEF	United Nations Children's Fund
HPV	Human Papillomavirus	USA	United States of America
IDSR	Integrated Disease Surveillance & Response	USD	United States Dollar
ISI	Intersectoral Intervention	VLE	Visual Learning Environment
JHU	Johns Hopkins University	WASH	Water Sanitation and Hygiene
LHW	Lady Health Worker	WHO	World Health Organization
LMICs	Low- and Middle Income Countries		

Message from the Provost



Rising global inequities, climate change and demographic transition are shifting the way we experience well-being and illness. The disease management model is giving way to a multisectoral approach for improving population health. The COVID-19 pandemic has further reinforced and changed the ways of doing public health. In recent years, the Department of Community Health Sciences at the Aga Khan University has been playing a key role in responding to these new challenges in a holistic manner. Over the years, the department's educational programmes, especially its contribution to undergraduate medical education, have helped produce physicians that are well prepared to respond to global public health emergencies such as COVID-19, now and in the future.

The continued effort to develop new competencies and capacities in the department, improve the quality of its educational programmes, engage in cutting-edge research, establish partnerships, and influence health policies and practice has shown promising results during the last three years. The nomination of the CHS department as the regional hub for sexual and reproductive health research for the WHO Eastern Mediterranean Region, and its advice to the Government of Pakistan in developing an essential package of health services are some of the achievements that have helped enhance its credibility at the international as well as the national level.

I feel confident that the Department of Community Health Sciences, given its current performance and promise for the future, can evolve into a leading school of public health in the region. I wish the best to the CHS department, as it navigates through these changing times, in developing leaders in public health and in meeting the new health challenges of the 21st century while aligning its work to the University's guiding principles of impact, quality, relevance and access, or IQRA.

A handwritten signature in black ink, which appears to read 'Carl Amrhein'.

Dr Carl Amrhein
Provost, Aga Khan University

Message from Dean Medical College



The Department of Community Health Sciences has always been the backbone of the University and the Medical College as it enables us to reach out and amplify our impact across the communities we serve in, which is central to AKU's core value. During the COVID-19 pandemic, the importance of CHS could not have been more profound as they have far exceeded any expectations that one could have from this incredible group of scientists, teachers, and clinicians serving in public health. I am particularly thrilled that CHS' exercise to re-organize, strengthen, and grow has resulted in an increase in graduate applications and newly established focus areas within the master's tracks ensuring that we are building capacity for Pakistan in the long-term, with graduates who have the skills required to work towards development of a more equitable society. Equally important is the policy dialogue that CHS drives at a national level, collaborating with clinical and non-clinical colleagues across AKU, so that

Pakistan is better able to provide accessible quality healthcare to its large population. Congratulations to the entire CHS Department, I look forward to seeing how CHS continues to make impact 'beyond the pink walls' in 2021!

A handwritten signature in blue ink that reads "Adil H. Haider". The signature is fluid and cursive, with a checkmark-like flourish at the end.

Dr Adil H. Haider
Professor & Dean, Medical College
Aga Khan University

A word from the Chair, CHS



It has been a pleasure to serve as the Professor and Chair of the Department of Community Health Sciences at the Aga Khan University in Pakistan over the last three years. AKU offers an excellent working environment that, along with creative leadership, is highly conducive to the development and growth of its academic departments.

CHS, as the department has come to be known, is a leading department of public and population health sciences in the country. Thanks are due to the faculty, staff, and previous chairs for their immense contribution, and especially to the late Professor Jack H. Bryant who, as its foremost chair, laid solid foundations for the future of this department.

The department however has yet to reach its full potential. With a clear vision and strategy, a committed team of faculty and staff, and an ambition to be the best, it can go from strength to strength, eventually establishing itself as a well reputed school of public health in the region and globally. The last three years have seen some concrete steps taken in that direction, yet a lot more needs to be done.

Three elements will be fundamental for CHS to rise to the challenge and meet expectations. First, develop a highly competent and qualified faculty that is committed to achieving academic excellence; second, engage in meaningful partnerships extending from the local to the global that are win-win for everyone; and third, acquire a global perspective on public and population health challenges, without disengaging with the local realities of resource-constrained settings. The last is arguably the single biggest challenge for first rate universities working in Third World countries.

This report provides a comprehensive review of the achievements, challenges and opportunities over the last three years and suggests future directions for the department, which the audience of the report are encouraged to peruse.

Dr Sameen Siddiqi
Professor & Chair
Department of Community Health Sciences

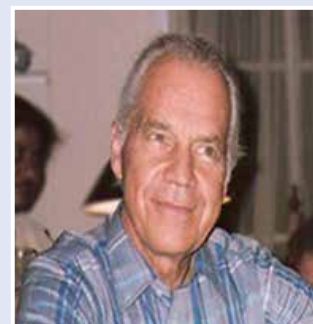
SECTION 1:

Department of Community Health Sciences: Perspectives from the past

The Department of Community Health Sciences (CHS) was established in 1983 as one of the core departments of the Medical College, fully aligned with the vision and mission of the University. Recommended by a team of distinguished public health experts, the department was meant to serve as a cornerstone of the pedagogic strategy of the College, to educate leaders and to contribute to the development of Pakistan's the health system amid challenges of scarcity and complexity.

AKU had the good fortune of attracting Prof. John H. Bryant, a world-renowned public health expert, to serve as its founding chair. From the start, the vision was to have an undergraduate medical curriculum with a substantial component of community health sciences. In the area of public health practice, the department was to design and test urban and rural health system prototypes.

The resulting Urban Health Programme (UHP) sites were set up in poor squatter settlements in Karachi and the Rural Health Programme (RHP) in the district of Thatta in Sindh. The undergraduate medical curriculum was designed to expose students to the challenges and opportunities of public health in low-income settings through these programmes.



Dr John H. Bryant
March 8, 1925-July 5, 2017

Along with successful implementation of the undergraduate curriculum, the department established a continuing education programme, with several short courses to address the needs of the large group of in-service health personnel. In the 1990s, work was initiated on specialized two-year graduate level programmes. The master's programme in Epidemiology and Biostatistics (E&B) was launched in 1997, followed by the master's in Health Policy and Management (HPM) in 2000. At the same time, a well-structured four-year community medicine residency (CMR) programme recognized by the College of Physicians and Surgeons Pakistan was initiated. Graduates of all these programmes are well placed in their professional careers both in Pakistan and abroad and a number of alumni are currently employed as faculty and researchers at the University. These programmes continue to be the leading public health programmes in the country.

Over the years, the department has increasingly engaged in multidisciplinary research on different aspects of public health, especially in sexual and reproductive health, health policy and systems, environmental and occupational health, and non-communicable diseases. The Global Network for Women's and Children's Health



AKU CHS Faculty and Staff

Research (GNRU) project has been in place for over two decades and has produced several impactful research studies in this area. Multiple research projects were conducted and published under the Urban Health Programme. Despite suffering a major setback due to political disturbances in the city during the mid-90s and early 2000s, the department has been mobilizing grants and regularly publishing in peer-reviewed journals.

A major achievement of the department in the 1990s was to provide technical assistance to the World Bank-funded Family Health Project in Sindh. The department was also entrusted with implementation of the Tawana Pakistan Project in the four provinces of the country in the first half of the 2000s.

For the first two decades, family medicine was a section within the CHS department, but given its increasing importance, Family Medicine became an independent department in the Medical College in 2000.

Despite multiple internal and external challenges, CHS has been a leading department of public health in the country. It has now renewed its commitment to becoming a leading resource at the international level by engaging in high quality education, research and development, and advice on policy and practice in public health.



Past and current activities of CHS in Education, Research and Public Health Practice.

SECTION 2:

Department of Community Health Sciences: Towards a longer-term strategy, 2018-23

The CHS department is the premier site of public and population health sciences in Pakistan. It has the potential to be a leading centre not only in the region but globally, eventually growing into a school of public health. For this to happen the department’s leadership, faculty and staff have not only to show commitment but also acquire a longer-term vision and strategy, a clear roadmap that will steer the department to newer heights in this decade. While easier said than done, achievements are only realized if the aims are high.

2.1 Renewed vision, mission, values and strategy

In January 2018, the CHS department came together in a retreat to renew its commitment and set new goals. Over the next several months, faculty and staff worked collectively to come up with a five-year strategy for the period 2018-23 that would be fully aligned with the overall vision, mission and values of the Aga Khan University.¹

The renewed vision, mission, values, and strategic goals are presented in Table 2.1 and publicly presented on the department’s new website.

Table 2.1: Vision, mission, values, and strategy of CHS, 2018-23

<p>Vision Be a leading academic institution of community and population health sciences, advancing health and well-being outcomes and contributing to sustainable development</p>
<p>Mission Improve population health by:</p> <ul style="list-style-type: none"> • Developing academics, practitioners, and leaders in public health • Creating new knowledge • Translating knowledge into policy and practice • Engaging communities
<p>Values CHS’s prime value is to promote social justice along with the values of participation, quality, efficiency and integrity</p>
<p>Strategic goals Goal 1. Reorganize the structure, function and culture of work within Community Health Sciences to become the leading department of public health in the region. Goal 2. Reform education and training programmes to develop practitioners, academics and leaders in public health. Goal 3. Lead the health research agenda by developing novel approaches to assess and evaluate priority problems and complex interventions in health and healthcare. Goal 4. Establish public health practice programmes in urban and rural settings, with community engagement, that support student training and faculty research and serve as scalable service delivery models. Goal 5. Develop collaborative partnerships within AKU, with AKDN, and with regional and global academic institutions for promoting public and population health.</p>

¹ <https://www.aku.edu/about/at-a-glance/Pages/our-vision.aspx>

FIGURE 2.1: Department of Community Health Sciences: reorganization, roles and responsibilities

Chair, Department of Community Health Sciences						
Sections -->	Epidemiology & Biostatistics (E&B)	Health Policy & Management (HPM)	Population & Reproductive Health (PRH)	Environmental & Occupational Health (EOH)	Non-communicable Diseases and Mental Health (NMH)	Administration and Finance (A&F)
Primary Focus	Epidemiology and biostatistics	Health Policy and systems management	Population and reproductive health	Environmental and occupational health	NCDs and nutrition	Administration and finance
Secondary Focus	Communicable diseases	Global health	Social sciences	Injuries. Climate change	Mental health	Information technology
Education and Training	Master, E&B	Master, HPM	Continuing Education & PhD programme	Postgraduate residency	Undergraduate training	Educational programme support
Research and Development	Communicable disease research group	Health policy and systems research group	PRH research group	EOH & injuries research group	NCDs and MH research group	Research and resource management
Public Health Practice	Disease surveillance	Rural health programme	MCH registry	Water and sanitation	Urban health programme	Logistics and procurement

2.3 Translating vision and mission into actions

A subsequent effort by the department in early 2019 led to the development of a two-year action plan for the years 2019-20 that would guide the implementation of the strategic goals as well as serve as a monitoring tool to guide progress. The action plan was a collective effort and has the buy-in of all the sections within the department.

Key milestones were identified under each of the five CHS strategies and faculty within each section were assigned responsibility to lead particular tasks. Table 2.2 presents some of the key milestones agreed upon and progress to date. The detailed action plan with tasks and activities can be seen in Annex C.

