Contents

Section 1: Evolution of Social Pediatrics in India

1. Social Pediatrics in India in the 21st Century 3
Vijay Kumar, Suresh Kumar Dalpath

History of Pediatrics in India *4*
Policy Portfolio *5*
Human Resource for Health *6*
Unfinished Agenda of 2015 *8*
Child Health Agenda Beyond 2015 *9*

Section: 2 Neonatal, Child and Adolescent Health

2. Effective Strategies for Improving Neonatal Health 23
Vinod Kumar Paul, Anu Thukral

Interventions/Strategies and their Impact *24*
Evidence-based Interventions which can Decrease Newborn Mortality *25*
Progress of Newborn Health Interventions *27*
Way Forward *29*

3. Integrated Management of Neonatal and Childhood Illness 30
AK Patwari

Evidence-based Interventions and Programatic Gaps *31*
Facility-based IMNCI *36*
IMNCI Implementation and Impact on Child Health *36*

4. Life-cycle Approach: Impact on Child Health 40
Rajesh Mehta

Newborn and Child Health in South-East Asia Region: Present Situation *40*
Links between Health at Different Life-stages *41*
Optimal Fetal Development *41*
Importance of Maternal Health *42*
Adolescent Pregnancy *42*
Birth Spacing *42*
Maternal Education *45*
Maternal Nutrition *45*
Maternal Health Risk Factors—Multiple Consequences *45*
Newborn Health *46*
Child Health and Development *46*
Importance of Life-cycle Approach *47*
Health Service Provision along the Continuums of Care: Gaps and Opportunities *47*
A Life-cycle Approach to Deliver Interventions *47*
Importance of Multi-sectoral Approach *49*
Government of India Response *49*

5. Early Childhood Development: Maximizing the Human Potential 51
Subodh Sharan Gupta, Abhishek Vijay Raut

Definition of Early Childhood Development (ECD) *52*
Rationale for Focusing on ECD *52*
Evidence that ECD is Effective *53*
Economics of Investing in ECD Programs *54*
Domains of ECD *54*
Helping Children Learn—Role of Family *55*
Approaches for Early Child Development *57*
India: ECD Situations and Opportunities *59*

6. Environmental Challenges to Child Health 65
P Ramesh Menon, Rakesh Lodha

Century of Climate Doctoring *65*
Children in Today's Environment *66*
Agents of Interaction in the Environment *66*
Implications for Pediatricians *70*

7. Childhood Tuberculosis 72
Varinder Singh, Kamal Kumar Singhal

Definitions Related to Tuberculosis *72*
Pathology *74*
Clinical Manifestations *74*
Investigations *76*
Treatment *79*
Drug Resistant Tuberculosis *80*
Prevention *81*
Chemoprophylaxis *81*
Prognosis *81*

8. Addressing the Mental Health Needs of Children and Adolescents 82
Alexis Aplasca, Tarun Dua, Chiara Servili

Developmental Disorders *83*
Behavioral Disorders *84*
The Way Forward *87*

9. Children Affected by HIV and AIDS in India 89
Jennifer Beard, Malcolm Bryant

Global Perspective on HIV and Children Affected by HIV *89*
Useful Terminology *90*
Historical Overview of HIV in India and the National Policy Response to Children Affected by HIV *91*
Important Successes though Much Work Remains: Prevention of Parent-to-Child Transmission and Universal Art *93*
Ongoing Challenges Faced by Children Affected by HIV *93*

10. Noncommunicable Diseases in Children: Emerging Health Challenge in India 98
Vaman V Khadilkar, Anuradha V Khadilkar

Determinants of Health Transition *99*
Burden of NCD *99*
Prevention Strategies: A Life Course Approach to NCD Prevention *100*

11. Indian Academy of Pediatrics Treatment Guidelines 104
Sakshi Sachdeva, Piyush Gupta

IAP Guidelines on Severe Acute Malnutrition *104*
IAP Guidelines on Tuberculosis *108*

