Documentation and Interviewer's Manual

Vignettes Module

World Bank and ISERDD

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A team of two interviewers will administer the vignette module. For each vignette, one of the interviewers will act as the patient, while the other will have three tasks: controlling the interview, recording the answers and presenting the findings of the physical examinations carried out the by the doctor. In the rest of the document, we refer to the first interviewer as the patient and the second as the observer.

There are five vignettes in this module, and each one deals with a case that is present in Delhi's morbidity profile. This document contains the detailed case modules for these 5 cases. Some of these cases are fairly common (diarrhea and cold and cough), while others are less common, but needed to be treated carefully. For each of these cases, the doctor will work by attempting to rule out *differential diagnosis*- i.e., the doctor will start with a number of options in her mind, and then, through a series of questions and examinations, will try to rule out the options one by one, until he/she is left with the correct diagnosis. It is therefore crucial that questions asked by the doctor are carefully answered, so that at no point is a symptom or examination result presented to the doctor that *does not agree* with the final diagnosis we have in mind.

Prior to the start of each module, the observer will tell the doctor the age and gender of the patient, along with two patient characteristics:

1. Whether the patient will follow all instructions regarding medications and tests that the doctor prescribes
2. Whether the patient will return to the doctor if asked to do so after a while.

The observer will not present any of the patients complaints. The patient will then present his/her problems to the doctor, according to the **volunteered information** section of each case module.

Each vignette module is divided into three sections. Section 1 is the **History**, where the doctor asks questions that are answered by the patient. There are three rules that need to be followed carefully in the question-answer session with the patient.

1) The patient must be very careful to not *volunteer* any information that is not asked by the doctor, other than that in the **Information Volunteered** section of the case module below. For instance, if the doctor asks "Do you have a fever?", the patient should answer "Yes, I have a fever", and not, for instance "Yes, I have a fever and a headache as well".
2) This becomes harder if the doctor asks open ended questions such as "Tell me what else you have". In this case, the patient should *go back* to symptoms that have *already been presented*. For instance, if it has been established that the patinet has a fever and a headache, she should repeat these symptoms again. This *does* match patient behavior based on long term

participant observation at the beginning of this study as well as the requirements of the vignettes module.

3) The information that the patient provides should match the case module in all cases. The reason we want to try and make sure that even in cases where the information seems to be medically irrelevant, it is standardized is that different kinds of doctors may work with different models of disease causation, and what seems like irrelevant information may be important in the diagnosis and treatment of the illness. For instance (based on the simplification of an interview), a doctor may have the following model of disease causation for a child with diarrhea:
   a) If the mother ate *garam khana* (`hot' food) yesterday: Prescribe antibiotics
   b) If the mother ate *thanda khana* (`cold' food) yesterday: Do not prescribe antibiotics

   In this case, the seemingly irrelevant information that the mother ate rice yesterday (`cold' food) as opposed to roti (`hot' food) can change the pattern of medication observed.

Section 2 is the **Examination**, where the doctor tells the surveyors the physical examinations that he/she would carry out. In each case, the *observer* tells the doctor what the result of the physical examination would be, for example, if the doctor says "I would then check the blood pressure", the observer will answer: "Doctor, if you were to check the blood pressure, you would find that it is 120/80". In the examination section, it is important that if the doctor mentions an examination that the observer is not sure about (for instance, "I will check the chest") the *observer* should ask for a clarification (for instance, "Doctor, could you tell me exactly what you would do in this regard?". This is particularly important in case the doctor asks for a blood count, since this may include the fasting ESR as well as the TLC/DLC (Total and Differential Leukocyte Count).

Finally, Section 3 is the **Treatment** section, where the doctor gives the treatment recommendations. The treatment section is further divided into two parts. Certain questions are labeled T1, T2 etc., and these are treatment suggestions made *without any prompting* from the module administrators. Other questions are labeled PT1, PT2 and the questions are written *in italics*: these are the "Prompted Treatment" Questions, and must be asked individually to the doctor. Note that once the module has proceeded to the **Treatment** section, the observer must **not** record any additional history or examination questions that the doctor asks. The reason for this is that once a *prompted treatment* question is asked, the doctor has additional information that she may use to revise her original beliefs.