Table 2.2: Selected milestones for implementation during 2019-20

Strategic goals	Area of work	Milestone	Progress
Education and Training	Undergraduate medical education	Curriculum reformed and integrated in UGME curriculum	On-going
		Year 4 curriculum includes public health debates	Yes
	Graduate programmes	Non-communicable Diseases and Population and Reproductive Health tracks included in both graduate programmes	Withheld
		Improved marketing of graduate programmes	Yes
	CM residency programme	Rotational placements of residents in CHS	Yes
	Continuing Education Programme	Offer 5 high quality, high impact short courses annually	Partial
		Organize international course on Sexual and Reproductive Health Research with support of WHO Human Reproduction Programme	Yes
		Sexual and Reproductive Health Research Fellowship Award, initiated in 2020, in association with HRP Alliance, WHO Eastern Mediterranean Region 3 students of MSc programmes have been awarded the fellowship	Yes
	PhD programme	Each section to upload 1 funded research project for PhD students	Partial
	Research and Development	Grants and publications	Publish 20 papers annually in peer-reviewed journals
Submit up to 10 grant proposals for potential funding			Partial
Institutional strengthening		Establish Data Management Unit as repository of information for research	Ongoing
		Recruit research manager for CHS	Yes
Public Health Practice	Urban Health Programme	Existing model revamped in Sultanabad	Not as yet
	Rural Health Programme	District situation analysis and plan completed	Yes
		Health expenditure and utilization survey, HEUS, analysis report completed	Yes
		RHP milestones achieved along lines of priorities	Ongoing
	Policy advice	CHS represented in 5 high level committees	Yes
		CHS represented in international steering or technical working groups	Partial
CHS functional as hub for SRHR in Eastern Mediterranean Region		Yes	
Partnerships and Collaboration	Within Aga Khan University	Collaboration with AKU departments – Centre of Excellence in Women and Child Health, Centre for Global Surgical Care, Department of Medicine, Department of Surgery	Yes
	With Aga Khan Development Network	Establishment of field sites for training of undergraduate medical students in collaboration with Aga Khan Health Service, Pakistan	Yes, (stopped due to COVID-19)
	Within Pakistan	CHS and Health Services Academy successfully organize the 10th and 11th Public Health Conferences	Yes (11th shelved due to COVID-19)
	International	New collaborations with academic institutions/ development agencies	Yes

2.4 Getting to terms with new ways of working: 2020, the year of COVID-19

There is no doubt that the global COVID-19 pandemic has drastically influenced everyone’s professional and personal lives in 2020. CHS, like many other institutions globally, had to quickly adjust to new ways of working. Protecting faculty, staff and their families, working from home, transitioning from face-to-face to online educational programmes, restricting all aspects of field research and practice, educating professionals and informing the population about the public health aspects of COVID-19, modelling and providing estimates of future projections of the disease, and diverting research activities towards COVID-19 were some of the major activities that required immediate attention.



CHS offered an international course on COVID-19 & Public Health

Given that it took several months to comprehend the implications of the pandemic and adapt to new ways of working, it significantly disrupted implementation of the planned activities of the department. Educational programmes, research activities and work at the field sites all were adversely affected during the first few months of the pandemic. However, with every challenge there are opportunities, and members of the department quickly learnt to work effectively from home with the outstanding support provided by the information technology team. There was great learning for everyone in online teaching and training, and many inter-continental and inter-country activities could be effectively done through conference calls without leaving the home or office.



Workshop on Developing an Investment Case for Polio in Pakistan



Responding to COVID-19 through webinars



Research activities during COVID-19



Pakistan COVID-19 Mental Health Response for children and adolescents



SECTION 3:

Education and training in population and public health: Making a difference

The educational programmes offered by the Department of Community Health Sciences are driven by the vision and mission of the University, and by Goal 2 of the CHS Strategic Plan, which is to “reform education and training programmes to develop practitioners, academics and leaders in public health.” The programmes provide quality education which develops leaders who have the capacity to tackle the public health challenges of the communities they serve.



Faculty, staff, and students at Masters' Epi Bio & HPM orientation

CHS is among the busiest departments of AKU in terms of its schedule of educational activities, which are channelled across five streams. CHS contributes substantially to the undergraduate medical education (UGME) curriculum, it offers two graduate programmes, (MSc in Epidemiology and Biostatistics and MSc in Health Policy Management), a four-year community medicine residency programme, a Population and Public Health stream in the PhD in Health Sciences, and a Continuing Education Programme that targets specific areas of skills development.

3.1 Reforming undergraduate education

Community health is a significant component of the undergraduate curriculum, which distinguishes AKU Medical College's programme from others in the country. Led by CHS, public health constitutes 13% of the total curricular content and is characterized by being problem-solving, student-centred and competency-based, and by having a community-oriented curriculum. The educational programme is organized during the first two years of teaching across six themes that include health systems, epidemiology and biostatistics, nutrition and child health, behavioural and social sciences, reproductive and population health, and environmental and occupational health. This is followed by an eight-week rotation during year 4, in which the prime focus is on developing hands-on skills by conducting research on topics of public health relevance, and in which students learn to strengthen and apply basic epidemiological and biostatistical concepts and methods.



Inculcating Public Health concepts through undergraduate curriculum

A concerted effort was made during 2018-20 to reform the UGME curriculum and make it more relevant to and aligned with the public health demands and challenges in an increasingly globalized world. Some of the major changes and improvements include:

- The *public health content was updated and reorganized* to give it more visibility and reflectivity within the basic sciences curriculum offered during the first two years. Aligned with the basic science modules, the six themes of public health have been distinguished as standalone topics to highlight the importance of community and public health as an independent discipline for students.
- *Community-based experiential learning has been revitalized* and field sites, in addition to Sultanabad, Metroville and Ali Jiwani, have been included in collaboration with Aga Khan Health Services, Pakistan (AKHS,P). Field-based teaching includes home visits where students interact with families, collect baseline information regarding socio-demographic and health indicators, identify health issues and propose potential solutions at the household/community level. Efforts are made to ensure students maintain a continued link with households and families through follow-up visits.



Undergraduate students visit Urban Health Programme field sites: Sultanabad & Metroville

- *Introduction and training of CHS faculty in newer pedagogies* to diversify teaching and meet the requirements of technology-savvy students. These include: (i) *sign-off tutorials* in which students are required to individually learn skill-based curricular content and demonstrate that they have understood it, (ii) *flip class team-based learning* in which students are given concepts to read and learn before the session, which are then strengthened and clarified in class, (iii) *podcast recording* of certain sessions by the facilitators, which are shared with the students so that they can view them at their convenience, (iv) *team-based learning* in which students learn as part of group while being facilitated by the faculty.
- *Hands-on research and public health debates.* During year 4, in addition to receiving hands-on training in protocol development and conducting research on topics of public health relevance, students participate in public health seminars. Over the last three years, students have successfully published three articles in peer-reviewed journals during their rotations. One innovation has been the introduction of public health debates where students are asked to lead discussions on contentious topics of global public health significance, which provoke debates that are moderated by the faculty.
- *Addition of a new foundation course.* A 16-week foundational health and social sciences semester that includes longitudinal themes and courses on human body systems, molecular biology, pharmacology and public health has been developed and will be offered to the new Year 1, MBBS Class of 2025. The public health component will be led by CHS. This foundation course will provide the students with an understanding of the wider public health problems and their interface with the medical and social sciences. The course will be a blend of interactive classroom sessions, field visits, team-based learning, and learning strategies such as panel discussion with experts and student debates.

3.2 Consolidating master level graduate programmes

The MSc in Epidemiology and Biostatistics is a leading programme that is designed to equip health professionals with in-depth knowledge of epidemiology and biostatistics and their application in analysing major public health problems, with a focused approach on regional needs and challenges. The programme offers a clinical research track to aid in developing a cadre of clinical researchers in the country. The MSc in Health Policy and Management is the other leading graduate level programme and is designed to train professionals to address the public health challenges of lower- and middle- income countries (LMICs) by building capacity in such areas as health systems and universal health coverage, policy analysis and formulation, strategic and operational planning, organizational management and health systems research.

In an effort to continuously improve the quality of training, the two programmes have taken several initiatives during the last three years. Table 3.1 provides a summary of the major changes introduced and the associated achievements in improving the structure, content, teaching methods and ultimately the quality of the graduates of the two programmes. Some of the measures introduced are common to the two programmes, while others are specific to each.



Faculty and Students of the Masters' in Epi-Bio and HPM programs engaged in teaching and learning activities

Table 3.1: Measures taken to improve the structure, content, teaching methods and quality of the graduate programmes

MSc in Epidemiology and Biostatistics	MSc in Health Policy and Management
<ul style="list-style-type: none"> Transformation from the term to the semester system to comply with the Higher Education Commission’s policies Mentorship programme introduced to support students to better manage personal and professional challenges during the academic period Progressive transition to a paperless system, introduced in 2018, to minimize the use of paper. All communication and sharing of information during 2020 were done electronically Capacity of faculty built via new online pedagogies such as Microsoft Teams, Kahoot and others to create a virtual learning environment for online/blended teaching/learning, flipped classroom Course fee rationalization and improved marketing resulted in an increased number of admissions for 2021 Faculty evaluation introduced, independent of University’s central system, to get students’ feedback on individual sessions as part of continuous quality improvement efforts 	
<ul style="list-style-type: none"> Curriculum reviewed to incorporate new areas (translational skill, secondary data analysis and experiential learning), programme competencies revised, and courses mapped New elective courses developed and offered on research methods in injury prevention and control, mental and behavioural health epidemiology, and research methods and application of digital health Component of qualitative research methods added to the programme Students provided with greater opportunity for experiential learning through manuscript and proposal writing, field training, facilitation of short courses and research consultation 	<ul style="list-style-type: none"> Programme extensively reviewed and efforts made to improve its structure, content and quality of training Programme rescheduled to be offered on weekdays instead of weekends, and courses rearranged to ensure that core courses precede electives Course objectives revisited to make these Specific, Measurable, Attainable, Relevant, Time-based and course competencies introduced Programme opened to those lacking a background in science but who have experience and interest in public health Pedagogical innovations introduced in the form of case studies, panel discussions, field sites, capacity building of faculty

3.3 Preparatory work for the Master of Public Health programme

CHS has initiated work on a new Master of Public Health programme to address the needs of the country and the region. The programme will be developed in accordance with the requirements of the Higher Education Commission of Pakistan, and a key feature will be a blended learning mode. The curriculum is being developed in line with the recommendations of the Commission for Education in Public Health, USA, to meet its requirements for recognition. Negotiations have also been initiated to develop this programme in partnership with a reputed North American university. The initial concept has been approved and currently a full proposal is being developed. The intention is to offer admission to this programme in 2023.

3.4 Mainstreaming the doctoral programme in population and public health

The Population and Public Health stream of the PhD in Health Sciences was initiated in 2015 and is one of the four streams offered by AKU's Faculty of Health Sciences. It is specially designed for future leaders in the field of population and public health. The programme includes 18 credits of course work that provide a broad knowledge of population and public health, encompassing principles of epidemiology, biostatistics, social and behavioural sciences, scientific writing and ethics in research, through core and discipline-specific courses. Additionally, there are opportunities for candidates to learn by taking elective courses offered in other graduate level programmes at AKU. After completing the course work, students appear in a comprehensive examination and synopsis defence. At the heart of the programme is an in-depth thesis which students are expected to pursue in an area of specialization within the population health framework.



PhD Candidates and Faculty

The PhD stream in Population and Public Health currently has 8 students, who are professionals in medicine and nursing from government and non-governmental organizations. The research work pursued by these candidates is expected to be original, diverse and impactful. Box 3.1 provides an illustration of the research topics selected by the students for their theses. There is a growing interest in the stream, reflected in the progressive increase in the number of applicants, and an additional cohort is expected to join in 2021. During 2018-20, six students were enrolled in this programme and three are expected to graduate in 2021.

Box 3.1: Research topics chosen by doctoral student

- Examining the influence of PCV10 vaccine on nasopharyngeal carriage in young children
- Community engagement strategies for diarrhea and pneumonia prevention and treatment
- Effect of maternal diabetes and pre-eclampsia on cardiovascular disease risk in children
- Food insecurity and dietary diversity among adolescents
- m-Health coaching programme during pregnancy
- The role of early childhood teachers in improving nutrition
- Road injury prevention tool for school children and social skill building programme for adolescents

3.5 Strengthening the residency programme in community medicine

The Community Medicine Residency is a four year programme that leads to Fellowship of the College of Physicians and Surgeons Pakistan. It is well-structured and is arguably the best organized CMR programme in the country. During the last three years, the programme has made progress on several fronts. These include the initiation of rotations that allow residents the opportunity to work under the supervision of faculty in all sections of the department and to gain exposure to the work being undertaken across the different disciplines of public and population health. In addition, the Journal



Faculty of Community Medicine Residency Programme

Club sessions have been strengthened by ensuring that sectional faculty provide input as subject experts, from the selection of their articles through to the presentation. The programme has made efforts for enhanced placement opportunities for residents that allow them to gain experience in a more structured manner with better supervision. The placements have included organizations such as the National Institute of Health, the World Health Organization, the Marie Stopes Society, the Population and Welfare Department, the Sindh Environmental Protection Agency and others. The option of signing MOUs with key public and private sector organizations has also been explored. During the last three years, there have been 14 publications in which the residents were authors; for six, they were first authors. During the same period, seven residents completed their residency, six of whom cleared the FCPS exam. A challenge the programme faces is the small number of residents recruited to the programme every year, which is largely due to the limited number of candidates who successfully pass the primary examination for the FCPS in Community Medicine.



