NATIONAL POSTGRADUATE MEDICAL COLLEGE OF NIGERIA

SUBSPECIALTY TRAINING CURRICULUM IN PAEDIATRIC INFECTIOUS DISEASE

FACULTY OF PAEDIATRICS

APPROVED BY THE SENATE ON 23RD JULY, 2020

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COLLEGE REGISTRAR

Paediatric Infectious Disease Subspecialty Training: Proposed Curriculum and Recommendations to the National Postgraduate Medical College, Faculty of Paediatrics

Curriculum drafting committee
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Background

Infectious diseases remain a leading cause of childhood morbidity and are responsible for over 50% of deaths in children under 5 years old in most developing countries and in those of sub Saharan Africa. While most trainees in general paediatrics are exposed to a variety of and heavy caseload of infectious diseases during their training in the sub region, this is unstructured with less than desired interactions with paediatric infectious disease experts, limited opportunity to develop advanced knowledge of medical microbiology and immunology of infectious diseases, and lack of use of advanced diagnostic and treatment modalities. As a result, training and expertise in this sub-specialty lags significantly compared to the skills, knowledge and experience available in more developed countries.

Creating subspecialty training in this field within the sub region is now essential given the persistence of familiar disease conditions such as tuberculosis and other vaccine preventable conditions, the general increase in antimicrobial resistance, the increasing use of immunosuppressive therapies against a backdrop of more recognizable primary and secondary immunodeficiency diseases, and new or emerging infectious diseases.

Sub-specialty training in infectious diseases will improve the quality of care for children with infectious diseases and associated immunological conditions. It will promote awareness; facilitate research required for a better understanding of the local and regional infectious diseases epidemiology and management protocols. It will produce relevant data required for the development of local and region-specific public health interventions and evidence-based policy making that will improve child survival.

Aim
To produce competent paediatric Infectious Diseases sub-specialists with expertise in clinical infectious diseases, microbiology, virology, infectious diseases epidemiology, tropical public health and ID research methodology.

The specific objectives of this programme include the following;

1. To provide sub-specialist training in clinical infectious diseases for paediatricians

2. To equip the trainee with knowledge of the principles of infection, immunology and medical microbiology and skills to manage infections in children in clinical settings (in- and out-patients) as well as preventive measures in infectious diseases such as immunisation, control of hospital infections and disease outbreaks in the community.

3. To equip the trainee with the skills to teach the subject, critically evaluate and conduct research in paediatric infectious diseases

4. To equip the trainee with advanced knowledge and understanding of laboratory/diagnostic tests/procedures (including related safety issues) and interpretation of laboratory results.

This document proposes curriculum and recommendations for the training of paediatricians who will be recognised as infectious disease sub-specialists by the NPMCN.

The contents and recommendations contained in this document are based on concepts and contents from established training programs in the US, UK and South Africa and are adapted, where appropriate, for the local needs and conditions within the West Africa Sub regions. Overall, this curriculum is developed such that quality of training will be comparable to those in developed countries.

Entry Point:

1. It is recommended that candidates that are seeking training in this subspecialty would have passed the Part 1 examination of the NPMCN in Paediatrics.

2. Alternatively, a candidate seeking training in the paediatric infectious diseases subspecialty who has obtained the part II fellowship in Paediatrics of the NPMCN or its equivalent may be considered. In this case, the one-year period (year1 below) of the general Paediatric training would be waived.

Summary of Curriculum: The proposed duration of training will be three years. A detailed content of training is included in appendix I.

The period of training will consist of rotations in the laboratory, clinical service in paediatric infectious diseases and an optional elective posting for 6 months at an established paediatric infectious disease training programme (this should be a programme accredited or determined to be equivalent or suitable by the NPMCN). Two training sites have been identified – the Red Cross Children's Hospital Cape Town South Africa and University of Nebraska Medical Center

Year 1: This will include rotations in core clinical areas of paediatrics consisting of 2 months each in Neonatology, Emergency paediatrics, General paediatrics and Community paediatrics/school health. There should also be one-month rotations in Haematology/Oncology and any of any two of the following sub specialties

Cardiology, Nephrology, Neurology, Nutrition/Gastroenterology, Endocrine/Metabolism, Respiratory.