In recording the answers given by the doctor, the observer has to take care that technical terms used by the doctor are understood, and the appropriate responses on the module are marked. For instance, if the doctor says, "I will check the vital signs", the observer should note that the height,

weight, pulse rate, temperature and blood pressure of the patient were checked. To help with this, Appendix I contains a glossary of commonly used medical terms and their implications for the module. However, in cases *where the observer does not understand the term used*, he/she should specifically ask the doctor to expand on the statement. One way to do this is to stress at the beginning of the interview that since we (the interviewers) are not doctors, it may be necessary to seek clarifications for some terms.

Vignette Module Administration Summary

1) There are two interviewers: the *patient* and the *observer*
   a) The patient will behave as the patient throughout the case. The observer has three tasks:
      i) Controlling the interview
      ii) Recording the answers
      iii) Providing answers to questions regarding examinations
2) The doctor will work from *differential diagnosis*, and ask questions and perform examinations to rule out various options.
   a) Both the patient and the observer must be extremely careful in sticking to the case guidelines.
3) There are three sections: the **history**, the **examination**, and the **treatment**.
   a) In the history section, the patient must be careful to
      i) **not** volunteer any information, other than that specifically mentioned in the **volunteered information** section
      ii) **not** deviate from the case modules below
   b) In the examination section, the observer must
      i) provide the results from each examination that the doctor asks
      ii) ask for clarifications in case the examination is unclear
   c) The treatment section is divided into recorded answers and prompted treatment questions.
      i) The observer will ask each prompted treatment question separately to the doctor.
      ii) The observer will not record any additional questions regarding the history or the examination once the treatment section of the module is reached.

Case I

Information Volunteered: My child is 8 months old, and has been having diarrhea for the last two days.

Information to be given *only* if asked

Background : A mother comes to the doctor with a child who has a two-day history of diarrhea. The mother lives in a house with three people- her husband, and another child who is 3 years old. Her husband is a businessman who has a saree shop. Their household income is roughly Rs.10,000 to Rs.12,000 per month. She has come to this particular doctor because she is very worried about her child and has heard that this doctor's reputation is very good. In addition, no one in her family or neighborhood has diarrhea (that she knows of).

The family stays in a two room DDA flat, and they have running water that they keep covered for drinking and filter, but **do not boil**. The mother keeps the house clean and hygienic, but feels that the neighborhood is dirty because the municipal authorities do not do their job properly.

Child : Her child is normally healthy, she has never noticed any worms in the child's stool and she does not feel that the child is *normally* weak (this is because the doctor may be worried that the child suffers from a worm infestation and/or anemia, and thus may ask questions relating to these). She does not feel that child is particularly irritable or listless (his activity level is normal) in the last two days, although he is crying more than normal (if the child is mildly dehydrated, he will cry out of thirst). He also seems to be thirsty, and is drinking a lot of water. He does not seem to have any pain in the ear (the doctor may ask if the child is pulling at his ears- the answer is NO), and he has not yet started teething (these two questions may be asked if the doctor believes that the diarrhea may be a sympathetic reaction to a ear infection or teething problems).

For the last two days, the child has had a diarrhea, although he does not seem to be suffering from any pain in the stomach, and the stomach is not swollen (for a 8 month old child, one way to tell if there is pain in the stomach is to ask if the child is pulling up his knees and crying when passing stool). The diarrhea is watery, yellow, does not have mucous (*chiknahat, balgam or jhag*) or blood in it (the doctor may ask these questions to rule out dysentery from viral diarrhea). In addition it is not particularly foul smelling and is not, what is called `explosive diarrhea' (the doctor may ask this to rule out giardia or other infestations). The mother does not think that the child has any fever; she has not given any medicines to the child; she has given the child water to drink, but **not** with any salt or sugar in it.

Feeding Habits : The child is currently being breastfed. In addition, the child is also given normal food consisting of *khichdi* and lactogen two times a day. The bottle in which the child is fed is washed after each feeding in boiling water (careful cleaning of the bottle makes it less likely that this is an infection). There has been no recent change in the baby's diet.

The mother's normal diet consists of Rice, Roti, Vegetables, and dal. Yesterday she had dal and roti for dinner, and rice and dal with some vegetables for lunch.