Community Medicine Residency Programme – visits to the community and hands – on learning

3.6 Revisiting the Continuing Education Programme: Going beyond borders



The Continuing Education Programme (CEP) stream of CHS’s educational activities is meant to target young and mid-career individuals who are interested in enhancing their knowledge and skills in specialized areas of public and population health. The CEP offers core, grant-based, and collaborative short training courses spanning from three to 20 days in duration. Over the last 26 years, CEP has trained 4,518 national and international health and development professionals through 219 training courses conducted both in Pakistan and abroad. The core courses are held at regular intervals, and grant-based tailor-made courses are also offered. Some of the courses are offered in collaboration with other departments of the Medical College and some with other institutions of the Aga Khan Development Network.



CEP Courses facilitated by our Collaborators

During the period 2018-20, 30 courses were organized and offered under this programme and 756 participants were trained. During the COVID-19 pandemic, the programme adapted itself aptly and successfully organized several online courses. There has been an upward trend in participation of CEP courses from 2018 onwards (Annex D). During the year 2020, the switch from face-to-face to virtual courses was transformational, and attracted participants not only from other parts of Pakistan but also from countries of the region and beyond, including Europe and Africa. It is expected that the same upwards trend will be maintained in coming years.



Online CEP sessions during Covid-19

SECTION 4:

Generating evidence, expanding research: Influencing policy through quality research

4.1 Introduction

CHS has chalked out its strategic plan for the period 2018-23. Goal 3 states “Lead the health research agenda by developing novel approaches to assess and evaluate priority problems and complex interventions in health and health care,” and the strategies to achieve this goal are: (i) develop a research strategy reflecting the interests of the CHS sections and articulating the key research priorities and milestones to be achieved, (ii) build research capacity for undertaking high quality research and improve the grant mobilization capacity of faculty and staff, (iii) establish a grant support cell for strengthening resource mobilization, and (iv) develop a strategy for greater dissemination through sharing knowledge, reinforcing translation and monitoring impact.

For many years the CHS faculty had been working in research groups: in Population and Reproductive Health, Environmental and Occupational Health, Epidemiology and Biostatistics, and Health Systems. In 2019, in response to the strategic plan, these groups were revitalized and formalized as five sections (see Section 2) with an expanded mandate for research, education and practice, and with enhanced focus on the scope of work of each section. This structural change has encouraged young faculty to identify their research interests and develop expertise in different areas of public health, and has also facilitated the process of grant submission.

4.2 Expanding the research portfolio in public health

The faculty of CHS, supported by the staff, have made commendable efforts to expand the research portfolio over the last three years, and Table 4.1 summarizes the research interests and priorities of the different sections within CHS. The increasing trend is illustrated in Figure 4.1A, while Figure 4.1B explains the number of existing and new grants in CHS during 2018-20. At any point during this period CHS had between 29 and 42 functional grants. The largest number of grants mobilized was in the year 2019, while the year 2020 was challenging due to the global impact of COVID-19 on working arrangements and on the attention of donor agencies, which was diverted towards COVID-19 related research. While there has been an increase in the number and value of grants mobilized, there is still room for improvement.



Expanding the research portfolio in public health

A Data Management Unit has been established. This unit has offered training courses to build in-house capacity in learning new programmes such as Python, and analysing large publicly available data sets such as Demographic Health Surveys.



FIG 4.1A: Grants submitted & awarded, 2015-20

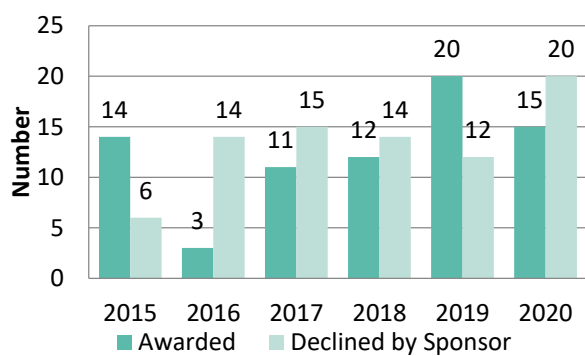


FIG 4.1B: Grant status, 2018-20

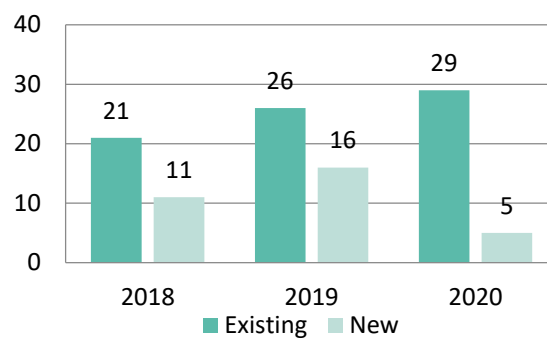


Table 4.1: Research priorities and publications by CHS Sections, 2018-20

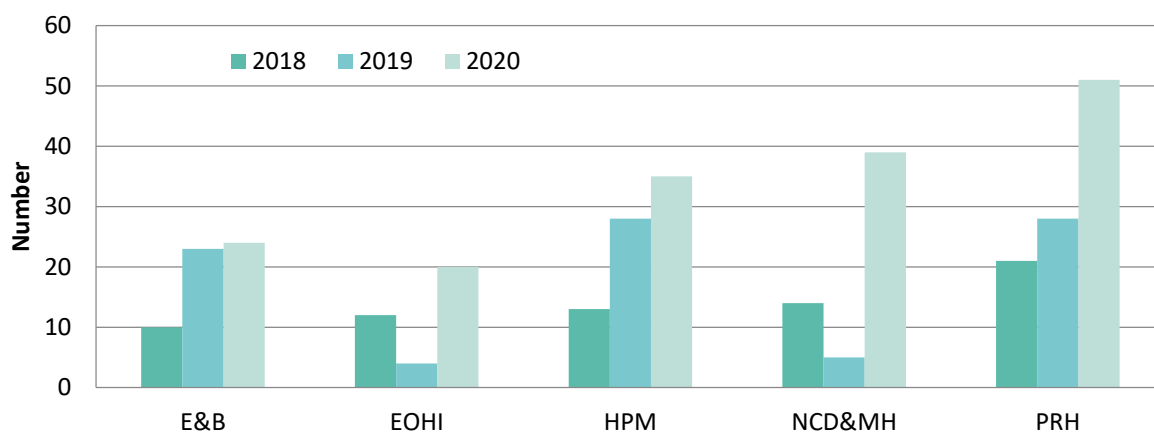
Research interests and priorities	Publications
<p>Population and Reproductive Health Section</p> <ul style="list-style-type: none"> • Maternal and Newborn Health Registry • Maternal and newborn health, stillbirths, premature delivery • Prevention of infections in mothers and newborns • Assessing cause of maternal and newborn deaths • Family planning 	<p>96 papers published; PRH Section contributed to chapters in the recently published Pakistan Maternal Mortality Survey 2019</p>
<p>Non-communicable Diseases and Mental Health Section</p> <ul style="list-style-type: none"> • Community based epidemiological studies as well as a large-scale community-based hypertension management programme • Health system-oriented research in urban slums • Diet, physical activity, cardio-metabolic diseases, tobacco and indoor air pollution • COVID-19 epidemic and mental health needs of frontline workers 	<p>89 papers published on cardio-metabolic disease, burden and risk factors of cancers, mental health</p>
<p>Health Policy and Management Section</p> <ul style="list-style-type: none"> • Health reforms and universal health coverage • Public-private partnership for improved primary health care • Resilient health systems for climate and pandemic shocks • Governance of non-communicable diseases in LMICs • Immigrant policy research and peer supervision of Lady Health Workers • Embedding digital technologies for frontline health workers within health systems 	<p>72 papers published; 12 op-eds and 2 book chapters</p>
<p>Environmental and Occupational Health and Injuries Section</p> <ul style="list-style-type: none"> • Health hazards of outdoor and ambient air pollution • Climate change and health • Health issues of textile workers in the province of Sindh • Road traffic injuries • Health of migrant workers, child laborers and brick kiln workers 	<p>45 papers published; 1 book chapter</p>
<p>Epidemiology and Biostatistics Section</p> <ul style="list-style-type: none"> • Transmission dynamics of infectious disease – malaria, tuberculosis, hepatitis, HIV, human papillomavirus • COVID-19 epidemiology, surveillance and modelling • Infectious diseases of maternal and child health • Poliomyelitis from health systems lens in super high-risk union councils in Pakistan 	<p>54 papers published on infectious diseases, methodological aspects of study designs & statistics, public health topics; 2 book chapters</p>

4.3 Publishing more, Enhancing quality

All sections of CHS have been active in scholarly activities and publishing in national and international journals, with a significant increase in publications in the year 2020. In the last three years CHS has published 326 articles in peer-reviewed journals with an average of 100 publications per year. Young faculty have shown a remarkable increase in publications as first, second or corresponding authors. A large number of manuscripts were published in high impact international journals such as The New England Journal of Medicine, The Lancet, BMJ Global Health, Health Policy and Planning, Vaccines, BMC, and PLOS ONE. In addition to peer reviewed publications, the department has also produced policy briefs on priority public health problems.

Table 4.1 summarizes the papers published in peer reviewed journals and other publications in the form of book chapters and op-eds published by the faculty of CHS during 2018-20. Figure 4.2 provides the breakdown of these publications by each section of the department.

FIGURE 4.2 Publications by CHS in peer-reviewed journals, 2018-20



4.4 Writing better and bigger grants

In the past three years the value of successful grants has varied, from less than USD 25,000 to close to USD 1 million. There is a need for all the sections to compete for larger grants that continue for a longer duration of 3-5 years. This will not only support the department in retaining research faculty and staff and improving their skills, but also in developing new avenues of research and networking. With the current challenges of COVID-19 and many unknowns in the future, a sustained flow of successful grants is needed. The key is to bank on the emerging global and regional trends of inquiry and to compete for those grants.

Figures 4.3A and 4.3B reflect the numbers of grants funded during 2018-20, and their monetary value, in areas of public health research, consultative advice, and capacity strengthening. During this period, CHS faculty submitted 93 grants with a success rate of 45% and the department received USD 3.86 million worth of grants, or 18% of the total value of grants submitted. Figures 4.3C and 4.3D demonstrate the trends in the number of grants mobilized and concluded, and the total value of grants for the period 2015-20.

The CHS department has active collaborations with many universities internationally. These include Oxford University, the London School of Hygiene and Tropical Medicine (LSHTM), and the University of Warwick in the areas of health policy and system strengthening. CHS works with the Population Health Research Institute, Canada, Imperial College London, and the University of York in the area of non-communicable disease risk mitigation, prevention and control. CHS has a notably large research collaboration with Columbia University in the area of population and reproductive health.