Year 2: To include 7months of clinical service, 3 months microbiology (bacteriology, Mycobacteriology and Mycology) laboratory experience; One month of immunology and 3 months research. The 3months of research will run concurrently with the 7 months of clinical service. (see chart in appendix 1)

Year 3: To include 2-month Virology, Serology and molecular diagnostics;7 months of clinical service, 1month- infection control, 1 Month Transplant ID,

Trainees should be encouraged to have regular radiology conferences throughout the training.

To develop research and writing skills participation in research is mandatory.
The training will provide independent research experience to trainees to ensure their success in an academic and/or hospital-based practice of paediatric ID.

Clinical responsibilities

Together with the specialists, the pre-membership trainee is expected to participate in the management children with specialised infectious diseases and immunology problems and join in providing ID consultation support to other paediatric subspecialties.

The trainee will also be involved in providing in and out-patient care for children with HIV infection in the paediatric HIV programme providing follow up in the Prevention of Mother-to-Child Transmission intervention clinic and antiretroviral therapy for HIV positive children. Various forms of tuberculosis, vaccine preventable diseases and infections of organs systems will also be managed.

Laboratory training

The aim of the laboratory training is to develop basic knowledge of the diagnostic role of microbiology, virology and immunology with the aim of understanding of appropriate specimens and interpretation of laboratory results.
Microbiology – Will include basic bacteriology involving specimen collection, blood culture on different media both aerobic and anaerobic, drug sensitivity.
Myco-bacteriology will involve AFB microscopy, culture in solid and liquid media, drug sensitivity testing and the newer nucleic acid amplification methods (Xpert MDR/RIF)
Virology – Basic understanding of methods of viral diagnosis, available virological tests and their appropriate usage in clinical conditions. To include: Direct detection by ELISA, viral isolation, serology and PCR.
Mycology – Appropriate specimen processing, fungal culture and identification

Research

There will also be research blocks consisting of training in appropriate, research methodology including basic epidemiology and biostatistics, critical appraisal of literature and evidence synthesis, and field work and/or hospital-based research

procedures. After the initial 3 months allotted for research, research activities will continue throughout the training period. Candidates will be required under supervision by faculty, to conceptualise, design, execute and report research in paediatric infectious diseases. This will be presented in the form of a dissertation which will be defended in the final examination. The candidate will be required to submit a proposal which will be assessed and approved prior to the conduct of the research. The approval of the proposal should be at least one year prior to the final examination. Candidates should choose studies that can be accomplished in the allotted time.

Teaching & other training needs

The trainee is expected to participate in teaching of undergraduate medical students and postgraduates (house physicians and junior residents) as appropriate.
Presentation skills are acquired during ward rounds, journal clubs and other clinical meetings
Training in communicable diseases epidemiology and tropical public health is also provided.

Scope of topics in the Paediatric Infectious Diseases sub-specialty

The trainee will be guided to gain a comprehensive understanding of diagnostic and therapeutic interventions necessary to manage the entire spectrum of paediatric infections.
This list below is not an exhaustive list but covers the most important clinical topics. This list may be used to guide preparation for the exit examination for the post-specialisation certificate in the sub-speciality of Infectious Diseases.

1. Immunology
a. Development of the immune system from fetus to adulthood
b. Innate and acquired immunity
c. Primary and secondary immunodeficiencies
d. Investigating the child with recurrent infection
e. Immune responses in specific infections: HIV, TB, viral infections, etc

2. Congenital Infections
a. Classic TORCHS infections
b. Uncommon: TB, Varicella-zoster, etc

3. HIV/AIDS
a. The virus
b. Pathogenesis
c. Diagnosis and interpretation of laboratory assays
d. Disease spectrum
e. TB/HIV co-infection
f. Management / treatment issues
g. Opportunistic infections
h. Prevention, including vaccination and PMTCT interventions

4. Tuberculosis
a. Pathogenesis
b. Disease spectrum
c. Epidemiology and molecular epidemiology
d. Diagnosis (specimens, microscopy, culture, PCR, immune, other)
e. Management issues, including INH mono-resistant, MDR-, pre-XDR- and XDR-TB)
f. Prevention, including vaccine strategies

5. Neonatal infections

6. Immunisation
a. EPI/disease eradication and elimination
b. EPI and non-EPI vaccines
c. Vaccine adverse events
d. Vaccine development: vaccine types, immunological responses, phase I to IV trials
e. Immunisation for immunocompromised individuals
f. Immunisation of travelers