Medical Knowledge

The doctor is trying to do three things

1. Figure out whether the diarrhea is a viral infection or a bacterial infection. Antibiotics and anti-diarrheals *have no effect* on viral infections, but are necessary for bacterial infections. Questions that point towards a *bacterial infection* are those relating to a fever, vomiting and blood or mucous in the stool.
2. Figure out whether the diarrhea could be a sympathetic reaction to an ear infection or teething problems. This is guaged by direct questions regarding the ear and teething.
3. Finally, the doctor is trying to assess the degree of dehydration of the child. If the child is severely dehydrated, and thus in danger of losing his life, it may be necessary to hospitalize the child, or at least to put the child on an IV drip. Questions that the doctor may use to get at the level of dehydration may include those related to urination, tears, depression of the skull fontainaile, skin color and turgor (doctor says "I will pinch the skin"), mucous membranes for moistness (doctor checks the eyes and/or inside of the mouth), pulse rate, and may order blood tests under certain conditions. The team should make sure that *no signs* are given that the child is severely dehydrated (see the vignettes module).

Case II

Information Volunteered : A 45 year old man comes to the doctor complaining of runny nose, a cold, cough and malaise. He has been suffering from these comlaints for one day.

Information to be given *only* if asked

Background: The man is the owner of a small general store, where he sells packaged goods- he does not sell loose flour (the doctor may suspect that the man is suffering from an allergy). The man is in the shop from 9 every morning till 7 in the evening. He leaves home at 8:30 to get to the shop, and dresses warmly when he leaves.

The man does not smoke, and drinks occasionally. He has 5 members in his family- his wife, and three sons aged 20, 18 and 16. Nobody (that he knows of) has had any of these symptoms in the past week, either in his family or in his neighborhood. Finally, the family lives in a two roomed house (including the kitchen), and an attached bathroom. His relationship with his wife is fine.

Diet: The man normally eats Roti, rice and vegetables, with dal sometimes. He has not eaten any *thanda* food in the last two or three days. His water intake is normal, and comes from the municipal supply. The family does not boil the water, but does filter it using a conventional filter.

Illness: For the last day, the man complains of a *watery, thin nasal discharge*, malaise, and a cough. He does not think he has a fever, although he has not checked with a thermometer, and does not have a headache, chest pain or body ache along with the other symptoms. The color of the expectorant as well as nasal discharge is clear, with no signs of blood in it. He does not have any shortness of breath or wheezing, and does not have any difficulty in swallowing or eating his food. Finally, he does not have any pain in the ear, and his appetite is normal.

Medical Knowledge:

The main differential diagnosis in this case are *viral pharyngitis* and *strep throat*. The latter is a bacterial infection that may require antibiotics for a cure. The doctor tries to rule out the *strep throat* by asking questions relating to an infection. These might include for instance, questions related to the presence of a fever and body ache, expectorant in the cough, pain in the chest, night sweats or chills. In addition, the doctor may check the lymph nodes for swelling (not present), or may check the throat for exudates (sores- not present). In some cases, the doctor may also try to

rule out a seasonal allergy by asking whether the person often gets this kind of cough (**no**) and questions regarding the kind of work that the person does.

In case the doctor suspects a *strep throat*, she may ask for a couple of tests- the strep screen and/or, a throat swab- these tests are normally not done in India, and are included in the vignettes module in case these examinations are recommended.

Case III

Information Volunteered: A 40 year old man goes to the doctor complaining of fever, weight loss, cough and general malaise for the last month.

Information to be given *only* if asked

Background: The man is from a low income family, that lives in a slum with two rooms, including the kitchen and an attached bathroom. There is no proper ventilation in the house. There are six member is the family- his 60 year old mother, his wife, and three children aged 12 (male), 10 (female) and 9 (male). The man is a manual laborer, and works in an export garment factory with 10-15 co-workers. His relationship with his wife is satisfactory, and he does not visit sex-workers.

Illness: The man has been suffering from low grade fever, weight loss, cough and general malaise for the last month. The fever stays low during the day, and gets worse during the evening/night. He also suffers from night sweats. The cough is more or less present during the day, and although the expectoration does not have any color, he does see specks of bright red blood in it, particularly during the morning. He feels that he has lost a substantial amount of weight during the last month, since his clothes do not fit him anymore, and his wife says that his face has become sunken, although there has not been any change in his diet. He does not suffer from any associated chest or body pain. He is not particularly careful when he coughs- he throws the *balgam* outside the house, and he eats with his children, while his wife eats later.

Around 2 weeks ago, he had gone to the doctor next to the slum. The doctor gave him some medicines- he does not know the names of the medicines- and he took these for four days. He felt a bit better, but then, after a while, things went back to the way they were before.