FIG 4.3A: Grant status, 2018-20

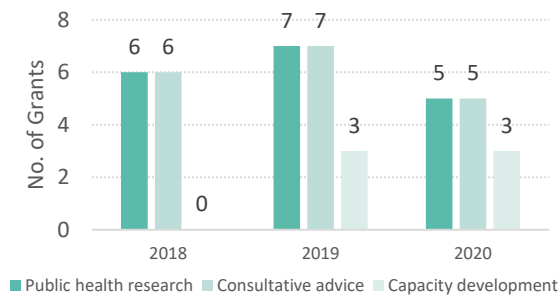


FIG 4.3B: Grant value, 2018-20

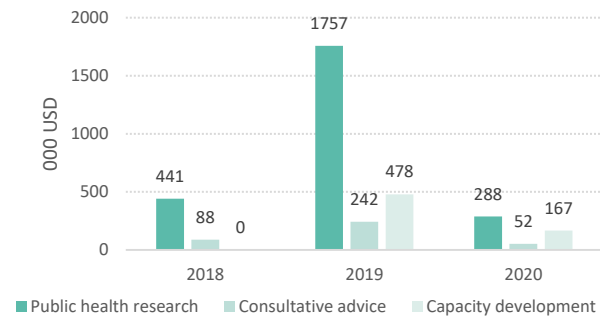


FIG 4.3C: Active and concluded grants, 2015-20

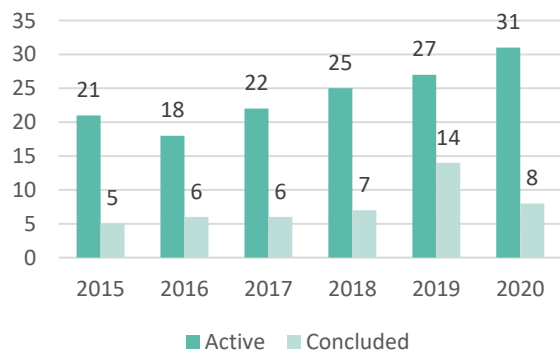
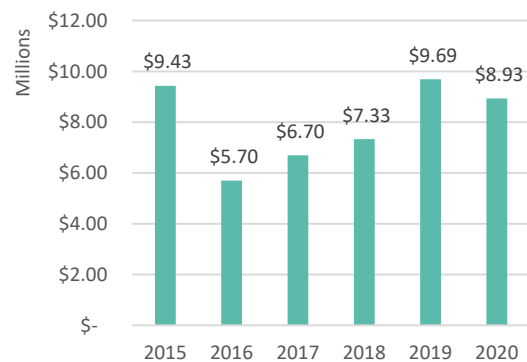


FIG 4.3D: Total monetary value of grants, 2015-20

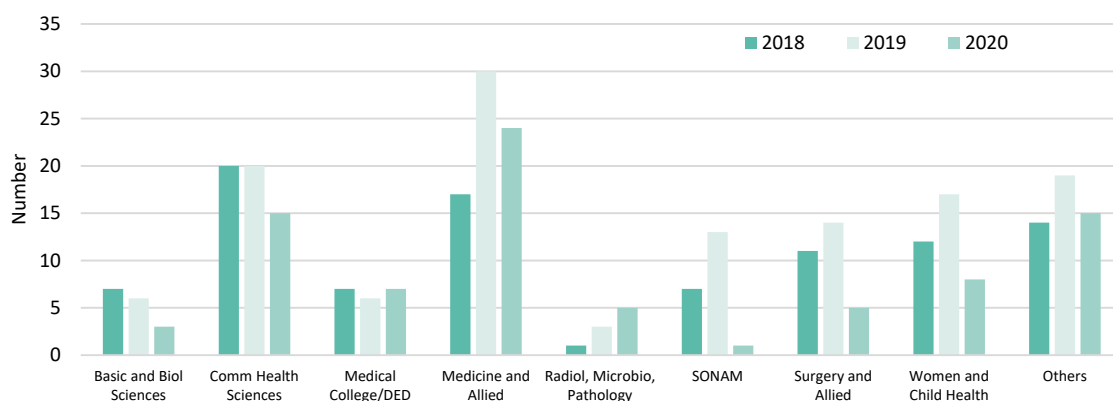


4.5 Institutional and consultative advice

4.5.1 Institutional support to AKU departments

The Epidemiology and Biostatistics section of CHS revived its research consulting services for other departments of AKU in March 2018. The section provides up to 100 consultancies per year on different aspects including data management, data analysis, epidemiological study design, and sample size calculation (Figure 4.4). Through this service, CHS has been instrumental in supporting AKU's researchers in strengthening methodological aspects of research studies and in promoting the development of quality research proposals, manuscripts and presentations. The Population and Reproductive Health section has also provided research advice to residents at premier institutions in Karachi to build their capacity in quantitative research methods.

FIGURE 4.4: E&B consultative advice to the Faculty of Health Sciences, AKU, 2018-20



4.5.2 Consultative advice to public sector institutions and development partners

This section covers the formal contracts with well-known development partners such as the World Health Organization, UNICEF, the World Bank, the Bill & Melinda Gates Foundation, and some bilateral donors.

During the last three years, there has been a surge in the number of requests received and in the advice offered to public sector institutions or development partners making requests on behalf of governments. This work has helped CHS to enhance its capacity to apply theory in real life situations. The department provides consultative advice to government agencies either as part of formal contractual arrangements or increasingly on a *pro bono* basis.

CHS ensures that all such work is done at the institutional level, without adversely affecting the faculty’s time for academic work. Young faculty are given more visibility and responsibility in many of these contracts, which allows them to develop the confidence to deal with development partners. During the period 2018-20, CHS undertook several major tasks that brought resources, and importantly credibility, to AKU in the eyes of governments and development partners. Many faculty members have voluntarily made available funds generated to support special initiatives such as the Rural Health Programme in Thatta district, which does not receive any core funding. Table 4.2 provides a list of the major consultative activities undertaken during 2018-20.

Table 4.2: Summary of the institutional consultative activities undertaken during 2018-20

Institutional Consulting and Advice	Funding Agency	Potential Impact
Year 2018		
Economic burden of tobacco-associated diseases in Pakistan	Pakistan Health Research Council	Determine economic impact of tobacco-associated diseases in Pakistan
A generic course on universal health coverage for undergraduate medical and allied students of the Eastern Mediterranean Region (EMR)	World Health Organization	Build the capacity of medical and allied graduates in universal health care
Regional report on primary health care progress	World Health Organization	Review of the progress and impact of primary health care in EMR countries
Support to the Health Sector Programme in Nepal	GIZ Pakistan	Provide a strategic roadmap for health sector reform in Nepal with GIZ technical support
Development of a draft Strategic Roadmap and Operational Framework on Primary Health Care: Towards Health for All	World Health Organization	Produce key documents to provide the vision, strategy and operational roadmap for the Astana Declaration on PHC
Revitalize ecosystem of Ravi River Basin - river basin assessment and management planning	Hagler Bailly Pakistan (Pvt.) Limited	Revitalize the ecosystem of river Ravi in Punjab province

Institutional Consulting and Advice	Funding Agency	Potential Impact
Year 2019		
Mapping of implementation of human development programmes and projects in Sindh Province	World Bank	Inform the design of the proposed Human Capital Investment Project and other relevant projects in Sindh
Application of health financing matrices in Pakistan	World Health Organization	Monitor progress in health financing reform in Pakistan for developing policy
Capacity-building and systems development in support to a Sindh multi-sectoral nutrition policy, strategy and implementation framework	CONSEIL SANTE S.A.	Provide a sustainability plan including resources required to manage the nutrition intervention implemented by the Programme for Improved Nutrition in Sindh
Third-party health programme evaluation in Thatta and Sujawal district	Medical Emergency Resilience Foundation	Identify strengths and areas for improvement in services and functioning of the healthcare facilities in Thatta and Sujawal districts
Public health strategy	Deloitte & Touche	Aid prevention of asthma from desert dust in Middle Eastern countries
Year 2020		
Journal of Health Science Research Committee Member	Wellcome Trust	N/A
Private sector engagement and contribution to address non-communicable diseases at primary health care level in the EMR	World Health Organization	Document private sector contribution in implementation of WHO policies, strategies, and action plans to prevent NCDs at the PHC level
Engagement of the private sector in reproductive, maternal, newborn, child and adolescent health services in the Eastern Mediterranean Region	World Health Organization	Document private sector contribution in the implementation of WHO policies, strategies, and action plans to reduce RMNCAH associated disease burden at the primary health care level
Verbesserung der Arbeits- und Sozialstandards in der pakistanischen Textilindustrie	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Develop occupational injury monitoring system for healthcare facilities run by the Punjab Employees Social Security Institution in selected districts of Punjab
Sindh assessment of contracting initiatives for primary health care	World Bank	Assess and provide recommendations for improved public-private partnership performance at the primary care level in Sindh province.
Develop investment case on integrated health, nutrition, child protection and WASH services for 40 polio super high-risk Union Councils (SHRUCs)	UNICEF	Develop and present investment case for funding by donors in 40 SHRUCs
Situation analysis for planning intersectoral intervention (ISI)	World Health Organization	Provide in-depth understanding of the status of 29 essential ISI at the federal level in Pakistan
Mental and physical health research-policy workshops	University of York	Latest contextual scientific evidence shared to help move forward the policy on mental health
Situation analysis for establishment of an Integrated Disease Surveillance and Response (IDSR) system in Thatta	World Health Organization	Establish an IDSR system in Thatta district

4.6 Enhancing impact: from publications to influencing policies and programmes

There has been an increasing effort by CHS to ensure that evidence generated through research impacts policy and practice in the country. All CHS sections have endeavoured to influence policies in their respective areas, an effort which has been acknowledged by governments and development partners. Some examples include:

- The work of AKU in partnership with LSHTM and the federal Ministry of National Health Services Regulations and Coordination (MONHSRC) on Disease Control Priority-3 and development of a UHC Benefits Package for Pakistan, co-chaired by the CHS chair, has been endorsed by the National Steering Committee, which includes all ministers of health in the country. This initiative will be rolled out for implementation in 12 districts of the country.
- The study on public-private partnerships to improve access and quality of primary health care in Sindh is being used to support the provincial government’s efforts to optimize strategic purchasing of private providers’ services for universal health coverage.
- The Maintains country study brought together a series of studies on (i) contingency planning, coordination and risk financing for shocks at national and provincial levels, (ii) deep dive case studies on response by high-risk districts, and (iii) community resilience in responding to shocks. The study has a cross-cutting focus on gender and marginalized groups and investigates the responsiveness of health measures for those most vulnerable.
- Maternal and Newborn Health Registry is an ongoing birth registry in Thatta which has been active for the last 15 years. It has paved the way for establishing the Rural Health Programme in Mirpur Sakro, which caters to the needs of the 60,000 strong population by strengthening the district health systems and mobilizing communities to cater to their health needs.
- Nigraan Plus assessed the effects of structured supportive supervision on Lady Health Workers, which improved community care and management of pneumonia and diarrhoea in children under five.
- Teeko+ increased the overall transparency and accountability of routine immunization programmes, using digital technology to improve immunization rates and population health.
- SELMA is pioneering research into immigrant health policy, which will help to identify gaps and to define the way forward to protect the health of immigrant workers from Pakistan.
- The trial of screening and initiating the first dose of DMPA (injectable contraceptive) has resulted in approval for the task to be shifted to Lady Health Workers. This will provide long-acting contraceptives at the doorsteps of women in Sindh.
- Studies on the regulation of clinic licenses after an HIV outbreak in Larkana in 2019 and investigation reports on adverse events following immunization have influenced district level decisions on appropriate practices.



Assessing Sindh’s Ministry’s Public-Private Health Reforms



Multi-sector governance for NCDs: International researcher networks



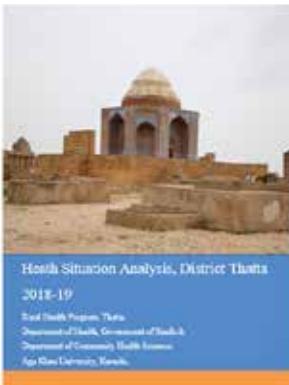
Policy engagement for Universal Health Coverage via the DCP3 Project

SECTION 5:

Putting public health into practice: Going beyond the campus

Goal 4 of the CHS department calls for “establishing public health practice programmes in urban and rural settings, with community engagement, that support student training and faculty research and serve as scalable service delivery models.” CHS has been engaged in various health and development initiatives, including the creation of prototype community-led and system-strengthening programmes in several urban and rural communities. CHS is currently involved in two programmes, the Rural Health Programme and the Urban Health Programme.

5.1 Rural Health Programme: An implementation science initiative



CHS took the initiative to start the Rural Health Programme (RHP) in Thatta district in Sindh province, in 2018. The programme is working with a population covering 120 villages in the Taluka (sub-district) Mirpur Sakro, and relies totally on resources generated by the department. The primary goal of the RHP is to accelerate progress towards universal health coverage in the district. This builds on ongoing work to address the problems of mother and child health. The RHP model uses an implementation science² approach for health system strengthening through a partnership with all district level stakeholders, specifically government health departments, non-governmental organizations and community representatives. The purpose is to develop a prototype programme that has the potential to scale-up in the province.