IAP Guidelines for Acute Encephalitis Syndrome *109*
IAP Guidelines for Diagnosis and Treatment of Malaria *109*
IAP Guidelines on Management of Acute Diarrhea *111*
IAP Guidelines on Diagnosis and Management of Enteric Fever *112*
IAP Guidelines for Vitamin A Supplementation *113*
IAP Guidelines on Iron Deficiency Anemia *114*
Guidelines on Management of Pneumonia *115*

12. Newer Vaccines 117
Ajay Kalra, Vipin M Vashishtha
Hepatitis A Vaccines *117*
Inactivated Poliovirus Vaccine (IPV) *118*
Typhoid Vaccines *121*
Rotavirus Vaccines *124*
Influenza Vaccines *125*
Meningococcal Vaccines *126*
Japanese Encephalitis Vaccines *127*
Human Papillomavirus Vaccines *129*
Diphtheria, Acellular Pertussis and Tetanus Vaccines *130*
Varicella *132*
Pneumococcal Conjugate Vaccines *134*
Measles, Mumps and Rubella Vaccines *136*

13. Vaccine Safety and Surveillance of Adverse Events Following Immunization 137
Jyoti Joshi, S Aneja
Vaccine Safety *137*
Vaccine Safety in Immunization Programs *139*
Sifting Chaff from the Wheat: Causality Assessment of Reported Events *139*
Surveillance for Adverse Events in India *141*

Section 3: Nutrition

14. Maternal and Childhood Nutrition Priorities in South Asia 147
Sumathi Swaminathan, Anura Kurpad
Growth and Development *148*
Interventions that Work *154*

15. WHO Growth Charts 158
Mercedes de Onis
Rationale for Developing the WHO Child Growth Standards *159*
Design of the WHO Multicenter Growth Reference Study *159*
Construction of the WHO Child Growth Standards *159*
Innovative Aspects of the WHO Child Growth Standards *160*
Implications of Adopting the WHO Child Growth Standards for Public Health and Clinical Practice *162*
Potential Disadvantages of the WHO Child Growth Standards *163*

16. Infant and Young Child Feeding 167
Preeti Singh, S Aneja
What is Infant and Young Child Feeding (IYCF)? *168*
Feeding in Special Circumstances *171*
Trends and Challenges in Implementation of IYCF Practices in India *171*
Interventions to Improve IYCF Practices *173*

17. Breastfeeding and Working Women 176
Arun Gupta, Shoba Suri

Why Breastfeeding is Important? *176*
Current Status of Infant and Young Child Feeding Practices *177*
The State of Policy and Programs in Breastfeeding *177*
Social and Cultural Factors Influencing Breastfeeding *177*
What Kind of Support Working Women Need? *178*
Combining Work and Breastfeeding: Approaches *180*
The Way Forward *182*

18. Strategies for Prevention and Management of Malnutrition 184
Karanveer Singh, Praveen Kumar

Strategies to Prevent Malnutrition *186*
How can Malnutrition be Measured? *189*
What are the Types of Malnutrition? *190*
Severe Acute Malnutrition *191*

Section 4: Everyday Practice

19. The Art of Talking to Patients 199
Anshu, Tejinder Singh

Specific Skills Needed for Effective Communication *201*
Teaching and Learning Communication and Interpersonal Skills *204*
Assessment of Communication and Interpersonal Skills *205*

20. Ethical Issues in Pediatric Practice 211
Suvasini Sharma, Bhavna Dhingra

Informed Consent and Assent *211*
Care of Disabled Children *212*
Treatment of Critically-ill Children *212*
Religious or Cultural Objections to Medical Care *212*
Genetic Testing *213*
Medical Record *213*
Disclosure of Medical Errors *213*
Use of Electronic Media *213*
Confidentiality *214*