Association: His father, who used to live in the village, passed away 6 months ago. He does not know the exact reason why his father died, although when he went to the village for the funeral, his neighbors told him that his father had a cough and an ongoing fever for a long time. He has heard of tuberculosis, but is not sure whether his father suffered from it. Among his co-workers, he has not heard of anyone suffering from TB or a cough and fever. Finally, among his neighbors, there is one family where the members suffer from a cough, but they live three houses away, and he does not have anything to do with them.

Diet: His normal diet consists of roti, vegetables, dal and rice (during the day). He smokes one packet of *bidis* during the day, and he used to drink alchol, but not after his father died. There has been no change in his diet during the last month.

Medical Knowledge:

From the initial presentation of the case (cough, low grade fever and weight loss), TB is an obvious option for the doctor. However, the doctor also needs to rule out other illnesses that these symptoms may be associated with. Three things that may be used by the doctor are the nature of the cough, the nature of the fever, and pain in the chest.

Nature of Cough: It is important that the patient clearly mention that the expectoration is *clear*, but that there are *bright red specks of blood* in it. The color of the expectorant helps distinguish TB from pneumonia (where the expectoration is greenish in color), while the color of the blood (bright red) makes clear that the blood is from the lungs, and not from the stomach (in which case it would be coffee colored). The cough is not continuous, but is frequent. In some rare cases, the doctor may also suspect a case of *cardiac asthma* (although this is very rare among people who are not old)- in this case, the blood in the expectorant is *frothy and pink*- thus, clearly establishing that the blood is bright red rules out this option as well.

Nature of Fever: It is important to mention that the fever is a *low grade fever* (*halki bukhar*), and gets worse during the night. This is the typical fever associated with TB as opposed to, for instance, pneumonia (where the termperature may be very high).

Pain in Chest: To keep this as an uncomplicated case of TB, the patient should mention that there is *no* pain in the chest. This will make it clear that there are no bronchial complications associated with the TB.

After the diagnosis, the doctor may ask for a number of tests, the most common of which are the sputum test for AFB, and a chest X-ray. The results of these and a number of other tests (PPD and fasting ESR) are in the vignettes module (note that in some cases the doctor may ask for an Elisa test in TB- this is normally done in animals as opposed to humans- you may say that TB antibodies are present in the Elisa test).

Association and History: The doctor may also try to determine in some detail the history of the illness, and the kind of neighborhood/work environment that the person is currently in. There are

two reasons for this: first, the doctor needs to rule out other possible chronic lung ailments arising from the occupation, such as sillicosis as well as check for the possibility of HIV, if the person is associated with a high risk industry. Second, since the person is in an infective stage (the sputum test is positive), the doctor may want to give advise regarding containment (how **not** to spread the disease) and gather information on the extent of TB prevalence among others in the patient's neighborhood.

Case IV

Information Volunteered: An unmarried 17 year old girl is brought in by her mother. Her mother tells the doctor that the girl often starts crying. The girl then tells the doctor that she suffers from weakness (*kamzori*), lethargy (*kaam karne ko ji nahi karta*), and low blood pressure. In this case, the observer must inform the doctor that the patient is going to act *both* as the mother and the daughter, and questions that the doctor would ask to either should be addressed to the patient.

Information to be given *only* if asked

Background: The girs lives in a family with six members: her mother, father, two younger sisters (aged 15 and 13) and one younger brother (aged 11). The father had migrated to Delhi three years ago, and then the entire family moved to Delhi six months earlier, from a village in Haryana called "Dhauj". They live in a two roomed house in a congested and dense locality and the girl does not go to school or work. The girl studied till Grade V in the primary school in her village and then dropped out. Her father drinks occasionally and the relationship between her mother and father is described as OK (*sabkuch theek hai*). If questions about marriage are asked, her mother answers that they have not started looking for anyone yet, but plan to do so within the next year or so (first, they need to save money for the wedding).

Illness: For the last two or three months, she has been feeling sad, and starts crying for no reason at all. She also finds it hard to work and complete her daily chores, although her mother does not give her too much work to do. She does not have any specific fears, but she feels anxious sometimes, like something bad may happen to her. She does not feel particularly angry, although sometimes she is irritable (*chirchirapan*).

