

# Chapter One

## Abilities: Attitudes and Behaviors

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### INTRODUCTION

This chapter of the Global Pediatric Curriculum is part of a competency-based framework upon which to build a training program in general pediatrics. This competency-based approach will assist programs to develop or refine the training process so that the knowledge and skills required to provide competent care are grounded upon globally recognized **abilities, attitudes, and behavioral attributes** that are believed to be essential to general pediatric medicine.

The Global Pediatric Education Consortium (GPEC) believes that some of these abilities and behavioral attributes are necessary to be mastered during training, while others need only be exposed to the resident during training. Therefore, each section of this chapter contains preamble statements of what a resident **MUST** be able to do, or should be **FAMILIAR** with or have **EXPOSURE** to, in order to be well-grounded in general pediatric care.

NOTE: The term “resident” is used to represent students in the post-graduate training environment and is synonymous with “trainee” or “registrar” and other similar terms.

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## Ethics in Practice

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### General

At the end of training a resident **must:**

Understand the concept that “the ability to act does not necessarily justify the action”

Understand why doctors need to be careful when interacting with the pharmaceutical industry (ie, conflict of interest)

Know that dealing effectively with an ethical problem depends on: (1) recognizing the ethical issue; (2) applying relevant knowledge; (3) analyzing the problem; (4) deciding on a course of action; and (5) implementing the necessary steps to improve the situation

Understand the principles of research ethics applied to children and research publication

Be able to:

Defend children’s rights in accordance with the “UN Convention on the Rights of the Child”

Apply ethical principles and analysis to clinical care and research

Apply national legislation to clinical care and research

Demonstrate awareness of the main professional obligations of doctors

Practice according to statutory requirements and codes of conduct for medical practice

Critically analyze ethical issues commonly encountered in medical practice and formulate a framework within which such issues could be resolved

Demonstrate the ability to resolve ethical issues faced during common clinical scenarios

Demonstrate sensitivity to ethical issues and behavior within, and outside, professional practice

Identify the ethical aspects involved in conducting research and apply ethical principles in conducting research

Distinguish between ethics, clinical ethics, and bio-ethics

Know the differences between informed “consent” and informed “assent”

Know the differences between “emancipated minor” and “mature minor”

<b>Ethical Principles</b>	
By the end of training a resident <b>must</b> :	
<b>Autonomy</b>	
	<p>Know how to explain the following terms: (1) best interest; (2) advance directives; (3) withdrawal or withdrawing life support systems; (4) do not resuscitate (DNR) orders; and (5) euthanasia</p> <p>Understand the principles of ethics when dealing with patients and family members:</p> <p>Understand the importance of patient autonomy</p> <p>Understand that the principle of autonomy is also the basis of numerous other moral precepts: (1) confidentiality; (2) freedom of choice; (3) accountability; (4) avoidance of conflict of interest; (5) informed consent</p> <p>Understand the importance of obtaining valid consent from a patient/parent/guardian for investigations and treatments</p> <p>Understand that children gradually become more autonomous as they mature and understand the world around them</p> <p>Understand the importance of confidentiality in the doctor-patient relationship</p> <p>Understand the importance of telling the patient the truth about his/her medical condition</p> <p>Be able to:</p> <p style="padding-left: 40px;">Display evidence of applying ethical principles</p>
<b>Beneficence</b>	
	<p>Understand that beneficence emphasizes enhancing kindness, charity, and welfare to others</p> <p>Understand that beneficence elevates the physician's acts of charity to a moral obligation without committing harm to others in the process</p>
<b>Non-maleficence</b>	
	<p>Understand that non-maleficence emphasizes that a physician should not inflict pain, suffering, distress (whether physical or psychological), loss of freedom or disability, or death</p> <p>Understand that a physician's obligation to his patients to "promote their good" is less important than to prevent their harm ("<i>primum non nocere</i>")</p>
<b>Justice</b>	
	<p>Be able to:</p> <p style="padding-left: 40px;">Demonstrate an attitude of equality in dealing with patients irrespective of age, sex, religion, ethnicity, etc</p> <p style="padding-left: 40px;">Demonstrate an understanding of the ethical issues related to the concept of</p>

	allocation of resources
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## Collaboration

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### General

By the end of training a residents **must:**

Be able to:

Work effectively as a member or leader of a health care team or other professional group

Identify the level competence and skills of other health providers, eg, nurses, community health workers

Act in a consultative role to other physicians and health providers

Work effectively in multidisciplinary, inter-professional, and cross-cultural teams