7. Nosocomial infections & infection control measures
a. Nosocomial infection: definitions, surveillance
b. Hospital infection control policy and practice
c. Antibiotic policy and practice
d. Sterilisation and disinfection
e. Waste disposal
f. Prevention of transmission of communicable disease in hospital (eg TB, meningococcus, varicella, measles etc)

8. Exanthems of childhood and common skin infections

9. Fever of unknown origin (clinical approach)
a. Include discussion on periodic syndromes
b. Include diseases that may mimic infections in children: malignancy, toxins, auto-immune

10. Malaria
a. Pathogenesis
b. Spectrum of disease
c. Diagnosis (microscopy, antigen tests etc)
d. Management including newer therapeutic options
e. Control and prevention, including prophylaxis regimens
f. HIV/Malaria co-infection
g. Malaria in pregnancy and neonatal period

11. Selective parasitic infections
a. Schistosomiasis
b. Cystercercosis
c. Toxoplasmosis
d. Helminthic infections
e. Hydatid disease

12. Gastrointestinal infections
a. Rotavirus diarrhoea
b. Cholera
c. Giardiasis
d. Amebiasis
e. Viral hepatitis

13. Selective other infections
a. Viral haemorrhagic fevers (Marburg fever, Ebola viral infection, Crimean-Congo haemorrhagic fever, etc)
b. Prion diseases
c. Typhoid fever
d. Brucellosis
e. Bordetella pertussis
f. Rickettsial infection
g. Leptospirosis
h. Herpes viral infections
i. Candidial infections
j. Mycoplasma and chlamydial infections
k. Measles
l. Rubella
m. Diphtheria
n. Tetanus
o. Rheumatic fever
p. Osteomyelitis and septic arthritis
q. Meningitis
r. Septicaemia
s. Urinary tract infections
t. Pneumonia
u. Toxic shock syndrome

14. Antimicrobial therapy
a. Mechanisms of action of antibiotics
b. Mechanisms of resistance
c. Pharmacokinetics characteristics of antibiotics
d. Interpretation of MIC results

e. Managing antibiotic resistant infections
f. Antibiotics for immunocompromised children
g. Anti-TB drugs
h. Antivirals including antiretrovirals
i. Antifungals
15. Other treatment modalities in infections
a. Pro- and pre-biotics
b. Immunoglobulins
c. Bone marrow transplantation
d. Cytokine therapy
e. Exchange transfusion
f. Immunomodulators

16. 'Para-infectious' diseases
a. Necrotising enterocolitis
b. Reye syndrome
c. Kawasaki syndrome
d. Guillain-Barre syndrome
e. Chronic fatigue syndrome / Myalgic encephalopathy

17. Infections in ICU & oncology service

18. Infection in immunocompromised children

19. Infections in travellers, include preventative measures

20. Sexually transmitted diseases in children and adolescents

21. Current issues / emerging infectious diseases, e.g.
a. Influenza immunisation
b. SARS / Swine influenza
c. Avian Influenza
d. Poliomyelitis eradication
e. Potential bioterror agents

22. Public health principles applicable to infectious diseases
a. Include detailed discussion on outbreak investigation
b. Notifiable diseases
c. Tropical public health
d. Environmental control issues, including surveillance

23. Research methods & epidemiology applicable to infectious diseases
a. Protocol design
b. Descriptive statistics

c. Inferential statistics

24. Laboratory topics
a. Routine laboratory investigations: principles and applications
b. Antimicrobial resistance testing: methodologies and results interpretation
c. Advanced methodologies for detecting infectious agents

Training Evaluation:

Trainees will be required to keep a log book of cases managed and procedures carried out. Opportunities to develop presentation skills exist, for example on ward rounds, and during clinical meetings conducted by the paediatric infectious diseases unit and the department of paediatrics in the institution. In addition, ID sub-specialist trainees should participate in undergraduate and postgraduate teaching.

Regular feedback sessions (at least at 3-monthly intervals) should be conducted by the sub-specialists attached to the unit.

Supervising Faculty or Programme Training Director will complete competency-based evaluation forms and provide feedback to the trainee every six months.