She has not had a sexual relationship with anybody, and has therefore never been pregnant or had an abortion. Her menstrual cycles are normal and she has not noticed any abnormal discharge (*safed pani*). All her other bodily systems are functioning normally (no stomach pain, no worms in the stool, no headache, no gas, no ear pain etc.). She is currently not on any drugs or medication (including vitamin supplements).

Diet: She eats roti and vegetables, although a lot of the times, she does not feel like eatimg much. There has not been any major change in her diet in recent times.

Social Life: She does not have much of a social life in Delhi- she had a lot of friends in the village (*saheliyan*), but in Delhi she does not have a circle of friends. She goes to the shops in her neighborhood alone sometimes, but does not associate much with the other people in her neighborhood. When asked about her asocial behavior she replies "*yahaan mera dil nahin lagta*".

Medical Knowledge

The doctor may suspect that this is a case of depression, but may ask a number of questions to rule out physiological causes of her illness. In this case, there are a large number of options that the doctor may want to rule out (including anemia, worms etc.)- the observer must reply to any question regarding examinations that everything is `normal' (for examination questions that are not detailed in the vignettes module).

In the treatment module, there is a prompted treatment question regarding the doctor's preferred treatment in case the patient has suicidal tendencies. This question should be carefully worded as follows: "Dr., if the patient also tells you that sometimes she does not feel like living anymore, that she feels like finishing everything, what would you recommend (Dr., *agar patient aap ko yeh bhi kahe ki kabhi kabhi inko aisa lagta hai ki sabkuch khatam kar de, ki khudkhushi kar le, to is case mein aap kya karege*?). The reason for this is that anti-depressants (which the doctor may prescribe) require at least a two week time period to work- in case the patient has suicidal tendencies she should immediately be referred to a hospital where she is put on a `suicide-watch'.

Case V

Information Volunteered: A woman comes to you complaining of a severe headache (*sar phate ja raha hai*). You also notice that her pregnancy is fairly advanced. In this case there has to be careful coordination between the observer and the patient, since we do not want to present this as a `pregnancy' case, but as a case of severe headache in a patient who also *happens* to be pregnant. A suggested conversation is as follows:

Observer: A 25 year old woman comes to you. She will follow all your instructions regarding medications and tests, and will return to you if you ask her to.

Patient: Doctor, I have a splitting headache.

Observer: As she walks in, you also notice that she is in an advanced stage of pregnancy.

Information to be given *only* if asked

Background: The woman lives with her husband and a 3 year old female child in a one room flat in the low income housing close to the doctors clinic. Her husband works as a Class IV employee (*peon*) in a government office, and earns Rs.6,000 per month. She has been married for 5 years now, and her relationship with her husband is good.

Illnesss: For the last three months (*do-teen mahine*) she has been having headaches, as well as nausea and vomiting. This started in the first trimester of her pregnancy, but it was not very bad, and she thought that it was part of the normal problems associated with her pregnancy. Lately, it has become much worse, and she has splitting headaches, and very bad nausea- she also vomits at least once a day. Along with the headaches, nausea and vomiting, she also has swelling in her ankles, and if measured her weight now is 68 Kilograms, compared to her pre-pregnancy weight of 55 Kilograms, showing an abnormal weight gain of more than 25%.

She had gone to a nearby doctor for her headache 20 days ago. The doctor gave her some medicines, whose names she does not know. She took the medicines for two days, and her headache improved a little, but now it is even worse than before. As a result, she has now come to the current doctor. However, she has **not** had an ante-natal check up done for the current pregnancy (she has not had any ultrasound done either), and has not received any immunizations, either for this or the previous pregnancy.

Pregnancy History: If asked about children, she replies that she has one child who was born in a nursing home with no complications. When probed further about *other* pregnancies, she also tells the doctor that she had a second pregnancy which resulted in a still-birth in the 8th month (*baccha kharab ho gaya*). In the case of the still birth, she was coming out of the bathroom, when she felt a pain in the abdomen. The *dai* was called, and the dai told her to go immediately to the nursing home, as the case had become complicated (case *bigar gaya hai*). When she was taken to the nursing home, her waters broke and the placenta came out. When she asked the doctor what had happened, the doctor told her that the child died because of her high blood pressure. In the hospital, they had also done some other check ups, and the doctor told her that she did not have either diabetes (*sugar ki bimari*) or anemia (*khoon ki kami*). As far as she is aware, she does not have any other long-term disorders, including inherited diseases.