Demonstrate effective, appropriate, and timely consultation with other health professionals as needed for optimal patient care

Identify and respect the diversity of roles, responsibilities, and competence of other professionals in relation to their own

Work with others to assess, plan, provide, and integrate care for individual patients or groups of patients

Work with others to assess, plan, provide, and review tasks such as research problems, educational work, program review or administrative responsibilities

Participate effectively in team meetings

Create appropriate relationships with other professions in order to facilitate the provision of quality care

Respect team ethics, including confidentiality, resource allocation, and professionalism

Collaborate with teachers, social workers, community leaders, child protection workers, and other allied health professionals to assess, plan, review and provide health prevention, and interventions

Identify special skills for collaboration related to transition of care (eg, congenital heart disease care provided by a pediatrician transitioning to an adult cardiologist)

## Global Health Awareness<sup>1</sup>

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<b>Human Rights Issues</b> By the end of training a resident should be <b>familiar</b> with:	
	United Nations Declaration of Human Rights United Nations Convention of the Rights of the Child The framework of Health and Human Rights Ethics and human rights such as the history of physicians in human rights protection and abuses Current and evolving role of physicians in human rights protection and abuses Law and human rights
<b>Social determinants of health on children's health, health care access, and health outcomes</b> By the end of training a resident should be <b>familiar</b> with:	
	Basic economics, poverty, and income inequality Gender disparities, unemployment, and education Political systems and policies Inequities in health care accessibility globally and within countries Cultural influences
<b>Global Health Priority setting</b> By the end of training a resident <b>should</b> :	
	Have an understanding of global child health priority setting Be able to: Identify international goals and strategies for improving child and maternal health (eg, Millennium Development Goals [MDGs]) Describe how such goals and strategies have impacted policy, funding and development of newborn, child and maternal health programs worldwide Discuss the relevance of the MDGs to child health Describe the achievements and failures of relevant countries globally in achieving the MDGs
<b>Organizations</b> By the end of training a resident <b>should</b> :	
	Have a basic understanding of the role of organizations including: World Health Organization (WHO) United Nations Children's Fund (UNICEF)

	<p>Global Alliance on Vaccines Initiative (GAVI)</p> <p>World Trade Organization, World Bank, International Monetary Fund, General Agreement on Tariffs and Trade</p> <p>Non-Governmental Organizations in your own country/region</p> <p>Governments (eg, Ministries of Health) in your own country</p> <p>Be able to:</p> <p>Describe the relevance of the MDGs to child health and indicate how successful your own country and other countries globally have been in achieving the goals</p> <p>Explain how the policies and funding structures of these organizations as well as donor nations impact global child health</p>
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**Global burden of disease**  
 By the end of training a resident **should:**

	<p>Understand the impact of the following upon the global burden of disease:</p> <ul style="list-style-type: none"> <li>Water, sanitation, nutrition, and environmental determinants of disease</li> <li>Communicable diseases (HIV/AIDS, Tuberculosis, Malaria)</li> <li>Non-communicable and preventable diseases, injuries and violence</li> <li>Population health</li> <li>Maternal and child health</li> <li>Mental health</li> </ul> <p>Be able to:</p> <p>Describe how increasing globalization contributes to the emergence and reemergence of diseases/conditions, and food and water supply</p> <p>Describe known cost-effective interventions, including prevention strategies, for reducing under-5 mortality and morbidity (eg, vitamin A supplementation, exclusive breastfeeding)</p> <p>Describe international goals and strategies for improving child and maternal health (eg, Millennium Development Goals), and how these have impacted policy, funding and development of newborn, child, and maternal health programs worldwide.</p>
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**Environmental events and related policies that impact on children’s health**  
 By the end of training a resident should **be aware of:**

	<ul style="list-style-type: none"> <li>Natural disasters and disaster relief</li> <li>Man-made disasters such as global conflict, war, refugees, and global toxin burden</li> <li>Migration, travel, and global interaction</li> <li>Epidemics, pandemics, and changing patterns of disease globally</li> </ul>
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## Structure and function of the national or regional health system