Useful Resources

Books

1. Long SS, Pickering LK, Prober CG. Principles and practice of paediatric infectious diseases. 4th Edition.Gladwin M, Trattler B.
2. Mandell, Bennett & Dolin: Mandell, Douglas and Bennett's Principles and Practice of Infectious Diseases
3. Frank E. Berkowitz: Case Studies in Pediatric Infectious Diseases
4. American Academy of Pediatrics: Red book
5. Oladokun R.E**.** (Ed.) (2015). Atlas of Paediatric HIV Infection: An Illustrated Guide for Health Care Professionals.
6. Oladokun RE, Ogunbosi BO, Osinusi K. (Ed.). A Handbook of Paediatric Infectious Diseases & Antimicrobial Therapy.
7. Clinical microbiology made ridiculously simple. 3rd Ed
8. How the immune system works. Lauren Sompayrac. 4th Ed. Wiley-Blackwell

Journals

a. Paediatric Infectious Diseases Journal
b. Clinical Infectious Diseases
c. Lancet Infectious Diseases
d. New England Journal of Medicine
e. Lancet
f. British Medical Journal

Evaluation format: This will consist of formative assessment and examination;

Formative*:*

Log book or portfolio of

a) Clinical cases
b) Laboratory experience
c) Published papers/audits (in conjunction with their supervising faculty)
d) Journal reviews/presentations at Grand Round
e) Microbiology Molecular Diagnostics

(Please see appendix II)

Examination

Paediatric ID fellows are expected to complete a three part exit theory and oral examination organised by the NPMCN for the post-specialisation certificate in the sub-speciality Infectious Diseases [FMCPaedID] at the end of the their 2-year ID training. This should permit sub-specialist registration with the Medical and Dental Council of Nigeria.

1st part

Paper 1: 50 Multiple Choice general paediatric questions

Paper 2: Case scenarios and short essay questions covering Paediatric infectious diseases

2nd part

Picture Test consisting of 20 pictures with short answer questions

Orals: Candidates will answer questions on ID related clinical/ epidemiological, social, leadership, ethical, teaching and managerial issues

3rd part

Dissertation: This will be an oral defense. The candidate will be examined by a set of examiners, one of whom would have assessed and approved the proposal and would have read the dissertation prior to the defense

Funding: Since this is a new program, the advisory/training committee will work very closely with the College and trainees to secure funding, support and placement in order to spend at least 3 months (being part of the optional 6 months elective posting) in an established ID training institution at any of the following; Red Cross Children's Hospital, Cape Town South Africa and University of Nebraska Medical Center.

Source of Funding;

It is proposed that for this training programme, the source of funding will include the home country Government of the trainee to provide support for the clinical training. Since the trainees will be residents the optional 6 months posting may be

accommodated as part of their training and their salaries should be paid by the hospital where residency is being carried out

The Paediatric Infectious diseases curriculum drafting committee is exploring linkages with the African Paediatric Fellowship Programme in Department of Child Health, Red Cross Children's Hospital, Cape Town South Africa and the University of Nebraska Medical Center, United States Paediatric ID training programme, United States to provide clinical observership/attachment and/or training for a limited number of candidates annually with subsidised tuition and accommodation expenses.

Additional Academic Qualification for Candidates

An opportunity for an additional academic qualification during the sub-specialist ID training will be given through an affiliation with an academic institution (College of Medicine). In which case the research dissertation will lead on completion to M Phil/PhD degree. Regular meetings between the ID trainee and the project supervisors (ID sub-specialists) will be held to direct the development and completion of the project for the academic degree.

Training Centres

In addition to setting up academic linkages with established training programs, the following criteria will be applied for the selection of clinical training centres within the sub region;

Accreditation Criteria:

a) The Institution must be accredited for the NPMCN Fellowship programme in General Paediatrics

b) There should be a Paediatric Infectious Diseases Unit

c) There should be at least two ID certified full time or one Full time and One visiting consultant staff (Accredited by an established Paediatric Infectious Diseases Training program such as the American Board of Pediatrics, the UK Sub specialist Training Committee or College of Medicine of South Africa) or elected by the National Postgraduate Medical College OF Nigeria/West African College of Physicians as a Trainer or equivalent as determined by the NPMCN Faculty of Paediatrics sub-specialty training committee.

d) Large load and wide variety of ID cases

e) NPMCN Accreditation for Laboratory Medicine particularly Medical Microbiology

f) Good pharmacy support and should have a clinical pharmacist that can contribute to training