Diet: She has been having a normal diet of rice, dal and vegetables, although she has been told not to eat too much `hot' (*garam*) food, and take less salt. She is following both of these instructions.

Medical Knowledge

The diagnosis hat we are aiming for in this case is pre-eclampsia, a dangerous condition in the final stages of a pregnancy. There is attached documentation on pre-eclampsia and the interviewers should read this carefully. Note in particular, that high blood pressure in itself need not result in a diagnosis of pre-eclampsia- this must be combined with either protein in the urine (proteinurea) and/or swelling in the ankles and feet.

The doctor should connect the headache and the pregnancy and ask questions relating to the pregnancy, to try and determine whether the case is indeed pre-eclampsia. In this particular case, most of the questions that the doctor can ask are tackled in the vignette module and the attached documentation on pre-eclampsia.

In the next four pages, you will find more detailed comments on the important history and examination questions in the first four cases as well as a detailed medical write up of TB. Best of Luck!

Case I

Type of Questions	Explanation
History Questions	
Is there a fever	Fever may point toward an infection To mark this question as yes, the doctor must ask the mother if the child has a fever (*bukhar*).
When did the child last pee	This is a method of judging the degree of dehydration and / or severity of the fluid loss due to diarrhea. Hindi *"Bacche ne peshaab kab ki thi?"*
Is there vomiting	Helps differentiate simple diarrhea from gastroenteritis and also may be of secondary use to judge the degree of dehydration, specially if the person is not able to keep fluids down. Hindi: Any question related to *ulti*.
How frequent are the stools	This is a method of judging the severity of diarrhea.
Is there blood and mucus in the stools	Blood and mucus will point towards the type of diarrhea, possibly an infection, and possibly the need for antibiotics. Note that in Hindi, mucous may asked in several ways. Some of the more common phrases are: *chiknahat, balgam, and jhaag*.
Relevant Examinations	
Respiration Rate	Abnormal RR will point toward increased severity. To record this as a yes, either the doctor should say "I will check the respiration rate of the patient', or he should say `I will then visually examine the chest' or, `I will ask the patient to remove his clothes, and then look at the patient's breathing'. Hindi: Respiration is *saans.*
Pulse Rate	Abnormal PR will point toward increased severity; This is specially important to ask in children since in severe dehydration the blood pressure and tissue perfusion is usually compensated by an increase of pulse rate. Increased pulse rate can indicates severe diarrhea and possibly the need for aggressive fluid replacement. To record this as a yes, either the doctor should say "I will check the pulse rate of the child', or he should say `I will check the vital signs' or he should say `I will then put my hand on the child's wrist/neck to check the pulse rate. Hindi: Anything to do with *nus.*
Temperature	Abnormal Temperature may point toward infection. To record this as a yes, either the doctor should say `I will check the child's temperature or he should say `I will check the vital signs' or he should say `I will then put a thermometer'. Hindi: *Bukhar*.
Mucous membranes for moistness	Dry membranes will point toward increased dehydration. To record this as yes, the doctor say `I will check the inside of the cheek for moistness' or she should say `I will check the mucous membranes for moistness' or `I will check the mucousa'.
Are there any tears	Absence of tears will point toward increased dehydration. This should be recorded as a yes if the doctor says `I will check when the child last cried (*aanso kab aaye they*), or, `I will check if the child has tears'.
Skin color and turgor	These are indicators of severe dehydration; turgor can be estimated by pinching up a skin fold, so this should be recorded as a yes if the doctor says `I will visually examine the skin' or `I will pinch the skin' or `I will check skin turgor and/or color'. .
Palpation of the Abdomen	Indicators of localized pathology- the doctor may say "I will feel the child's stomach" or, `I will press the child's stomach' or, `I will check the child's stomach for pain'.
Depression of the skull fontainale	Sunken fontainale are indicators of severe dehydration before they fuse- to record this as a yes, the doctor should either say `I will check the skull fontainale' or, `I will check the child's head'.
Blood for serum electrolytes	Abnormal electrolytes are indicators of severe dehydration. This should be recorded as a yes if the doctor specifically asks for a blood test for serum electrolytes.
Blood for TLC/DLC	Abnormal TLC/DLC may point toward infection: This should be recorded as yes if the doctor specifically asks for a blood test for TLC/DLC, or asks for a the results of a blood count.