The programme was formally launched in August 2018 at a meeting held at the Aga Khan University in Karachi, which brought together all the stakeholders. This was followed by several planning workshops that were held in Thatta district which, in addition to the district health officers, included non-governmental organizations, other government departments and community representatives. The workshops were held in a participatory manner to allow representatives from Thatta district to identify priorities and were followed by the development of an action plan for implementation with the technical assistance of AKU (Box 5.1).



Sensitizing community for establishing emergency referrals for MNCH

2 Implementation science is a research approach closely linked to, or even embedded in, public health practice. It is meant to address challenges to the implementation of ongoing health programmes and find effective ways of achieving potential solutions, including how to promote large-scale use and sustainability of health programmes and interventions.

A well thought-out results framework for the monitoring and evaluation of activities has been articulated. It assigns joint responsibility and accountability to stakeholders for improving the health and wellbeing of the people and for monitoring implementation of the action plan. It has required the continued commitment and engagement of the AKU faculty to build trust and understanding and to get the programme up and running.

As the programme gathered momentum, its achievements, challenges and opportunities were presented to the AKU leadership in January 2020, with the full participation of all district functionaries. The initiative was unanimously appreciated, and the development of a five-year strategic plan was advised. However, the COVID-19 pandemic adversely affected the programme for the better part of 2020.

Since November 2020, CHS has been working on a new initiative to establish an electronic disease surveillance system in the district, as a model for other districts of the country. In addition, a study to assess the status of dental health care has been undertaken as a master’s level thesis.

Developing Action Plans for Identified Priorities



Educating Community in Life Saving Skills - MCH

Box 5.1: Priorities identified and ongoing actions as part of the Rural Health Programme

<ul style="list-style-type: none"> Addressing the challenge of high maternal and neonatal mortality and morbidity 	<ul style="list-style-type: none"> Awareness-raising sessions with males and females conducted in the community to enhance life-saving skills in case of maternal and child health emergencies.
<ul style="list-style-type: none"> Reducing child mortality and morbidity and tackling malnutrition 	<ul style="list-style-type: none"> Lady Health Workers trained in community engagement and generating demand for health services in the community.
<ul style="list-style-type: none"> Improving the problem of water and sanitation with a focus on the quality of water in villages 	<ul style="list-style-type: none"> Testing of drinking water sources in villages identified that 50% of them have higher than normal levels of total dissolved salts and a reddish colour. Community informed to refrain from consuming water for drinking purpose from these sources.
<ul style="list-style-type: none"> Developing the planning and management capacity of healthcare providers and managers 	<ul style="list-style-type: none"> Four workshops conducted and 25 managers trained. Preoccupation of health managers with polio immunization campaigns remained a constant challenge.
<ul style="list-style-type: none"> Strengthening referral systems for health emergencies from the community to facilities 	<ul style="list-style-type: none"> Community sensitization meetings conducted in 17 villages, key resource persons identified to facilitate referral process and maintain records; Sindh Peoples’ Aman Ambulance taken onboard. So far, 49 emergencies have been referred for higher level care from villages.
<ul style="list-style-type: none"> Conducting a health expenditure survey to prepare for enhanced financial risk protection 	<ul style="list-style-type: none"> A district-wide survey, covering 1,400 households, to assess the pattern of health expenditure and utilization revealed that Thatta households spend out-of-pocket on health up to 14.3% of their total expenses or 36.5% of non-food expenditure.

5.2 Urban Health Programme: A community campus collaboration

The Urban Health Programme (UHP) was initiated in 1985 by CHS, based on recommendations by WHO, UNICEF and AKF. Since its inception, the programme has been operating as a community-campus partnership model that seeks to reduce health inequities by addressing the underlying socio-economic determinants of health. This is done through sustainable community-oriented health and social development initiatives.

The aim of the UHP is to promote the development of an equitable and sustainable health care system that embraces the basic needs of the underprivileged and underserved segments of the population, working in partnership with communities, the government and NGOs. The UHP initially started with 11 field sites in the city of Karachi, which were gradually phased out as they achieved autonomy. At present, the UHP conducts



Social Development and Health Education as part of the Urban Health Programme



Senior Leadership at our field site

its operations at one site in the squatter settlement of Sultanabad. Another semi-urban field site in Rehri Goth was recently closed with a proper exit strategy, and a new site is proposed to be established in Azam Basti in 2021.

The program's activities revolve around four core areas: healthcare (mainly maternal and child health), social development, community oriented medical education and research (Box 5.2). Over the years the UHP has gone through various restructuring phases in order to better align its services to the needs of the communities it serves. Presently, the programme is being revamped in order to streamline its activities and focus on the most pressing community issues.



Social Development and Health Education as part of the Urban Health Programme



School Health Program- Collaborative Initiative by the Department of CHS and SONAM, AKU

Box 5.2: Core areas of Urban Health Programme activities

<ul style="list-style-type: none"> • Community oriented medical education - UHP sites offer supervised educational and learning opportunities to a wide range of AKU students, including undergraduates in medicine, postgraduates in family and community medicine, nursing students, dental hygiene students, interns and volunteers. 	<ul style="list-style-type: none"> • Social development - Health education sessions are conducted thrice a week in the form of school sessions, centre-based sessions, lane sessions and sessions on World Health Days - Income generation for women’s empowerment in the form of the Arisha Sewing Centre, which has been running in Sultanabad for 2 years
<ul style="list-style-type: none"> • Primary health care services - An outpatient clinic functions five days per week to provide basic health services including vaccination and immunization, antenatal care, childcare, treatment of common ailments, counselling for common health related issues, and referral to secondary and tertiary hospitals. - Records of all the patients who visit the outpatient clinic are maintained on a daily basis on an electronic medical record system. - The service package is being revised to include management of NCDs, mental health and common communicable diseases. 	<ul style="list-style-type: none"> • Research and new initiatives - Sanitation drive – A sanitation drive started in 2020 by programme personnel, interrupted by the COVID-19 pandemic, will be reinitiated in 2021 - Electronic medical record – a CHS information technology team has developed an App to electronically record all consultations, which has helped in maintaining continuity of care at the facility - Geo-spatial mapping - GIS mapping has been conducted by mapping streets and facilities at the programme site

The COVID-19 pandemic impacted the UHP in 2020. Most of the in-house, community-based and teaching components of the programme were interrupted as per directives of government. However, certain activities were continued mainly to address COVID-19 related problems, such as tele-consultations, referrals to appropriate health facilities, and awareness programmes in the form of text messages sent to the registered population along with distribution of IEC, information, education and communication, material.

5.3 Public health practice: Lessons learnt

Public health practice is a critical aspect of the work of the CHS department. During the last three years, greater emphasis has been given to the establishment and strengthening of field sites for student education, faculty research and engagement with communities and other stakeholders. The two distinct systems of operations, RHP, which is oriented towards the public sector, and UHP, which is more private sector led, provide excellent and diverse opportunities for learning. They comprise the fundamental base for undergraduate and graduate teaching and research, and the information acquired also raises contextually relevant questions for research and intervention strategies.

SECTION 6:

Building partnerships and networks: From local to global

CHS has made a proactive effort to expand and diversify partnerships with other institutions over the last three years, within and beyond AKU, both local and global. These efforts are in pursuance of Goal 5 of its strategic plan, which calls for developing collaborative partnerships within AKU and with AKDN agencies, and with regional and global academic institutions for promoting public and population health. Partnerships have particularly progressed in the areas of training and research, and new partnerships are enfolded in the policy to practice area.

6.1 Partnerships within AKU and AKDN agencies

6.1.1 AKU departments and institutes

CHS actively partnered with the Department of Surgery to organize an international conference on Global Surgery during 2019 that involved undertaking a joint study to assess the quality and range of surgical care in district hospitals. CHS is an integral member of the Centre for Global Surgical Care that was subsequently established. The department has actively supported the University's newly established Centre for Patient Safety.

A similar collaboration also exists with the Department of Medicine, and many proposals, papers and training activities are being conducted jointly. CHS collaborated with the Department of Medicine on TB diagnostic algorithms, with the Department of Pathology and Laboratory Medicine on antimicrobial resistance policy research and antimicrobial resistance training for laboratories, and with the Department of Paediatrics and Child Health on the investigation of an HIV outbreak in Sindh. The Chair of CHS also serves as the co-chair of the Strategic Advisory Committee for the establishment of an academic medical centre at AKU.

Community Health Sciences has helped the Department of Surgery stay connected with the major theme of AKU and the Chancellor's vision of serving the community. CHS collaborated with us to organize an international conference on Global Surgery and together we launched the Centre of Global Surgical Care in 2019. Our ongoing collaboration with CHS has resulted in several academic and research endeavours that include, but are not limited to, the Pakistan Brain Tumour Epidemiology Study, and global surgical care in rural hospitals across Pakistan. We look forward to greater collaboration with CHS in the years to come.

Prof Ather Enam, Chair, Department of Surgery

The dream for a healthier world begins with an empowered, health-literate community and population. Our colleagues in the Department of Community Health Sciences have been torch bearers in their efforts to build research capacity and take science and knowledge generated in the University to the community. We, in the Department of Medicine, are privileged to partner with CHS on several initiatives spanning building research capacity, disease modelling, conducting community trials, and developing a think tank to guide national discourse on NCDs. With CHS, our joint projects have a strong flavour of “data to policy” arcs, a theme that we hope to keep strong and centre, to influence population health.

Zainab Samad, Consultant Cardiologist, Professor of Medicine & Chair, Department of Medicine

Almost all clinical departments of AKU’s Medical College contributed to the development of the essential package of health services for Pakistan under the DCP3 initiative. The CHS chair is a core faculty member of AKU’s recently established Institute for Global Health and Development and working with the new Institute has recently published an assessment of the implementation status of health-related Sustainable Development Goals in 15 countries.

The Department of Community Health Sciences has for long been the bedrock of community outreach and high-impact public health and policy work from AKU. It has been a real pleasure to see the strong partnership between the COE WCH and CHS faculty in developing the important global evaluation of the status of implementation of health and health-related sustainable development goals. The work has led to much insight into how we can position AKU as a flag bearer for evidence-informed advocacy, monitoring and evaluation as well as accountability in this space.

*Zulfiqar Bhutta, Distinguished University Professor & Founding Director,
Institute for Global Health & Development*

CHS has a longstanding partnership with the School of Nursing and Midwifery (SONAM). The Dean of SONAM and another leading faculty member hold joint appointments with CHS and direct courses for the master’s programmes. Similarly, many distinguished AKU faculty, including the Dean of the Medical College, hold joint appointments in CHS departments. The Dean of SONAM is also the co-principal investigator of the regional hub for SRHR.

■ 6.1.2 Partnership with agencies of the Aga Khan Development Network

CHS has participated in three important research initiatives with AKDN. In partnerships with AKF-USA, Lady Health Workers are being supported for the safe provision of intramuscular and subcutaneous Depo-Provera injections. In a second partnership with AKF-USA, a trial of depot-medroxyprogesterone acetate (DMPA) contraceptive administration is being conducted in Pakistan.

The Teeko+ research trial was jointly submitted and is being implemented by CHS with AKDN eHealth Resource Centre (eHRC) and involved AKHS in Pakistan and Afghanistan and AKF-Canada. CHS, as a co-applicant with AKDN eHRC, was successful in obtaining a Grand Challenges grant for the trial of the Teeko+ mHealth application in northern Pakistan and Afghanistan.

The department has also partnered with AKHS in setting up field sites for training undergraduate medical students in Metroville and Ali Jiwani in Karachi.

6.2 Partnerships in training and capacity development

As the new training hub for Sexual and Reproductive Health Research for WHO's Eastern Mediterranean Region, CHS in partnership with WHO's Human Reproduction Programme has helped strengthen the capacities of researchers and health professionals. This has been accomplished through short courses, one on one mentoring, and scholarship support for AKU's master's programmes. So far 117 participants, including 60 international students have received training, expanding CHS's capacity building presence to 19 countries.³



Teaching Vaccine Economics Everywhere Workshop, led by Health Policy and Management Section

Additionally, CHS partnered with Johns Hopkins University and the Bill & Melinda Gates Foundation to build skills and competencies of national immunization managers in Pakistan and Afghanistan on vaccine economics, which included cost analyses for a transition from Gavi, The Vaccine Alliance support to self-sustainability. The collaboration was able to draw 133 professionals from the provincial and national Expanded Programme on Immunization and local research organizations. Further, a new 8-week global course on COVID-19 vaccine economics was run in November and December 2020, jointly conducted by AKU and six global partners, with mentoring for the COVAX rollout in 2021.