Eligibility as a Trainers for the NPMCN Paediatric ID sub-specialisation

Eligibility criteria for a trainer in the Paediatric ID sub-specialisation should include a minimum of two out of the following;

a. Paediatric ID Fellowship certified by an accredited training institution

b. Fellow of the NPMCN for a minimum of 10 years

c. Significant contribution in the field of paediatric infectious disease as evidenced by at least 15 peer reviewed publications (in the field of paediatric infectious diseases) in indexed journals

Appendix I

CHART SHOWING HYPOTHETIC ROTATIONS IN PAEDIATRIC INFECTIOUS DISEASES

Year	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
1	Newborn		Emergency Paed		General Paed		Comm/Social Paed		HaemOnc	Elective	Elective	Annual leave
2	Research Methodology, Paed ID CLINICAL SERVICE		Paed ID CLINICAL SERVICE					Bacteriology, Mycology, Mycobacteriology			Immunology	Annual leave
3	Virology, Molecular Diagnostics, Serology		Paed ID CLINICAL SERVICE			Transplant ID	Infection Control	Paed ID CLINICAL SERVICE				EXAMINATION

*Research topics should be identified during Research methodology exposure. Research will thereafter be carried out throughout training

Appendix II

PORTFOLIO OF LEARNING

Subspecialty Training in Paediatric Infectious Diseases

of the

National Postgraduate Medical College, Faculty of Paediatrics

Name:_____

Training Institution: _____

Trainee ID : _____

Date appointed: _____

PORTFOLIO OF LEARNING

CONTENTS

Additional pages and supporting documentation should be attached, as necessary.

Please read the Regulations and Curriculum for the fellowship at the start of training

–details are available on the NPMCN website or a hard copy can be obtained from the NPMCN office or your Programme Supervisor.

SECTION 1

1.

CERTIFICATION OF 6 MONTHLY PORTFOLIO REVIEW

Date of Formative Assessments/Portfolio Review	Signature of Supervisor	Signature of Candidate	Comment

SECTION 2

ELECTRONIC LINK TO COLLEGE REGULATIONS

SECTION 3

SUMMARY OF TRAINING

Month/Year	Specialty Area	Supervisor/s	Leave/Conference/Exams

SECTION 4

CANDIDATE DETAILS

SURNAME: .....

FIRST NAMES: .....

ID NUMBER: .....

INSTITUTION ADDRESS: .....

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RESIDENTIAL ADDRESS: .....

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PREFERRED POSTAL ADDRESS:.....

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EMAIL ADDRESS: .....

TELEPHONE NUMBER:
(Work): ..... …….(Home): ..... ……

CELLPHONE NUMBER: .....

UNDERGRADUATE MEDICAL QUALIFICATIONS

UNIVERSITY:..... .YEAR:……
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INTERNSHIP

HOSPITAL: ..... .YEAR:……
….

EMPLOYMENT HISTORY

INSTITUTION:..... .YEAR:……
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INSTITUTION:..... .YEAR:……
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INSTITUTION:..... .YEAR:……
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OTHER POST-GRADUATE QUALIFICATIONS

DIPLOMA/DEGREE:..... .YEAR:……
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INSTITUTION:.....

DIPLOMA/DEGREE:..... .YEAR:……
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INSTITUTION:.....

DIPLOMA/DEGREE:..... .YEAR:……
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INSTITUTION:.....

RELEVANT DETAILS / EXPERIENCE RELATING TO PAEDIATRIC INFECTIOUS DISEASES
Prior to commencement of Paed ID training

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SECTION 5

LABORATORY TRAINING

Record of Laboratory Procedures

For all the processes / procedures listed, the most important component is understanding the principles of the tests, and the limitations of the tests. Candidates are NOT expected to be competent to perform the tests in a laboratory setting. While performing the tests in a training environment will most probably facilitate understanding of the principles, the listed recommendations of how many tests to perform and/or observe is meant to be a guide. Where the opportunity arises, the trainee is encouraged to perform the tests listed for observation and could perform many more tests as are feasible.