21. Medicolegal Aspects of Pediatric Practice 215
Mahesh Baldwa, Sushila Baldwa, Varsha Gupta, Namita Padvi

Medical Negligence and Malpractice *216*
Doctor-Patient Relationship *216*
Medicolegal Aspects of Consent and Risk Explanation *217*
Medical Record Keeping *220*
Sudden Operation Table Death during Anesthesia Resorting to Violence/ Extortion/Defamation by Party *220*
Medicolegal Aspects of Difficult Situations, Declaration of Death and Communication with Patient Party *222*
Medicolegal Aspects of Vicarious Liability *222*
Medicolegal Aspects of Euthanasia, DNR, Vegetative Life and Active and Passive Withdrawal of Life Support Systems *222*
Medicolegal Aspects of Blood Transfusion *223*
Medicolegal Aspects of Operating Theater Mishaps not Causing Death *223*
Medical Indemnity Policy *224*

22. Medical Audit in Pediatrics 225
Satish Pandya

Definition *225*
History of Medical Audit *226*
The Purpose of Clinical Audit *226*
The Clinical Audit Process—the Audit Cycle *226*
Techniques of Medical Audit *227*
Standards and Criteria of Medical Audit *227*
What to Audit? *228*
How to Audit? *228*
Equipment Needed *228*
Who should Evaluate? *229*
Limitations of Clinical Audit *229*
Other Methods *229*
Examples of Audit in Primary Care Pediatrics *229*
Identifying Areas for Medical Audit *230*
Advantages and Utilities of Medical Audit in Pediatrics *230*
Rational Drug Therapy and Medical Audit in India *230*
Difficulties in Medical Audit and their Solutions *231*
The Indian Scenario *232*
Epilogue *232*

Section 5: Legal Rights and Vulnerable Children

23. Child Rights 237
Mahesh Baldwa, Sushila Baldwa, Namita Padvi, Varsha Gupta

Rights of Children in General *238*
What are the Rights of the Children? *238*
Children's Rights and Our Five-Year Plans *238*
Children's Rights and Integrated Child Development Services (ICDS) Scheme *239*
Children's Rights and Universal Policy for Children *239*
Children's Rights and National Health Policy *239*
Detailed Study of Articles of Constitution of India Related to Rights of Children *239*
Constitutional Rights of Children and Child Labor *241*
Constitutional Rights and Disabled Children *241*
Constitutional Rights and Education of Children *241*
Objectives for India *241*
Future Outlook for Children's Rights *242*

24. Child Abuse and Neglect 243
RN Srivastava

Child Neglect *243*
Child Abuse/Maltreatment *244*
Street Children *244*
Types of Child Abuse *244*
Prevention of Child Abuse and Neglect *245*
Governmental Measures *246*
Constraints and Limitations *247*

25. Child Labor 249
Rajeev Seth, Uma Agrawal
Magnitude of Problem *249*
Categories of Child Labor *250*
The International Labor Organization (ILO) Declarations *251*
Indian Constitutional Provisions *252*
Action against Child Labor Rehabilitation and Intervention Strategies *252*
The Way Forward and World Day against Child Labor *255*

26. Legal Provisions for Children 257
Mahesh Baldwa, Sushila Baldwa, Namita Padvi, Varsha Gupta
Adoption *257*
Borstals *258*
Remand Homes *259*
Orphanages *259*
Foster Homes *260*
Boarding Schools *260*
Juvenile Delinquency *261*
The Protection of Children from Sexual Offences Act, 2012 *264*

Section 6: Clinical Epidemiology and Research

27. India's Integrated Disease Surveillance Project: An Appraisal 267
T Jacob John, V Jithesh
Health Management System *268*
Public Health Surveillance *269*
Attempts at Disease Surveillance in India: Successes and Failures *270*
The Integrated Disease Surveillance Project in India *272*

28. Health Indicators and Programmatic Implications 276
Harish Chellani, Aashima Dabas
Sources of Data *276*
Health Indicators—Concept and Need *277*
Current Situation and Trends *278*
Programmatic Approaches *279*
Programmatic Implications *280*
Critical Appraisal *281*