Remember: If the doctor checks for vital signs, this means that the doctor has checked the height, weight, temperature, blood pressure and pulse rate of the patient.

Case II

Type of Question	Explanation
History	
How long has the illness been present	This is a method of judging if the condition is acute or chronic. A viral infection of the upper airway would be of short onset, i.e not something that has been going on for a long time.
Is there a fever	High fever is not typically associated with a viral infection. For recording comments see Case I.
Were there any chills associated with fever	Mild chills can be associated with a cold & cough. In Hindi, this may be asked either as *thand lagna* or as *kampna*.
Was there any sweating associated with the fever	Sweating with fever and chills usually would point to a more severe illness, not a cold & cough. In Hindi, this would be a question to do with *paseena aana*.
Is there a cough	Mild cough due to irritation can be associated with a cold & cough.
Is there any pain in the chest	Pain in the chest would point to a more severe illness, not a cold & cough.
Is there any shortness of breath	Difficulty in breathing or shallow breaths can be associated with a more severe condition. In Hindi, this would be asked as *saans leyne me dikkat*.
What is the color of the expectorant and nasal discharge	This question helps to differentiate cold & cough from more severe conditions: from the training manual, you know that expectorant (*balgam*) that is green points towards pneumonia, and expectorant with blood in it may point towards TB.
Was there any blood in the nasal discharge or expectoration	Some blood tinging can be seen in nasal discharge in a cold. As you are aware, blood should not be present in expectorant. In Hindi, this question may be asked as *naak ke pani ya balgam mein khoon*.
Was there any wheezing	Often, wheezing is often associated with asthma, thus pointing towards a more chronic condition. This question is not easy to ask in Hindi, and is normally asked with an example of wheezing by the doctor. One question may be *saans leyte wakt agar awaaz aati hain*.
Do you have a headache?	Headache can be associated with a cold & cough. This translates as *sar mein dard.*
Relevant Examination	
Pulse Rate	The vital signs and the respiration rate give some idea of the severity of the illness. For recording details, see Case I.
Respiratory Rate	See Case I for recording details.
Blood Pressure	The Blood Pressure may be examined either as part of the vital signs, or on it's own: I will check the BP. Note that BP is used both in Hindi and English.
Fever	High Fever is typically associated with pneumonia and not a cold. For recording details, see Case I.
Nose and Nasal Passages	Some redness, bruising or bleeding around nostrils can be seen due to wiping. To record a yes in this column, the doctor may say "I will check the nose &/or nasal passages".
Throat Inspection	This may show some evidence of inflammation in viral infections. As explained in the module, the doctor will find mild inflammation. To record this as a yes, the doctor may say "I will check the throat" or "I will ask the patient to open his mouth, and check with a torch".

Case III

Type of Question	Explanation
History	
Are there any night sweats present?	The first five questions are to gauge the possibility that the patient is suffering from TB, since all these are fairly commonly observed in TB cases. Night sweat translate into Hindi as `*Raat ko paseena aana*"
Is there any pain in the chest	See Case II for details.
Is there any blood in the sputum	There has been some confusion over the words expectorant (*balgam*) and sputum (literally translated as *thook*). Note that blood in the sputum is actually blood in the expectorant- so the patient has blood in the *balgam*, but **not** in the *thook*.
Has this happened before	Self Explanatory.
Has this type of cough happened to any others in your family/dwelling	It is important to ask the current status of other family member and people in the neighborhood in TB cases.
What is your profession	The occupation is important for considering other chronic lung ailments such as sillicosis. Further, the occupation must also be checked for any risk groups such as sex workers/ prostitutes where it may also be associated with AIDS. The recording is self explanatory.
Have you indulged in any high risk sexual behavior?	This is to be aware of association with AIDS. However, this question does not normally get asked, and may be pointed towards in Hindi as relationships with the wife. However, this question should **not** be recorded as asked, unless the doctor asks a question pointing towards the patient's sexual behavior (possibly *aaisa waisa kaam to nahi karte?*)
Relevant Examination	
Pulse Rate	See Case I for details.
Respiratory Rate	See Case I for details.
Blood Pressure	See Case II for details.
Fever	See Case I for details.
Chest Inspection for Retraction or decreased movement	Retraction or decreased movement may be associated with advanced lung pathology. You should mark this as examined if the doctor says that he will visually examine the Chest.
Chest Percussion	Abnormal sounds may be associated with advanced lung pathology. In Hindi, this transalates as *chaati thokna*, and the doctor has to use the specific words `Chest Percussion' or it's translation for this to be marked as yes.
Auscultation for breath sounds	Abnormal sounds can be associated with advanced lung pathology. Auscultation is performed with a stethoscope, so if the doctor says that he will check the patient's chest with his stethoscope, you should mark this question as yes. If the doctor just says that he will use his stethoscope, you should ask the doctor where he would use it.
Blood for TLC/DLC	See Case I for details.
Sputum for AFB	According to Government of India TB guidelines, a positive sputum test is the deciding factor for TB treatment. Thus, this test is very important for making a diagnosis and follow up. The test may be requested either in English, or in Hindi as *thook ki jaanch*.
Chest X-Ray	Abnormal X Ray results can occur even with minimal lung pathology and are usually requested when the doctor suspects a TB case. This will be asked both in Hindi and in English as a Chest X-ray.
Blood for HIV test	AIDS may be associated with TB, and the doctor may request an *ELISA test*. Note however, that there is also an ELISA test for TB, so unless the doctor specifically says that she would request an ELISA test for TB, this should be marked as performed.