Basic Microbiology/Bacteriology:

Procedure	Requirement	Trained by	Date
Perform and read Gram stain	Perform minimum 10		
Reading plates (macroscopic description and identification of bacterial colonies)	Perform minimum 10(different pathogens)		
Bacterial identification: Catalase, DNAse, oxidase, sugars	Understand principles, observe at least 10		
Bacterial identification: automated methods	Perform minimum 5		
Antimicrobial susceptibility testing methods: Prepare and interpret E-test	Perform minimum 5		
Disc diffusion	Perform minimum 5		
Cut off plate	Understand principles		
Broth dilution and preparation of media (including selective media	Understand principles		

for bacterial culture and identification)			
Hodge test (carbapenemase production)	Understand principles		
ESBL/CRE identification	Understand principles		
Automated sensitivity	Understand principles		

1. Specimen processing

Procedure	Requirement	Trained by	Date
Sterile specimen collection	Understand principles		
Automated blood culture systems	Understand principles		
Process positive blood culture bottle	Perform minimum 5		
Process sputum specimen (smear, Bartlett score, inoculate plates)	Perform minimum 5		
Process CSF specimen (gram, cell count, inoculate plates)	Perform minimum 5		
Process stool specimen (Wet prep, iodine stain, auramine stain, inoculate plates)	Perform minimum 5		
Process urine specimen (microscopy cell count, inoculate plates)	Perform minimum 5		
Process pus swabs (gram, inoculate plates)	Perform minimum 5		
Process fungal cultures (inoculate plates; macroscopic description of colonies; microscopy)	Perform minimum 5		

2. Mycobacteriology

Procedure	Requirement	Trained by	Date

ZiehlNeelsen stain and microscopy	Perform minimum 5		
Auramine stain and microscopy	Perform minimum 5		
Process specimen for culture (including decontamination and automated culture techniques for TB)	Understand principles, observe at least 5		
Process specimen for molecular testing (GeneXpert, line probe assay)	Understand principles, observe at least 5		
Interpret results of TB molecular tests (PCR, real time PCR, NAAT, line probe assays)	Understand principles, observe at least 10		
TB phenotypic sensitivity testing	Understand principles, observe at least 5		
Identification of non-tuberculous mycobacteria (phenotypic appearance and PCR testing)	Understand principles		

3. Molecular Biology Methods

Procedure	Requirement	Trained by	Date
Nucleic Acid Extraction Manual (manual and automated)	Understand principles, observe at least 5		
Preparation of master mixes	Understand principles, observe at least 5		
Use of thermal cyclers	Understand principles, observe at least 5		
Gel Electrophoresis	Understand principles, observe at least 5		
Real-Time PCR	Understand principles, observe at least 5		
Sequence analysis	Understand principles		
HIV drug resistance testing	Understand principles		

Molecular typing of organisms	Understand principles		
Multiplex PCR	Understand principles		

4. Serology

Procedure	Requirement	Trained by	Date
Syphilis serology –perform and interpret RPR, immunofluorescent assays	Perform minimum 5		
Automated ELISA - indications, interpretation of results	Understand principles, observe at least 5		
Manual ELISA –indications, interpretation of results	Understand principles, observe at least 5		
IgG avidity assays	Understand principles		
Rapid tests - immuno-chromatographic	Understand principles		
Rapid tests - particle agglutination	Understand principles		

5. Virology

Procedure	Requirement	Trained by	Date
Automated HIV PCR testing	Understand principles, observe at least 5		
Automated HIV viral load testing	Understand principles, observe at least 5		
EBV / CMV viral load	Understand principles		
CMV pp65 antigenaemia	Understand principles		
Virus culture, identification by cytopathic effect	Understand principles		

Virus identification/typing by neutralization	Understand principles		
Antibody detection by neutralization	Understand principles		
Virus storage/ retrieval	Understand principles		
Influenza typing by HAI	Understand principles		

6. Immunology laboratory

Procedure	Requirement	Trained by	Date
1. Lymphocyte subset analysis (Cytokine analysis- ELISPOT/ELISA/Bioplex 2. Flowcytometry including CD4 counting, Antibody titres/Elisa 3. avidity tests)	Understand principles, observe at least 5		
Total immunoglobulins and subclasses	Understand principles		
Neutrophil burst test	Understand principles		
Serum protein electrophoresis	Understand principles		
Total complement, individual complement assay	Understand principles		

7. Laboratory safety and management

Skill	Trained by	Date
Understand Biosafety protection levels, safe handling of samples of category 3/4 pathogens e.g. Mycobacterium tuberculosis, suspected or proven viral haemorrhagic fever		
Decontamination		
Safe handling of sharps, human material, hazardous waste		
Quality assurance and laboratory accreditation		