CHS offered certified short courses, expanding its outreach internationally, by offering flagship courses on *Leadership in Health Financing* and *Public Health Approach to Tackle the Novel Corona Virus*. The latter enrolled participants from 10 countries in addition to Pakistan. The health financing course was done in partnership with WHO. Furthermore, in partnership with UNICEF a fit-for-purpose course on data management using EQUIST software was conducted for the health departments of Balochistan, Khyber Pakhtunkhwa and Sindh. Partnership with WHO-EMRO has been developed for designing courses on *Climate Change & Health* and another on *Hospital Management*.



MOU signing with Sindh Environmental Protection Agency by the Environmental and Occupational Health Section

A modus operandi for a sandwich PhD programme in Population and Health was established between AKU and the London School of Hygiene & Tropical Medicine (LSHTM) by CHS faculty member Shehla Zaidi as part of a larger MOU signed between AKU and LSHTM in 2020. It provides co-mentorship and attachment opportunities for students of both universities.

³ Afghanistan, Bangladesh, Bhutan, Iran, Italy, Kuwait, Morocco, Oman, Palestine, Somalia, Saudi Arabia, Sudan, Syria, Tanzania, UAE, Yemen, Nigeria, Canada, and Australia.



Integrating Non-Communicable Disease Prevention and Control at PHC Level – Collaborative Short Course with WHO and Government of Pakistan by the Non-Communicable Diseases section

Alumni of the MSc in Health Policy and Management programme from the Department of Health, Sindh continue to serve as important links between AKU and government departments, helping support AKU's health projects and initiatives. Graduating students from the MSc HPM and community medicine residencies have been accepted for placement by UN agencies such as WHO, federal and provincial ministries of health, the National Institute of Health, Islamabad, the Marie Stopes Society, the Population and Welfare Department and the Sindh Environmental Protection Agency.

6.3 Partnerships for joint research initiatives



Population and Reproductive Health Team and Research Partners visiting field site

CHS has increased as well as diversified its research partnerships to acquiring core research council grants and programmatic grants. The department successfully renewed the Global Network for Women's and Children's Health Research (GNRU) grant led by Columbia University, and continues to be the country lead till 2025. CHS also served as country partner with the Research Triangle Institute, USA on a project to understand and research preterm pregnancy outcomes and stillbirths in South Asia (PURPOSE) that drew in collaboration from the departments of Pathology and Laboratory Medicine and Obstetrics and Gynaecology.

CHS received two Wellcome Trust grants to partner with Imperial College London to study the impact of cotton dust in textile mill workers, and with University College London to conduct policy research on immigrants. CHS's grant portfolio has considerably expanded in collaboration with universities in the UK, successfully winning grants from the National institute of Health Research and the Medical Research Council. Partnership was also established with University of Georgia, Tbilisi, and Johns Hopkins University, Baltimore to assess the prevalence of forced brick kiln labour in Sindh province.

CHS has expanded its partnership with the Bill and Melinda Gates Foundation (BMGF). The department has successfully delivered and completed the *Nigraan* health workers grant as part of the *Umeed-e-Nau* project of Centre of Excellence in Women and Child Health, AKU. Further partnerships have been established by the Disease Control Priorities (DCP3) project funded by the BMGF, with AKU playing a key role in anchoring and expanding this initiative with national policymakers in Pakistan. BMGF is also supporting CHS's vaccine economics training partnership with the Expanded Programme on Immunization programmes.

CHS also led the research work on an immunization governance research trial and the piloting of an immunization digital application *Teeko+* in Sindh as part of the department of Paediatrics Umbrella PVIP studies research trial funded by Gavi, The Vaccine Alliance.

The Department of Paediatrics and Child Health has had a long and productive collaboration with CHS, which has been further strengthened in recent years. Multiple faculty and senior research staff at the Department of Paediatrics are graduates of the CHS master's programmes housed. In addition, faculty members from our department contribute actively to teaching at CHS in such courses as infectious disease epidemiology and digital health. The two departments have collaborated over the years on the *Umeed-e-Nou* and e-health related projects, and on the University-wide data science initiative. We expect to have further mutually beneficial projects in the future.

*Dr Salman Kirmani, Chair, Division of Women & Child Health and Associate Professor & Interim Chair,
Department of Paediatrics & Child Health*

6.4 Partnerships in support of evidence-informed policies

CHS furthered linkages with both global and national policy making institutions as a deliberative strategy over the last three years. At the international level, the CHS chair was appointed as a member of the standing Quality and Standards Committee of the global WHO Academy, Lyon, France. He has also been appointed as Chair of the Strategic Advisory Committee of CHORUS, a 6-year research consortium focused on urban health with funding from Foreign Commonwealth & Development Office, UK. In addition, he served on the scientific committees of the 6th Global Symposium of Health Systems Research 2020 and the World Hospital Congress of the International Hospital Federation.

CHS faculty Shehla Zaidi has been appointed a member of WHO-EMRO's Advisory Committee for Health Research (EM-ACHR). She also served as a member of the WHO-Geneva's Policy Reference Group for Reproductive, Maternal, Nutrition, Child and Adolescent Health, contributing policy metrics for governance and financing, as well as a member of the Technical Working Group on Policy Drivers for Countdown 2030 Sustainable Development Goal 3, contributing systems driver to research and track as part of the global countdown 2030 monitoring.

Strategic relationships have also been established with national and provincial policy makers. The CHS chair served as senior advisor to the Minister of Health, Federal Ministry of National Health Services Regulation and Coordination (MONHSRC), advising the government, among others, on its strategic response to COVID-19, and is co-chair of the DCP3 National Advisory Committee for developing the Universal Health Coverage benefit package for Pakistan. In 2019, CHS partnered with the Health Services Academy in the 10th National Public Health Conference in Islamabad in which Dr Adil Haider, Dean of the Medical College was invited to give the keynote address.

CHS faculty Shehla Zaidi is a member of the World Bank-Sindh Health Department hosted network on *Maximizing Health through Public-Private Partnerships* and takes a lead role in providing evidence for policies towards harnessing the private sector for universal health coverage. CHS faculty Zafar Fatmi is working with the MONHSRC and Ministry of Climate Change to support the health component of the Nationally Determined



**Epidemiology and Biostatistics section
- Investment Case presentation**

Contribution for Climate Change, as well as with the Sindh Environmental Protection Agency (SEPA) on air pollution and protection of textile workers, as part of an MOU between SEPA and AKU. CHS Faculty Romaina Iqbal is a member of the Scaling-up Nutrition Secretariat's academic network.

New partnership linkages have been established over the last three years with key development partners, especially the World Health Organization in Pakistan. CHS re-established working with UNICEF by developing an investment case for tackling polio

in 40 super high-risk Union Councils, and by conducting a national study on stillbirths and the status of newborn care in 23 public sector hospitals of Pakistan. The department, after a 20-year gap, re-established working with the World Bank through two funded works, a multi-level research study on performance assessment of public-private partnerships for PHC in Sindh, and the mapping of health and social sector projects in Sindh. A new partnership was also developed with GIZ, the German government technical assistance agency, for analysing the situation of occupational injury monitoring in Punjab Employees Social Security Institution (PESSI) facilities. Another new partnership is with the UK's Foreign Commonwealth and Development Office (FCDO) on a national FCDO-funded study underway on resilient health systems for disasters and pandemics to inform FCDO's support to Pakistan. CHS is also a contributor and local partner of the Fleming Fund, funded by the Department of Health & Social Care, UK, to develop capacity in Pakistan's national and provincial ministries for countering antimicrobial resistance, working in collaboration with the Department of Pathology and Laboratory Medicine.

It is my great pleasure and honour to state as the WHO Representative Pakistan, that collaboration with the Aga Khan University, Karachi, for the health and wellbeing of the people in Pakistan has been exemplary. WHO has worked together with the University for training middle level managers on management of NCDs, health system strengthening at the district level for delivery of effective health services, and responding to the COVID-19 pandemic. Aga Khan University is a globally renowned educational institution and its Department of Community Health Sciences under the extraordinary leadership of Prof. Sameen Siddiqi is engaged in excellent work in public health.

Dr Palitha Mahipala
WHO Representative/Head of Mission, Pakistan

SECTION 7:

Enrolling students, staying engaged with alumni

The Department of Community Health Sciences is mandated to offer regular degree and continuing education programmes in public health. It has multiple streams of educational and training activities from undergraduate to doctoral programmes.

7.1 Trends in enrollment in educational programmes

An overview of the number of health professionals trained under different programmes is presented in Table 7.1.

This section presents trends in the induction of students for two graduate level programmes (MSc in Epidemiology and Biostatistics and MSc in Health Policy and Management), the fellowship programme in community medicine, and the Continuing Education Programme. Table 7.1 provides an overview of the number of health professionals trained under these programmes since their inception. This section also briefly touches on the career progression and updates on alumni of the graduate and fellowship programmes.

Table 7.1: Scope of Educational and Training Programmes in CHS

Programmes	Year initiated	Duration	No. trained since inception	No. trained in 2018-20
MSc in Epidemiology and Biostatistics	1996	2 years	173	40
MSc in Health Policy and Management	2000	2 years	148	57
Community Medicine Residency Programme	1997	4 years	43	5
Continuing Education Programme	1994	3-20 days	4,518	756

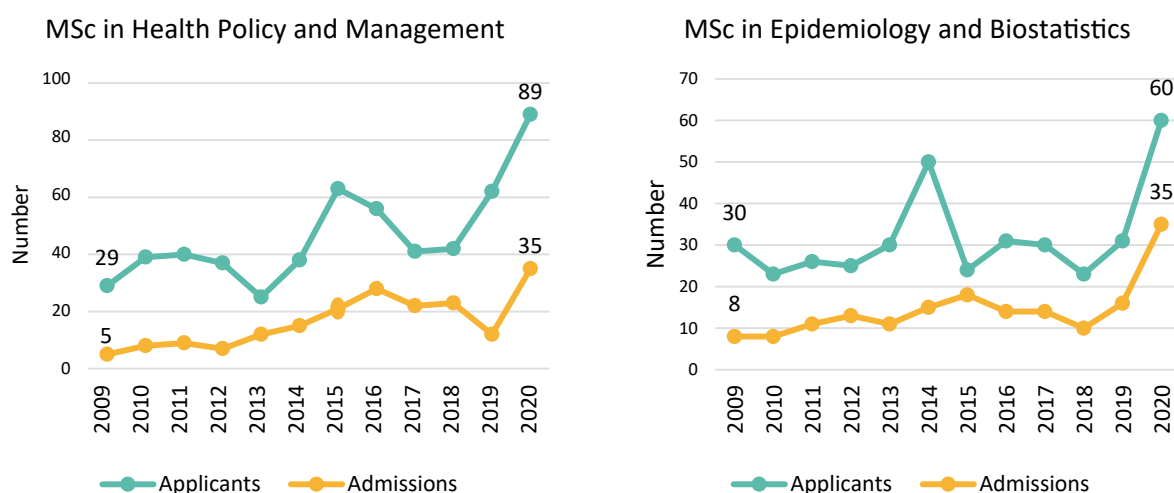
7.1.1 Graduate Programmes

There has been significant growth in the number graduating from these programmes in the last three years: 23% for the MSc in epidemiology and biostatistics and 39 per cent for the MSc in health policy and management.

The Epidemiology and Biostatistics programme has trained 173 graduates. Of these 40, or 23 per cent, graduated during the last three years. Similarly, the master's in Health Policy and Management programme, launched in 2000, has trained 148 graduates, of which 57, or 39 per cent, graduated during the last three years.