By the end of training a residents **be able to:**

- Describe the structure and function of the national or regional health system
- Describe the structure of the health system and the roles and responsibilities of the various levels involved
- Compare and contrast the national health system, training, and pediatric practice in their own country with that of other countries internationally
- Describe the role of the different health care delivery settings including different types of hospitals (eg, tertiary or private), clinics (eg, primary health care), and community-based services
- Contrast the advantages and disadvantages of different approaches to implementing health care interventions such as vertical or targeted programs versus integrated strategies, focused versus comprehensive care, and facility- versus community-based care
- Explain the process of health policy making (eg, local, district, state, provincial, federal, national)
- Explain the financing, fee structure, and reimbursement of public and private health services (eg, health insurance, pay for service, employment based, and the impact of this on access to care and quality of care)
- Describe methods of regulation of health professional and health care institutions (eg, certification, licensure, institutional accreditation)
- Demonstrate an awareness of the health care workforce crisis in resource limited countries, the factors that contribute to this and strategies to address the problem

## Measurement of Children's Health

By the end of training a resident should **be able to:**

- Explain the importance of measuring children's health
- Identify sources for national and local child health statistics such as vital statistics and public health surveillance systems
- Define and interpret key child health indicators such as:
  - Neonatal mortality rate
  - Infant mortality rate
  - Under five mortality rate
  - Perinatal mortality rate
  - Low birth weight rate
  - Underweight, stunting, and wasting rates
- Describe and contrast the major causes of child mortality globally and nationally



	<p>including changes with time</p> <p>Describe the burden of disease of major communicable diseases globally and nationally</p> <p>Describe the burden of disease of major non-communicable diseases globally and nationally including accidents and injuries</p> <p>Explain how indicators may be used to monitor and evaluate the impact of child public health interventions</p> <p>Describe the benefits of auditing clinical practice, including neonatal and child mortality audits, in improving health facilities or program performance</p>
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**Health Promotion and Disease prevention**  
 By the end of training a resident **should be familiar with:**

	<p>The content and mechanisms for delivering cost-effective health promotion and disease prevention interventions to children globally, or in under-resourced settings, such as:</p> <ul style="list-style-type: none"> <li>Integrated Management of Childhood Illness (IMCI)</li> <li>Expanded Program on Immunization (EPI)</li> <li>Polio eradication</li> <li>Vitamin A supplementation</li> <li>Exclusive breastfeeding support</li> <li>Prevention of mother-to-child transmission of HIV</li> </ul>
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**Health care delivery systems**  
 By the end of training a resident **should:**

	<p>Have <b>been exposed to or made aware</b> of the various healthcare delivery systems including:</p> <ul style="list-style-type: none"> <li>Allopathic ('Western') healthcare models including government sponsored, insurance, payers, and individual care</li> <li>Community-based care models</li> <li>Community health worker models</li> <li>Participation and empowerment</li> <li>Access to health care: evidence-based research</li> <li>Public health models such as vaccination, eradication, and population approaches</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Demonstrate the ability to appropriately access WHO, UNICEF, CDC and other worldwide literature and guidelines; internet resources and appropriate technologies (eg, mobile phone apps)</li> </ul>
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## Organizations involved in global health

By the end of training a resident **should**:

Be able to:

Identify and give examples of initiatives and programs of major organizations that make and influence international health policy and provide funding for children's health, including WHO, UNICEF, Gates Foundation, GAVI and the World Bank

Explain how the policies and funding structures of these organizations as well as donor nations impact global child health.

Demonstrate competence in accessing appropriate educational materials from the following: WHO, UNICEF, Centres for Disease Control (CDC)

Utilize other global guidelines and resources, including through the use of internet resources and appropriate smartphone apps

Describe the various types of organizations involved in global health (eg, The Network, Global Health Education Consortium, FAIMER, The Gates Foundation, Kellogg Foundation)

<sup>1</sup>Adapted from the following sources:

*Developing Global Health Curricula: A Guidebook for US Medical Schools.*

([http://globalhealthedu.org/PublicDocs/Developing%20GH%20Curricula\\_Guidebook%20for%20US%20Medical%20Schools.pdf](http://globalhealthedu.org/PublicDocs/Developing%20GH%20Curricula_Guidebook%20for%20US%20Medical%20Schools.pdf))

McKimm, J and McLean M (2011). Developing a global health practitioner: Time to act? *Medical Teacher* 33:626-631.