29. Introductory Research Methodology 284
Narendra K Arora, Rakesh Pillai, Sanjiv Kumar
What is the Rationale for doing Medical Research? *284*
Different Types of Research *284*
Good Practices in Medical Research *286*
Theoretical Work Flow of Research *286*
Establishing Causal Relationship *294*
Study Design *295*
Implementation Science *297*
Writing A Research Protocol *302*

30. Systematic Reviews and Meta-analysis: General Principles and Application for Child Health 305
Meenu Singh, Nishant Jaiswal
Systematic Review and Meta-analysis: Definitions and General Principles *306*

31. Ethical Issues in Biomedical Research involving Children 311
Suvasini Sharma, Naveen Sankhyan
Basic Ethical Principles and Research involving Children *311*
Current Guidelines and Regulations *312*
General Guidelines for Research involving Children *312*
Ethical Review Procedures *312*

Section 7: National Health Programs

32. National Health Mission: A Paradigm Shift in the Delivery of Reproductive and Child Health Services 319
Rajesh Kumar, Pritam Roy, Tarundeep Singh
National Health Mission *320*
Major Interventions *321*
Reproductive and Child Health Program–II (RCH-II) *326*
Monitoring and Evaluation *330*
National Urban Health Mission (NUHM) *332*
Future Prospects *332*

33. Maternal and Child Health Programs 335
Harish Chellani, Sugandha Arya
Situation Analysis *335*
Maternal and Child Health Programs and Interventions *336*
Monitoring, Information and Evaluation *343*
Critical Appraisal *343*

34. National Nutritional Anemia Control Program 346
Panna Choudhury
Approaches to Prevention of Anemia *348*
Supplementation Interventions by Ministry of Health and Family Welfare *349*
Management of Anemia *350*

35. National Nutritional Programs in India 354
Umesh Kapil, Neha Sareen
National Nutritional Anemia Control Program (NNACP) *354*
National Iodine Deficiency Disorders Control Program (NIDDCP): Current Status and Future Strategies *354*
National Prophylaxis Program against Nutritional Blindness due to Vitamin A Deficiency *358*
Mid-day Meal Program (MDM) *360*

36. Integrated Child Development Services Scheme 364
Umesh Kapil, Neha Sareen
Objectives *364*
Services Provided by the Scheme *364*
Population Norms in ICDS Project *366*
Existing Monitoring System Under ICDS Scheme *368*
Evaluation of ICDS Scheme *369*
Three Decades of ICDS—An Appraisal by NIPCCD (2006) *370*
Budget *370*
Areas of Weaknesses in ICDS Scheme *370*
Areas of Strengths of ICDS Scheme *371*
Participation of International Developmental Partners *371*

37. Pediatric HIV/AIDS 373
Jagdish Chandra, Anju Seth
Epidemiology *373*
Clinical Profile *374*
Diagnosis of HIV Infection *375*
Evaluation of the Patient Following Diagnosis *375*
Management Issues *375*
Preventive Aspects *377*
Feeding of HIV-Exposed Infants *379*
NACO and National AIDS Control Program *381*

38. National Immunization Program 383
Puneet Kumar, Vipin M Vashishtha
Universal Immunization Program (UIP) *384*
The Way Forward *387*

39. National Vector-borne Disease Control Program 392
Chandra Mohan Kumar
National Vector Borne Disease Control Program *392*

40. National Urban Health Program 396
Sainath Banerjee
Urban Health Scenario and Challenges *396*
The Need to Evolve an Urban Health Program in India *397*
National Urban Health Mission *398*
Major Components of National Urban Health Program *402*

41. Rashtriya Kishor Swasthya Karyakram 409
Sangeeta Yadav, Tanu Anand
Rashtriya Kishor Swasthya Karyakram *412*

42. School Health Program 423
JP Kapoor
International Experience *423*
National Experience *424*
Rashtriya Bal Swasthya Karyakarm *428*

43. Communication Networks in Child Survival Programs 430
AK Patwari
What are the Essentials of an ECN? *430*
Communication Skills of Health Personnel *432*
Health Infrastructure and Communication Channels *433*
Mothers/Caregivers—The Ultimate Target *434*

Index 437