This trend has continued, and up to 35 students have been admitted to each graduate programme in 2021. The increased number of applicants in recent years augurs well for the two programmes and reflects their improved quality, innovative marketing strategies, and rationalization of the tuition fee. Figure 7.1 presents the trends in the number of applicants and those recommended for admissions to the two programmes during the period 2009-20.

FIGURE 7.1. Trends in number of applicants and recommended admissions for graduate programmes, 2009-20

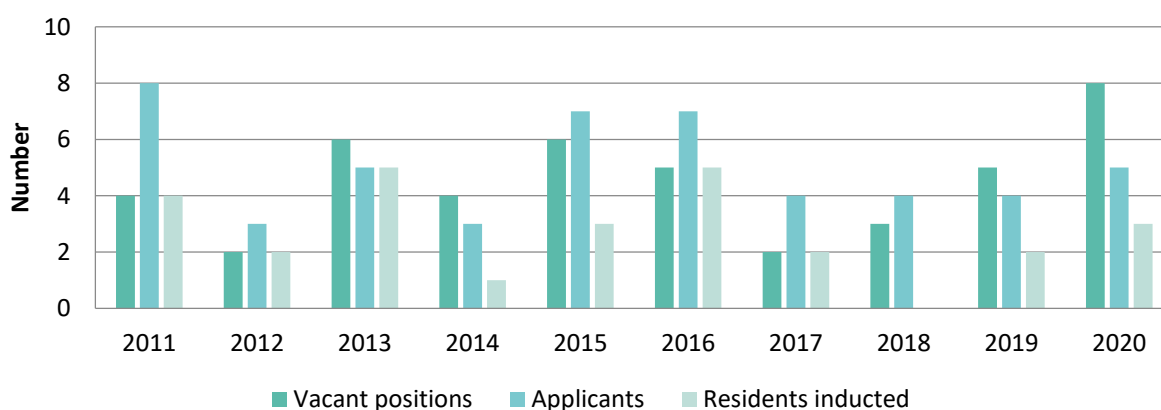


Students come from all parts of Pakistan, especially from the provinces of Sindh and Balochistan and the northern areas of Gilgit and Baltistan. These programmes also regularly enroll students from Afghanistan. Almost 70% of the graduating students are women.

7.1.2 Community Medicine Residency programme

The CMR is a four-year programme that leads to a fellowship in community medicine from the College of Physicians and Surgeons Pakistan (FCPS), which is among the highest qualifications in public health in the country. The CMR programme at AKU, which is the most rigorous and well-structured residency in the country, offers 12 positions and, given its four-year duration, three residents are expected to be inducted each year. The trend in induction to the residency programme has been variable and during the period 2018-20, five residents have been inducted against a possible 9 positions (Figure 7.2). An important reason for the limited number of inductees is the low numbers that successfully complete the primary or Part 1 examination of the fellowship in community medicine. This is being resolved by inducting resident medical officers who aspire to take up community medicine/public health as their future area of specialization.

FIGURE 7.2: Community Medicine Residency programme enrollments



Continuing Education Programme

CHS offers CEP as part of its efforts to offer continuing professional development to public health professionals who would like to further enhance their skills and competencies in specific areas of public health. The programme has been in existence since 1994 and has trained over 4,500 participants. During 2018-20, 756, or 17 per cent, of the total number of participants underwent different training programmes.

These courses are offered in a variety of fields including epidemiological and statistical research methods, sample size determination, manuscript writing, primary care, health financing, health management, infectious diseases, non-communicable diseases, mental health, environment and occupational health, injuries, social determinants of health, and reproductive health.

Figure 7.3 illustrates the annual number of participants who underwent short term training from 1994 to 2020. From 2018-20, 31 short courses were offered, Table 7.2, illustrates the increased number of 14 grant-based courses reflecting faculty's efforts to mobilize resources.

Inevitably, most short courses offered during 2020 were online and the department used this as an opportunity to invite participants from outside Pakistan. The department's flagship course "Public Health Approach to Tackle the Novel Virus" registered over 300 participants from 10 countries, with 107 attending the full course.

FIGURE 7.3: Participation in Continuing Education Programmes, 1994-2020

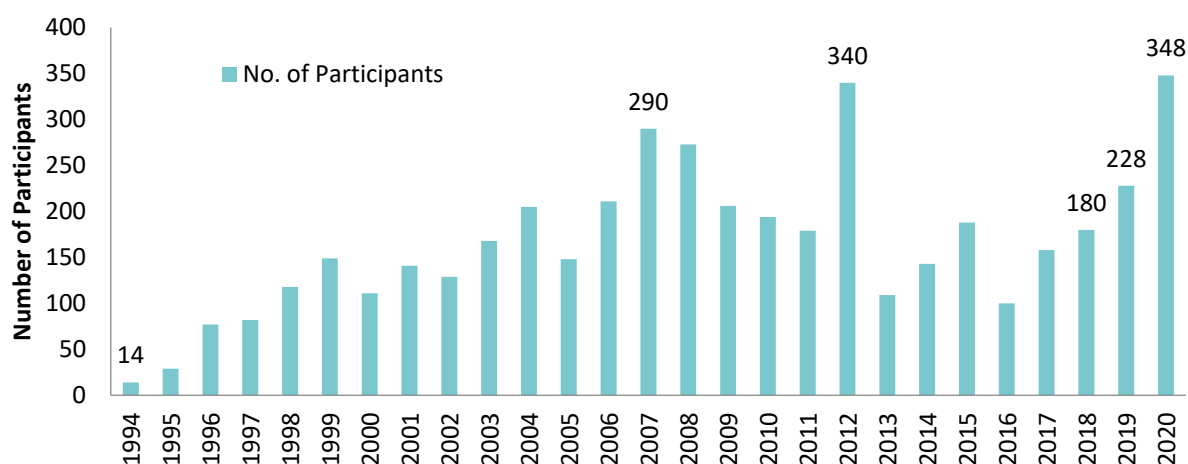


Table 7.2: Types of short courses held and number of participants during 2018-2020

Year	Type of short courses				Participants
	Regular	New	Grant-based	Collaborative	
2020	2	3	6	0	348
2019	5	0	5	1	228
2018	4	2	3	0	180
Total	11	5	14	1	756

CHS, as the hub for WHO's Eastern Mediterranean Region on Sexual and Reproductive Health Research, offered one face-to-face and three online courses during 2019-20 on related topics that registered 117 participants. During the past three years efforts to register participants from other countries have met with success. Over 60 participants from 19 countries (other than Pakistan) attended different courses. The countries include Afghanistan, Bangladesh, Bhutan, Iran, Italy, Kuwait, Morocco, Oman, Palestine, Somalia, Saudi Arabia, Sudan, Syria, Tanzania, UAE, Yemen, Nigeria, Canada, and Australia.

7.2 Career opportunities for graduates

Graduates of the two masters' programmes are recruited by various well-known organizations. These include agencies of the Aga Khan Development Network; UN agencies such as the WHO and UNICEF; academic institutions in countries such as the USA, Australia, Malaysia, Singapore and others; and public health institutes in the Middle East. At the national level, graduates find jobs in institutions such as the National Institute of Health and the Health Services Academy in Islamabad, and with international NGOs working in Pakistan. Graduates are also recruited by different departments within the Aga Khan University, given their deep interest in research and publication. There is a need for a greater effort to be made to work with federal and provincial governments to induct and train more graduates from the public sector for greater impact.

Career counselling by departmental faculty is provided to students as part of the academic mentorship programme. Potential job opportunities within and outside AKU are shared with the students through the Graduate Programmes Office. Placements in residency programmes in government and non-governmental organizations and during their thesis work provide students with the opportunity to have better insights into the job market in the country following graduation.

7.3 Updates on CHS alumni

Efforts are made to maintain an updated record of the graduating master's students and community medicine residents by different offices of AKU and by the CHS department. The CHS Graduate Programme Office tracks alumni, maintains contact, and follows up on career progression, country of residence and matters related to giving teaching sessions, thesis publication, and marketing of programmes. Although the response rate is generally good, there is a need for more diligent follow-up with alumni. Table 7.3 provides a breakdown of the whereabouts of alumni of two graduate programmes.

Table 7.3: Graduate Programme Alumni: Employment and engagements internationally and locally

Year	Graduates	AKDN		Pakistan			International (Afghanistan)	Other/NA
		AKU	Other agencies	Private sector	Public sector	UN agencies		
Epidemiology and Biostatistics Programme								
1998-04	47	2	6	4	-	6	25	4
2005-14	68	30	1	2	2	2	23 (3)	5
2015-17	35	19	1	6	-	2	2 (1)	4
2018-19	23	10	-	7	-	1	2	3
Health Policy and Management Programme								
2002-14	63	11	4	10	15	4	7(9)	3
2015-17	44	13	5	7	5	3	3(3)	5
2018-19	41	15	2	11	5	4	2(1)	1

A review of the community medicine residency programme 2000-20 shows that of the 43 residents who completed their training, 36, or 86 per cent, successfully completed the College of Physicians and Surgeons Pakistan fellowship, which is remarkable. A majority of the graduates are working in academic institutions, nationally and internationally, as senior faculty, and many are employed as heads of department at medical colleges. Others are employed at various national and international organizations.

SECTION 8:

Looking to the future: A school of population and public health sciences

8.1 Reorganization and consolidation

The Department of Community Health Sciences has been termed the bedrock of community outreach and high-impact public health and policy work at the Aga Khan University. Established in 1983 as a core department, it led from the front and lived up to expectations for many years. However, it has also seen many vicissitudes in its short history of less than four decades.

The last three years in the life of CHS have been a period of reorganization, regrouping and consolidation. There have been several tangible achievements, yet the department has refrained from announcing itself as a centre of excellence or transforming into a school of public health. The indications are nevertheless positive, as the department today functions as a regional hub for sexual and reproductive health research and has received requests from the World Health Organization to serve as a collaborating centre for health system development and for reproductive health.

8.2 Moving forward, ticking the boxes

There are, by and large, two approaches to institutional development. Announce and then build a unit, centre, institute or school; or prepare, build, deliver and then announce an institution. CHS has opted for the latter and is in the process of rebuilding the department over a five-year period; the initiation of a process that will continue well beyond the year 2023. In order to move forward, several boxes need to be ticked, and progress objectively assessed before any institutional transformation can take place.

- *Long term vision and strategy and its translation into actions on ground:* The five-year strategic plan for 2018-23 has served as a basis for a well-conceived approach towards the development of CHS. During its first 30 months many of the proposed actions have been realized, notwithstanding delays and impediments as a result of the COVID-19 pandemic, while others have yet to be achieved. In the next two and half years there will be an expedited implementation of the plan as a good segue to the next five-year strategic plan for 2023-28, which should see the department developing into an established school of public health.
- *Nurturing a competent, committed and motivated faculty and staff:* Transformational change necessitates a capable workforce in any institution. This requires a two-pronged approach that involves getting the best out of the existing faculty and recruiting highly skilled faculty in different specialties of public health. While both are challenging, the latter has been the most recalcitrant problem over the last three years, largely due to the non-availability of world class public health experts in the country in areas such as health economics, biostatistics, epidemiology, anthropology, and political science. There is great value in investing in the younger faculty by giving them more opportunity, responsibility and recognition. More often than not the young faculty respond admirably when confronted with such situations, despite the risk of the department becoming a nursery for their career advancement or migration to greener pastures. Finally, the importance of managerial and other staff in the efficient working of a department often goes unrecognized. The staff,

whether in administration, financing, logistics or information technology are the machinery that make things happen and deserve due acknowledgement.