## Patient Safety and Quality Improvement

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<b>General</b> By the end of training a resident <b>must</b> :	
	Know definitions used in discussions of patient safety including: Medical error, near-miss event, a sentinel event, preventable adverse events, non-preventable adverse events  Demonstrate active and meaningful engagement in a quality improvement activity with emphasis on patient safety.
<b>Medical error and harm</b> By the end of training a resident <b>must</b> :	
	Know the epidemiology of medical error and harm  Understand the contribution of adverse events to the morbidity and mortality of pediatric patients  Understand the contribution of adverse events to the cost of medical care  Be able to: <ul style="list-style-type: none"><li>Identify the common causes of adverse events in pediatric patients</li><li>Identify situations presenting high risk for adverse events in the management of pediatric patients</li></ul>
<b>Detecting and reporting adverse events and should :</b> By the end of training a resident <b>must</b> :	
	Be familiar with detecting and reporting adverse events  Understand the relationship between the detection of a medical error and the ability to discover and effect improvements  Be able to: <ul style="list-style-type: none"><li>Identify barriers to reporting adverse events</li><li>Apply effective strategies to improve reporting of adverse events</li><li>Apply voluntary systems for reporting of adverse medical events</li></ul>
<b>Disclosure of medical errors</b> By the end of training a resident <b>must</b> :	
	<b>Understand</b> the concepts of disclosure of medical errors  Be able to: <ul style="list-style-type: none"><li>Use appropriate means to disclose medical errors to patients or their family</li><li>Apply appropriate methods of support for patients and their families after an error producing medical harm occurs</li><li>Use appropriate methods of support for physicians and other health-care</li></ul>

	providers after an error producing medical harm occurs
<b>Reduction of medical adverse events</b> By the end of training a resident <b>must</b> :	
	<p>Understand the following concepts related to adverse events:</p> <ul style="list-style-type: none"> <li>Methods to reduce medical adverse events</li> <li>The relative role of systems and individuals in producing medical error and harm</li> <li>Root cause analysis to determine the factors contributing to an error</li> <li>Evidence-based interventions to reduce medical adverse events</li> <li>The role of ancillary services such as the pharmacy in the prevention of medication errors</li> <li>The impact of product naming and packaging on medication safety</li> <li>The role of medical device design in prevention of medical error</li> <li>The contribution of patient factors to adverse events</li> <li>The role of patients and their families in reducing adverse events</li> <li>The off label drug use as a patient safety risk</li> <li>The role of computerized order entry (where applicable) and dose-range checking in reducing medication errors</li> </ul> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Apply methods to be able to reduce medical adverse events</li> <li>Anticipate system vulnerabilities by applying <i>failure mode effects analysis</i> (FMEA) (for information about FMEA <a href="http://www.ihl.org/ihl/workspace/tools/fmea/">http://www.ihl.org/ihl/workspace/tools/fmea/</a>)</li> <li>Use best-practice guidelines to reduce medical adverse events</li> <li>Use effective methods of communication to reduce errors in the health-care setting</li> <li>Identify which interventions can reduce error in situations (eg, stress, fatigue, distraction) at high risk for medical error</li> <li>Apply methodologies to prevent medication errors</li> <li>Root cause analysis to determine the factors contributing to an error</li> <li>Evidence-based interventions to reduce medical adverse events</li> </ul>
<b>Principles of Patient safety</b> By the end of training a resident <b>must</b> :	
	<p>Understand how to apply key principles of patient safety Understand the key principles of patient safety</p> <p>Understand the importance of leadership in creating a culture of safety in the health-</p>

	<p>care system</p> <p>Understand the importance of assessment and redesign of health- care processes before error occurs (manage safety risks)</p> <p>Understand the importance of creating and maintaining a learning environment (eg, morning report, patient hand-offs, meetings with partners) in improving patient safety (optimize human and environmental factors)</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Apply knowledge of human factors in the design of systems and processes promoting patient safety</li> <li>Promote effective team functioning in the prevention of medical error</li> </ul>
<p><b>Quality improvement</b> By the end of training a resident <b>must:</b></p>	
	<p>Understand and apply core principles of quality improvement Understand what a system is (eg, people, procedures, equipment) and how each component of that system affects outcomes</p> <p>Understand that analysis of variation in data is critical in quality improvement to understand whether the variation is actually improvement</p> <p>Understand that quality improvement is based on applying a scientific method to improving human systems</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Identify that quality improvement requires looking at data or processes (ie, trends) over time</li> <li>Apply the psychology of change (eg, motivating people to improve) to improve health-care systems</li> <li>Identify the components of currently accepted methodology and technology for quality improvement (eg, the Langley Model for Improvement: Plan, Do, Study, Act [PDSA] cycles) (for more information on the PDSA model, see <a href="http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/HowToImprove/">http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/HowToImprove/</a>)</li> </ul>