8. Infection Control and Prevention

Skill	Trained by	Date
Investigation of an outbreak / unusual cluster of cases		
Transmission based precautions, hand hygiene		
Principles of disinfection and sterilization		
Visit sterilisation unit (should fully understand sterilization procedures and standards for secondary and tertiary level hospitals		
Visit hospital kitchen / milk kitchen		
Antibiotic stewardship / analysis of bacterial susceptibility surveillance data		

SECTION 6

CERTIFICATION OF LABORATORY TRAINING

1.0 Microbiology (Including Immunology)

I, …….(Head: Department of Microbiology) hereby declare that the candidate ……has satisfactorily completed his/her laboratory training, from ……. to ……as required for the Fellowship of Paed ID.

Date: ……

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Signature

2.0 VIROLOGY

I, ……(Head: Department of Virology) hereby declare that the candidate ……has satisfactorily completed his/her laboratory training, from ……. to ……as required for the Paed ID Fellowship

Date: ……

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Signature

SECTION 7

DETAIL OF CASES MANAGED

Provide information on a maximum of **ten** cases per disease-topic. The purpose is to demonstrate that complicated cases were managed and that an adequate spectrum of diseases was encountered.

Examples of conditions
Fever of Unknown Origin
Fever /infection in a Paediatric Oncology patient
Hospital acquired Infection in the ICU
Surgical infections
Infective endocarditis
Osteomyelitis
Septic arthritis
Sepsis in the NICU
Skin and soft tissue infections
Congenital Infections
Toxic shock
Drug resistant tuberculosis
BCG disease
Typhoid fever

Outbreak investigations
Tick bite fever
PCP
Immunization (disease eradication and elimination)
Vaccination in special patient groups
Complicated malaria
Viral Haemorrhagic fevers Recurrent herpes infections
Cytomegalovirus infections
Complicated parvovirus infections
Severe influenza infections
Hepatitis B
Rabies
Rotavirus
HIV drug resistance
Nosocomial infections
Primary and/or secondary immunodeficiency
Pre and Post exposure prophylaxis
Travel advice
Antimicrobial therapy including mechanisms for resistance

Cases managed
Condition Managed: eg **Fever of Unknown Origin**

Date seen	Patient Number	Age	Ward Number / Telephonic Consultation	Sex	Comment

SECTION 8

POST-GRADUATE LECTURES, MEETINGS, WORKSHOPS, SEMINARS, SYMPOSIA AND CONGRESSES

Attendance at Post-graduate Meetings, Lectures, Workshops, Symposia or Congresses relevant to Paediatric Infectious Diseases

(Attach *Certificates of Attendance* if applicable)

Date	Topic	Presenter	Event	Venue	Outcome

OTHER COURSES AND MODULES COMPLETED RELEVANT TO PAEDIATRIC INFECTIOUS DISEASES (EG COURSES IN TRAVEL MEDICINE, MOLECULAR BIOLOGY, INFECTION CONTROL OR ANITMICROBIAL STEWARDSHIP)

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SECTION 9

READING AND RESEARCH

LECTURES GIVEN BY CANDIDATE:

NB: Attach your best two as PowerPoint presentations

Date	Topic	Duration	Event	Venue

PAPERS/POSTERS PRESENTED BY CANDIDATE:

Date	Topic	Duration	Event	Venue

JOURNAL PUBLICATIONS BY CANDIDATE:
(Attach 1st page of Article)

Name of Journal	Vol. & No	Full Title	Pages

RESEARCH INVOLVEMENT BY CANDIDATE:

Type of Involvement / Details of Project(s):

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UNDERGRADUATE/RESIDENTS TEACHING BY CANDIDATE

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SECTION 10

DECLARATION ON COMPLETION OF TRAINING

I, …….hereby do solemnly declare that all information contained in this PORTFOLIO OF LEARNING is a true and accurate record of my professional experience, education and training from ……..…….. to ……..……representing the period of training for the Paed ID Fellowship of the WACP.

Signature of Candidate: ……...

Name of Candidate: ……...……..Date: …….

Trainee Number: ……..

Signature: Head of Training Unit: ……..…..

Name: …….....……..Date: …….

Signature: Head of Academic Department:……..…….

Name: ……..Date: …….