- *Striving for academic excellence:* Excellence is critical for the growth and development of any department in a university. CHS has a rigorous internal as well as university-wide programme that monitors the quality of its educational programmes, especially at the undergraduate and graduate levels. In future, the department will make efforts to externally accredit its existing and upcoming degree level graduate programmes. Similarly, excellence in the quality of research is achieved, among others, by the success of grant submissions, the level of authorship of faculty, and by monitoring the number of publications in high impact journals. While the department has made efforts to achieve excellence in both education and research, there is still some way to go.
- *Providing an enabling environment and a level playing field:* There is a tendency for gravitation towards a hierarchical culture that becomes entrenched unless active measures are taken to prevent it. A flatter hierarchy, access of faculty and staff to leadership, academic freedom and room for debate, respect for differences in opinion, greater transparency in decisions, recognition of merit and equal opportunity are some of the attributes that can make or break a department. There has been a serious effort in the department to provide a more enabling environment and a level playing field to keep the faculty and staff motivated. This has met with some success, however, more needs to be done in coming years.
- *Building partnerships that are win-win for everyone:* The importance of building partnerships cannot be underestimated in the present-day practice of public health, given its intra- and intersectoral nature. This is a prerequisite for academic public health whether it involves writing grants for funding, developing joint courses or degree programmes, exchanging faculty or organizing conferences. The department has been active over the last three years in forging such partnerships and this report has devoted a whole section to building partnerships at all levels from local to global by establishing networks or communities of practice between institutions of the north and the south (see Section 6).
- *Acquiring a global perspective, keeping engaged with local realities:* The global nature of public health has been recognized for many years, and academic institutions all over the world have established centres and institutes or developed training programmes in global health. The global character of public health cannot be better epitomized than by the ongoing coronavirus pandemic. The CHS department has become increasingly engaged in the global discourse on public health through advisory roles, participation in conferences and courses, partnerships and participation in various networks. Despite the global nature of public health, schools of public health in lower- and middle- income countries cannot disengage with their local realities. Hence CHS has given particular emphasis to expanding rural and urban field sites to stay engaged with ground realities and truly be a 'global' centre of public health.

8.3 Evolving into a school of public health and population sciences

There has been no substantive effort to transform the department of Community Health Sciences into a school of public health in its strategic plan of 2018-23. Rather the emphasis, as mentioned, has been on consolidation and bringing about organizational, functional and cultural changes that would lend themselves to building a platform for the department to evolve into a school of public health in the future.

The performance of the last three years has been promising and the department is moving in the right direction. Once the necessary boxes are ticked over the next several years, and with the support and guidance of AKU leadership, the department of CHS will be in good stead to make a claim for becoming a school of public health and population sciences by the year 2025.

Annex A: CHS Department Faculty**

Department Head	
Sameen Siddiqi	Professor & Chair

Epidemiology-Biostatistics Team [EBS]

Name	Designation
Bilal Ahmed Usmani	Assistant Professor - Section Head
Syed Iqbal Azam Kazim Ali Shah	Assistant Professor
Shafquat Rozi	Assistant Professor
Muslima Ejaz	Senior Instructor
Fauzia Basaria Hasnani*	Senior Instructor
Sobiya Sawani	Senior Instructor
Amna R. Siddiqui	Consultant

Health Policy and Management Team [HPM]

Name	Designation
Shehla Abbas Zaidi	Professor - Section Head
Rashid Jooma*	Professor
Fauziah Rabbani Abid*	Professor & Assoc Vice Provost, Research & Graduate Studies
Rozina S. Karmaliani*	Professor & Dean, SONAM
Narjis Rizvi	Associate Professor
Ashar Muhammad Malik	Senior Instructor
Maryam Huda	Senior Instructor
Nousheen Pradhan	Senior Instructor
Rabia Najmi Taha	Senior Instructor
Imran Naeem	Senior Instructor
Hasan Nawaz Tahir	Senior Instructor
Sana Hyat	Instructor
Zarak Hussain Ahmed	Instructor
Wafa Aftab	Lecturer

Population and Reproductive Health Team [PRH]

Name	Designation
Sarah Saleem	Professor - Section Head
Tazeen Saeed Ali*	Professor & Asst. Dean, Research & Graduate program, SONAM
Rozina Nuruddin	Assistant Professor
Anam Shahil	Senior Instructor
Farina Gul	Senior Instructor
Muhammad Asim	Senior Instructor
Saleem Jessani	Senior Instructor
Shiyam Sunder	Senior Instructor
Fareeha Sheikh	Consultant

Non-Communicable Disease [including Mental Health] Team [NCD]

Name	Designation
Romaina Iqbal*	Associate Professor - Section Head
Muhammad Masood Kadir	Professor & Vice Chair, Education
Uzma Shoaib Shamsi	Assistant Professor
Maryam Pyar Ali	Senior Instructor
Wajeeha Zahid	Senior Instructor
Ahsana Nazish	Senior Instructor

Environmental, Occupation Health and Injuries Team [EHI]

Name	Designation
Syed Zafar Ahmed Fatmi	Professor - Section Head
Asaad Ahmed Nafees	Assistant Professor
Shaikh Waqas Hameed	Senior Instructor
Natasha Chaudhry	Senior Instructor
Maleeha Naseem	Senior Instructor

*Joint Appointments

**Faculty List as of May 2021

Annex B: CHS Department Core Staff

Management/Non Management – Core Staff			
Full Name	Designation	Full Name	Designation
Ahsan Sher Ali	Coordinator	Rafiq Hussain Ali	Assistant Manager (Finance)
Altaf Hussain Abdul Aziz	Coordinator	Rahim Hakim Ali	Coordinator
Asif Tajuddin	Senior Coordinator (IT)	Rahim Pyarali Punjwani	Coordinator
Baheram Khan	Associate	Shalina Karim	Associate
Gul Fayyaz Khan	Programmer Analyst	Shehzad Noor Ali	Assistant Manager (Programs)
Maria Iqbal	Manager (Research)	Sultana Nizar Gillani	Senior Manager (Admin. & Finance)
Nadira Naheed Ashraf	Assistant Manager (CEP)	Yasir Arafat	Assistant Manager (Finance)
Quratul-Ain Rafiq Khairani	Associate		
Ali Hyder	Driver II	Sher Ghazi	Office Helper II
Junaid Ali	Office Helper	Tahir Ali	Senior Assistant
Manavi Ahmed Jan	Senior Assistant	Tufail Ahmed	Driver
Muhammad Zubair Ali	Senior Assistant	Zubair Khan	Head Driver
Rahil Roshan Ali	Senior Assistant		

Management – Research Staff			
Full Name	Designation	Full Name	Designation
Abdul Rehman Iqbal	Research Coordinator	Muhammad Zia Muneer	Research Specialist
Abid Ali Vancy	Assistant Manager	Nida Azhar	Research Associate
Abida Noor Muhammad	Associate	Rahman Khawaja	Senior Research Coordinator
Ali Raza Soomro	Coordinator	Samina Akhtar	Senior Research Coordinator
Amin Hakim Ali	Manager	Sana Roujani	Research Specialist
Asad Haider Zaidi	Associate	Sayyeda Ezra Reza	Senior Research Coordinator
Bushra Qurashi	Senior Technologist	Seemab Zehra Naqvi	Assistant Manager
Farnaz Zehra Naqvi	Senior Social Scientist	Shah Nawaz	Research Associate
Ghani Muhammad Akhtar	Research Associate	Shakeel Ahmed Talpur	Research Associate
Hyder Ali Khan	Senior Research Coordinator	Shakeel Sadruddin	Associate
Irfan Karim	Programmer Analyst	Uzma Kiran	Senior Technologist
Itrat Siddiqui	Research Associate	Zaheer Habib	Senior Manager
Kekhshah Azeem	Medical Officer	Zahid Hussain Soomro	Senior Research Coordinator
Maya Mashooqali	Research Associate		

Annex C: Continuing Education Programme courses

2020

Core Courses (Virtual)

Course Title	Participants		
	National	International	Total
COVID-19: Public Health Approach to tackle the Novel Virus*	100	Afghanistan (6) Kuwait (1)	107
Qualitative Research Data Management and Analysis	19	Australia (1) Nigeria (1)	21
Learning and Applying Mixed Methods in Research in Public Health: Introductory Course	23	Canada (1)	24
Quantitative Research Methods: Concepts and Skills Using Epidemiology and Biostatistics	13	Afghanistan (1) UAE (1)	15
Python Basics for Health Professional Workshop	34	0	34
Total	189	12	201

*326 participants were registered from Afghanistan, Kuwait, Tanzania, Saudi Arabia, Jordan, UK, Muscat, Oman, Kyrgyzstan, and Pakistan; the full course was attended by 107 participants.

Grant-Based Courses (Virtual + Face to Face [F-2-F])

Course Title	Participants		
	National	International	Total
Economic Costing for Immunization Delivery (F-2-F)	18	0	18
Research Capacity Strengthening in Sexual and Reproductive Health and Rights	10	Afghanistan (8) Somalia (2) Palestine (3) Syria (7) Yemen (1) Tanzania (1) Oman (1) Iran (2) Sudan (1)	36
Research Capacity Strengthening in Gender Based Violence	19	Afghanistan (1) Bangladesh (1) Iran (2) Italy (1) Palestine (1) Syria (1) Tanzania (1) Yemen (2)	29
Scientific Writing in Sexual and Reproductive Health and Gender Based Violence	22	Afghanistan (2) Bhutan (1) Iran (1) Morocco (2) Syria (1) Tanzania (1)	30
Development of Investment Case on Integrated Health, Nutrition, Child Protection and WASH Services	15	0	15
Global: Capacity Building in Vaccine Economics and Financing AKU + Johns Hopkins	19	0	19
Total	103	44	147

Note: Certificates were awarded to 74 out of 95 participants who attended full courses.

2019**Core Courses**

S. #	Course Title	Date	National Participants
1.	Sample Size Determination for Quantitative Research	February 25-27	23
2.	Environmental and Occupational Health	April 22-27	18
3.	Qualitative Research Data Management and Analysis	July 8-13	23
4.	Manuscript Writing	August 5-9	22
5.	Quantitative Research Methods: Concepts and Skills Using Epidemiology and Biostatistics	October 28- November 15	26
Total			112

Grant-based/Partly Supported Courses

S. #	Course Title	Date	National Participants
1.	Strategies for Financing Health Care Towards Advancing Universal Health Coverage	March 27-30	25
2.	Capacity Building Training Series in Vaccine Economics: Competency Building to Identify, Calibrate and Reduce Programmatic Inefficiencies in Vaccine Supply Chain – Hermes Model	October 7-8	15
3.	Integrating Non-Communicable Disease Prevention and Control at PHC Level	October 21-24	12
4.	Understanding Sexual and Reproductive Health and Rights	December 16-20	22
5.	Integrating Non-Communicable Disease Prevention and Control at PHC Level- Islamabad	December 19-21	20
Total			94

Collaborative Course

S. #	Course Title	Date	National Participants
1.	Estimation of Global Burden of Disease Jointly organized by CHS and Medicine and facilitated by IHME team	October 3-5	22

2018
Core Courses

S. #	Course Title	Date	Participants		
			National	International	Total
1.	Environmental and Occupational Health	May 7-12	22	0	22
2.	Qualitative Research Methods and Analysis	June 25-30	13	Tanzania (3)	16
3.	Quantitative Research Methods: Concepts and Skills using Epidemiology and Biostatistics	July 16-August 3	19	0	19
4.	Manuscript Writing	September 3-6	23	0	23
5.	Promoting Research in the Area of Vitamin D	November 14-16	16	0	16
6.	Sample Size Determination for Quantitative Research	November 28-30	22	0	22
Total			115	3	118

Grant-based Courses

S. #	Course Title	Date	Participants		
			National	International	Total
1.	Capacity Building Training Series in Sustainable Immunization Financing Workshop: Costing of Vaccine Programmes and Systems, Logistics and Operations	April 2-5	14	Afghanistan (7)	21
2.	Capacity Building Training Series in Sustainable Immunization Financing Workshop: Immunization Financing, Resource Tracking and Affordability for Sustainable Immunization Financing	August 7-9	8	Afghanistan (7)	15
3.	Capacity Building Training Series in Sustainable Immunization Financing Policy Roundtable: Building a Sustainable Financing Architecture for Immunization – Islamabad	November 26	26	0	26
Total			48	14	62

Annex D: Publications

Publications in Peer Reviewed Journals, 2018-20

CHS Section	2018	2019	2020	Total
Epidemiology and Biostatistics	10	23	24	57
Environmental and Occupation Health and Injuries	12	4	20	36
Health Policy and Management	13	28	35	76
Non-communicable Diseases and Mental Health	14	5	39	58
Population and Reproductive Health	21	28	51	100
Total	70	88	169	327

Type of Journal	2018	2019	2020	Total
National Journals	10	3	17	30
International Journals	60	85	152	297
Total	70	88	169	327



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