## Research Principles and Evidence-based Practice

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<b>Biostatistics</b>	
<b>Types of variables (eg, continuous, categorical, ordinal, nominal)</b> By the end of training a resident <b>should:</b>	
	Understand how the type of variable affects the choice of statistical test Be able to: Distinguish types of variables
<b>Distribution of data (eg, normal/skewed, percentiles, mean, median, mode, standard deviation, standard error)</b> By the end of training a resident <b>should:</b>	
	Understand how distribution of data affects the choice of statistical test Understand the appropriate use of the mean, median, and mode Understand the appropriate use of standard deviation Understand the appropriate use of standard error Be able to: Differentiate normal from skewed distribution of data
<b>Hypothesis testing (null/alternative, interpretation)</b> By the end of training a resident <b>should:</b>	
	Be able to: Distinguish the null hypothesis from an alternative hypothesis Interpret the results of hypothesis testing
<b>Statistical tests (eg, chi-square, t-test, ANOVA, p-value, Type I and II errors)</b> By the end of training a resident should:	
	Understand the appropriate use of the chi-square test versus a t-test Understand the appropriate use of analysis of variance (ANOVA) Understand the appropriate use of parametric (eg, t-test, ANOVA) versus non-parametric (eg, Mann-Whitney U, Wilcoxon) statistical tests Understand the appropriate use of a paired and nonpaired t-test Be able to: Interpret the results of chi-square tests Interpret the results of t-tests Determine the appropriate use of a 1- versus 2-tailed test of significance Interpret a p-value

	<p>Interpret a p-value when multiple comparisons have been made</p> <p>Interpret a confidence interval</p> <p>Identify a type I error</p> <p>Identify a type II error</p>
<p><b>Measurement of association (eg, relative risk, odds ratio)</b></p> <p>By the end of training a resident <b>should:</b></p>	
	<p>Understand the uses and limitations of a correlation coefficient</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Differentiate relative risk reduction from absolute risk reduction</li> <li>Calculate and interpret a relative risk</li> <li>Calculate and interpret an odds ratio</li> <li>Interpret a hazard ratio</li> </ul>
<p><b>Regression analysis (eg, linear, logistic, survival analysis)</b></p> <p>By the end of training a resident <b>should:</b></p>	
	<p>Be able to:</p> <ul style="list-style-type: none"> <li>Identify when to apply regression analysis (eg, linear, logistic)</li> <li>Interpret a regression analysis (eg, linear, logistic)</li> <li>Identify when to apply survival analysis (eg, Kaplan-Meier)</li> <li>Interpret a survival analysis (eg, Kaplan-Meier)</li> </ul>
<p><b>Diagnostic tests (eg, sensitivity and specificity, positive and negative predictive value)</b></p> <p>By the end of training a resident <b>should:</b></p>	
	<p>Understand how disease prevalence affects the positive and negative predictive value of a test</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Identify the importance of an independent "gold standard" in evaluating a diagnostic test</li> <li>Calculate and interpret sensitivity and specificity</li> <li>Calculate and interpret positive and negative predictive values</li> <li>Calculate and interpret likelihood ratios</li> <li>Interpret a receiver operator characteristic curve</li> <li>Interpret and apply a clinical prediction rule</li> </ul>
<p><b>Systematic reviews and meta-analysis (interpretation and application)</b></p> <p>By the end of training a resident <b>should:</b></p>	
	<p>Understand the purpose of a systematic review</p>

	<p>Understand the advantages of adding a meta-analysis to a systematic review</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Interpret the results of a meta-analysis</li> <li>Identify the limitations of a systematic review</li> <li>Identify the limitations of a meta-analysis</li> </ul>
<b>Epidemiology and clinical research design</b>	
<b>Study types (eg, retrospective versus prospective studies, case-control, longitudinal, cohort)</b>	
By the end of training a resident <b>should:</b>	
	<p>Understand the strengths and limitations of the following types of studies and/or analyses: retrospective, case series, cross-sectional studies, case-control studies, longitudinal studies, cohort studies, randomized-controlled studies, before-after studies, crossover studies, open-label studies, post-hoc analyses, subgroup analyses</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Distinguish between Phase I, II, III, and IV clinical trials</li> </ul>
<b>Bias and confounding variables</b>	
By the end of training a resident <b>should:</b>	
	<p>Understand how bias affects the validity of results</p> <p>Understand how confounding affects the validity of results</p> <p>Understand how study results may differ between distinct sub-populations (effect modification)</p> <p>Be able to:</p> <ul style="list-style-type: none"> <li>Identify common strategies in study design to avoid or reduce bias</li> <li>Identify common strategies in study design to avoid or reduce confounding</li> </ul>
<b>Causality (causal versus association)</b>	
By the end of training a resident <b>should:</b>	
	<p>Understand the difference between association and causation</p> <p>Be able to</p> <ul style="list-style-type: none"> <li>Identify factors that strengthen causal inference in observational studies (eg, temporal sequence, dose response, repetition in a different population, consistency with other studies, biologic plausibility)</li> </ul>
<b>Incidence and prevalence</b>	
By the end of training a resident <b>should:</b>	
	<p>Be able to:</p> <ul style="list-style-type: none"> <li>Distinguish disease incidence from disease prevalence</li> </ul>
<b>Decision analysis</b>	
By the end of training a resident <b>should:</b>	



	<p>Understand the strengths and limitations of decision analyses</p> <p>Be able to:</p> <p style="padding-left: 40px;">Interpret a decision analysis</p>
<p><b>Cost-benefit, cost-effectiveness, and outcomes</b></p> <p>By the end of training a resident <b>should:</b></p>	
	<p>Understand how quality-adjusted life years are used in cost analyses Understand the multiple perspectives (eg, of an individual, payor, society) that influence interpretation of cost-benefit and cost-effectiveness analyses</p> <p>Be able to:</p> <p style="padding-left: 40px;">Differentiate cost-benefit from cost-effectiveness analysis</p>
<p><b>Sensitivity analysis</b></p> <p>By the end of training a resident <b>should:</b></p>	
	<p>Understand the strengths and limitations of sensitivity analysis</p> <p>Be able to:</p> <p style="padding-left: 40px;">Interpret the results of sensitivity analysis</p>
<p><b>Measurement principles (eg, reliability and validity; accuracy and precision)</b></p> <p>By the end of training a resident <b>should:</b></p>	
	<p>Understand the types of validity that relate to measurement (eg, face, construct, criterion, predictive, content)</p> <p>Be able to:</p> <p style="padding-left: 40px;">Distinguish validity from reliability</p> <p style="padding-left: 40px;">Distinguish internal from external validity</p> <p style="padding-left: 40px;">Distinguish accuracy from precision</p> <p style="padding-left: 40px;">Interpret measurements of interobserver reliability (eg, kappa)</p> <p style="padding-left: 40px;">Interpret Cronbach's alpha</p>

## Scholarly Activity

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<b>Reflective Learning</b>	
By the end of training a resident <b>should</b> make a lifelong commitment to reflective learning by:	
	<ul style="list-style-type: none"><li>Maintaining and enhancing professional activities through ongoing learning</li><li>Recognizing the importance of self-assessment of professional competence and practice</li><li>Accepting responsibility for developing, implementing and monitoring a personal continuing education strategy</li><li>Conducting on-going personal practice audits</li><li>Integrating new learning into practice</li><li>Evaluating the impact of any change into practice</li><li>Identifying collaboratively the learning needs and desired learning outcomes of others</li><li>Selecting effective teaching strategies and content to facilitate others' learning</li><li>Demonstrating the ability to give an effective lecture or presentation</li><li>Assessing and reflecting on a teaching encounter</li><li>Describing the principles of ethics with respect to teaching</li><li>Understanding systematic reviews of the literature in search for evidence</li></ul>
<b>Creation, dissemination, application and translation of medical knowledge</b>	
By the end of training a resident <b>should</b> make a commitment to the creation, dissemination, application and translation of medical knowledge by:	
	<ul style="list-style-type: none"><li>Applying the principles of critical appraisal to address a clinical question</li><li>Maintaining a questioning and inquisitive attitude towards medical information</li><li>Knowing how to formulate a research question/hypothesis</li><li>Selecting and applying appropriate statistical and methodological tools to address the question</li><li>Disseminating the findings of a study appropriately</li><li>Understanding the principles of research, research ethics and scholarly inquiry</li><li>Demonstrating knowledge of international, national, state/provincial/territory and district/local codes, principles and declarations regarding the ethical conduct of research</li><li>Demonstrating knowledge of the principles of informed consent</li><li>Being familiar with a range of sources of research publications and electronic</li></ul>

	<p>literature databases</p> <p>Being familiar with scientific styles of writing (eg, research grants, journal publications)</p> <p>Understanding the process of peer review</p> <p>Knowing how to identify sources of research funding</p>
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## Self-Leadership and Practice Management

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<b>Self leadership skills</b>	
<b>By the end of training a resident should:</b>	
	<p>Be able to:</p> <ul style="list-style-type: none"><li>Exhibit self leadership skills</li><li>Demonstrate time-management and prioritization skills</li><li>Demonstrate effective delegation and follow-up skills</li><li>Demonstrate problem solving and management skills that enable independent decision making based upon best available evidence</li><li>Identify stressors and takes action to minimize their effects</li><li>Effectively manage stressful situations that may arise, and ask for help appropriately</li><li>Leadership in crisis resource management (problem solving, situational awareness, communication skills and resource management)</li><li>Effectively manage personal and professional development</li><li>Cultivate the ability to identify one's own mistakes and learn from them</li><li>Manage relationships effectively, including those with patients and their families, colleagues, and the broader health care team</li><li>Effectively manage the balance between work life and home life</li><li>Recognize and respond to personal and professional limitations</li></ul>
<b>Management skills</b>	
<b>At the end of training a resident should:</b>	
	<p>Have exposure to the concepts of managing a practice ethically and efficiently, including finances and human resources</p> <p>Be able to:</p> <ul style="list-style-type: none"><li>Effectively implement the following management skills:<ul style="list-style-type: none"><li>An ability to effectively manage tasks including prioritizing, assigning and delegating; prioritizing and re-prioritizing clinical tasks day-to-day and during medical emergency situations; ensuring tasks are progressing as planned</li><li>Coaching and mentoring as appropriate</li><li>Conducting a staff performance appraisal</li><li>Giving appropriate and helpful feedback to staff</li></ul></li></ul>

	Maintaining comprehensive, timely, and legible medical records including patient documents, business applications, hospital documents, and legal documents
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## Communication and Interpersonal Skills

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<b>General</b>	
<b>By the end of training residents must:</b>	
	<p>Understand that families will often have access to information sources outside the care setting (eg, Internet)</p> <p>Be able to:</p> <ul style="list-style-type: none"><li>Effectively communicate with patients (children and youth), families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds (including, where required, through the use of translators or interpreters)</li><li>Use simple language that children and parents can understand, to explain diagnoses and therapeutic approaches (ie, avoid using complex medical terminology and jargon)</li><li>Communicate with patients in a developmentally appropriate manner in order to create and sustain appropriate therapeutic relationships</li><li>Take a family centered approach when communicating recommendations, alternatives and uncertainties, while demonstrating an understanding of patient/family anxieties and point of view</li><li>Clearly communicate clinical reasoning via case notes, letters, discharge summaries and oral case presentation that facilitate understanding by other members of the healthcare team</li><li>Effectively manage family questions and perceptions in a supportive manner</li><li>Compassionately discuss end-of-life issues and the breaking of bad news (see also Palliative Care)</li><li>Maintain appropriate communications with parents and family members during transition of care from/to different care settings (eg, from primary to tertiary care centers)</li></ul>
<b>Listening skills</b>	
<b>By the end of training a resident must:</b>	
	<p>Be able to:</p> <p>Demonstrate active listening by:</p> <ul style="list-style-type: none"><li>- Making appropriate eye contact</li><li>- Asking open-ended questions</li><li>- Attending to verbal and non-verbal cues</li><li>- Clarifying information provided by patient</li></ul>

- Clarifying patient's understanding of information delivered

**Communication with other professionals**

By the end of training a resident **must:**

Be able to:

Communicate effectively with other health care professionals

Use conflict resolution skills to facilitate team interactions and manage conflict

Communicate effectively with referring physicians and when referring a patient to another specialist

Effectively communicate with physicians, other health professionals, and health related agencies

Communicate effectively for purposes of continuity of care

Use appropriate communication elements required for safe and effective transfer of care between:

- medical professionals within an institution
- inpatient and outpatient physicians
- primary and secondary care physicians
- different institutions
- hospital and home
- medical and non-medical caregivers

## Health Advocacy and Children's Rights

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### Responding to individual patient health needs

By the end of training a residents **must**:

Understand the relevant political, governmental, and institutional systems relating to children's health care

Know the relevant key national policies, practices and laws, which affect specific groups of children

Be able to:

Demonstrate an appreciation of the distinctiveness of health care needs of children and adults

Identify of the unique vulnerability of the child to social, resource and environmental disruptions or stress including war, refugee status, natural/manmade disasters

Identify the intersections between growth, development, health, illness, public policy and child well being

Identify the essential role of the pediatrician within the family, community, school and political structures

Identify opportunities for advocacy, health promotion and disease prevention to individuals and the communities they provide care

Describe the practice communities that they serve

Adapt clinical and patient care guidelines and protocols to local settings

Appreciate the possibility of competing interests between the communities served and other groups, eg, governments

Identify the determinants of health of children, including barriers to access to care and resources

Provide care in differentially resourced settings

Identify vulnerable or marginalized populations and respond appropriately (e.g. homeless, and children living in poverty)

Describe the impact of public policy on child health

Identify the role of government, and non-governmental organizations and community groups in developing health policies and advocating for children and youth

Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism

Identify strategies in advocacy including issue identification, data analysis,



	messaging, audience selection, persistence and evaluation
<b>Providing effective health care in local communities</b> By the end of training a resident must:	
	<p>Be able to:</p> <p>Establish health priorities for a geographically specific area, drawing on the best evidence of burden of disease and risk factors</p> <p>Appraise existing primary care practice and community health programs, and advise on appropriate modification, with particular reference to child health and nutrition, maternal health, non-communicable disease, and infectious diseases</p> <p>Evaluate the effectiveness of primary care practice and community health care programs including:</p> <ul style="list-style-type: none"> <li>- Operational effectiveness and the quality of care provided</li> <li>- Health outcomes achieved/ possible</li> <li>- Respond to equity indicators such as service coverage</li> </ul> <p>Be responsive to vulnerable groups (eg, pre-term infants)</p> <p>Strengthen functional links between primary care and other child and maternal public health efforts</p>

## Professionalism

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<b>General</b>	
By the end of training a resident <b>should</b> :	
	<p>Understand that medical professionalism is reflected in attitudes, behaviors, character, and standards of practice</p> <p>Understand that professionalism requires familiarity with the ethical codes and standards established by international, governmental, institutional or professional organizations</p> <p>Be able to:</p> <ul style="list-style-type: none"><li>Define the term “medical professionalism”</li><li>Identify the “values” of medicine as a profession</li><li>Explain how to value and use feedback in personal and professional development</li><li>Recognize the elements and the role of the physician component of the patient-physician relationship</li></ul>
<b>Professional attributes</b>	
By the end of training a resident <b>should</b> :	
	<p>Be able to display the following:</p> <ul style="list-style-type: none"><li>Honesty, probity and ethical commitment</li><li>Commitment to delivering the highest quality of care</li><li>Critical and self-critical abilities (reflective practice)</li><li>Compassion, integrity and respect for others</li><li>Respect confidentiality of patients, particularly adolescents, as well as family members</li><li>Ability to maintain privacy and confidentiality in all patient encounters</li><li>Empathy</li><li>Interpersonal skills</li><li>Responsiveness to patient needs that supersede self-interest</li></ul>
<b>Professional work actions</b>	
By the end of training a resident <b>should</b> :	
	<p>Be able to:</p> <ul style="list-style-type: none"><li>Recognize limits and ask for help</li><li>Seek consent for conduct of medical procedures and treatments</li></ul>

	<p>Work autonomously when necessary</p> <p>Solve problems</p> <p>Make decisions</p> <p>Work in a multidisciplinary team</p> <p>Communicate with experts in non-medical disciplines</p> <p>Apply appropriate and effective communication techniques to obtain consent</p> <p>Identify the complexity of proxy consent and the capability of the child to participate in the consent process based on chronological age, developmental age, illness and handicap</p> <p>Have the capacity to adapt to new situations and deal with uncertainty</p> <p>Have the capacity for organization and planning including time management</p> <p>Comply with all legal and moral obligations for reporting diseases and potential or real abuse/neglect</p> <p>Discuss all treatment options regardless of health insurance or financial status of the patient</p> <p>Respond to situations where the well being of the child is endangered/compromised (eg. Parent declining therapy, not comprehending treatment plan)</p> <p>Identify special issues pertaining to children participating in research</p>
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**The pediatrician as expert**  
 By the end of training a resident **should:**

	<p>Be able to:</p> <p>Display the following</p> <ul style="list-style-type: none"> <li>- A capacity for analysis and synthesis</li> <li>- A commitment in maintaining one's competence through lifelong self-directed learning and continuous professional development</li> <li>- A capacity for applying knowledge in practice</li> </ul> <p>Demonstrate teaching skills</p> <p>Demonstrate research skills</p> <p>Demonstrate leadership skills</p>
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**The global pediatrician**  
 By the end of training a resident **should:**

	<p>Be able to:</p> <p>Demonstrate an understanding of the different cultures and customs of</p>
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	<p>migrant populations</p> <p>Show sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion and disabilities</p> <p>Demonstrate ability to work in an international context</p> <p>Demonstrate responsible use of environmental resources</p> <p>Demonstrate accountability to patients, society and the profession</p>
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