Case IV

Type of Question	Explanation
History Questions	
How is your mood	To judge if she is clinically depressed. In Hindi, this may be asked as *mejaz*.
Do you feel depressed	To judge if she is clinically depressed; Patients often will not be forthcoming about being depressed, so the doctor may ask this in several ways, including using the words *dukhi or udaas*.
Do you ever feel like crying	To judge if she is clinically depressed. Self Explanatory.
Why do you feel this way or cry	To judge if its secondary to some organic cause (abuse, incest etc.). Self Explanatory.
What time do you fall asleep at night	To judge if she is clinically depressed. Self Explanatory.
What time do you wake up in the morning	To judge if she is clinically depressed. Self Explanatory.
Do you have trouble sleeping	To judge if she is clinically depressed. Self Explanatory.
Do you have any fears; if so what?	To judge her depression. Self Explanatory.
How much of your daily work do you actually manage to do?	To judge degree of depression. Self Explanatory.
Do you ever have thoughts of suicide	To judge degree of depression and type and course of treatment. In Hindi this may translate either as *khudkhoosi, or kabhi aisa lagta hain ki sab kuch khatam kar dein?*
Have you ever been pregnant of had an abortion	To judge her depression. Self Explanatory.
Have you had any death in the family or change in life circumstance	To judge degree of depression. Self Explanatory
Do you take drugs/alcohol or any medication	To judge degree of depression. Self Explanatory
Relevant Examination	
Pulse Rate	See Case I for details.
Respiratory Rate	See Case I for details.
Blood Pressure	See Case II for details.
Menstrual History	The menstrual history may be asked in Hindi in a number of ways, normally using the word `month' in them.
Thyroid Examination	To judge her general condition and exclude organic causes. To mark this as examined, the doctor should mention the word `Thyroid' or `thyroid glands' for examination.

Tuberculosis

What Is Tuberculosis?

Tuberculosis (TB) is a chronic bacterial infection that attacks the lungs and causes them to deteriorate. Although TB commonly affects the lungs, it can also affect many other parts of the body — central nervous system, musculoskeletal system, lymphatic system and urinary tract. If left untreated, TB can be fatal.

Worldwide, tuberculosis is the leading cause of death among adults due to a single infectious agent, according to the World Health Organization (WHO). New worldwide TB cases exceed 8 million annually, and WHO estimates the number to exceed 10 million by 2005.

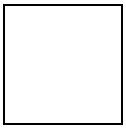
TB had declined in the United States until the mid-1980s, in part due to effective use of drugs in treating the disease and to an overall decline in poverty. The number of cases began to increase as TB affected homeless people and people infected with the AIDS virus, and as strains of TB emerged that were resistant to several medications. Since 1992, the number of cases in the United States has declined. Each year, the disease now infects about 17,000 people in the United States.

Signs and Symptoms

Signs and symptoms of the active disease may include:

- Minor cough or cough that produces discolored or bloody sputum
- Slight fever
- Fatigue
- Loss of appetite and weight
- Night sweats
- Pain with breathing (pleurisy) or coughing, and pain in the spine or large joints

Your immune system tries to surround the TB germs with special cells in structures called granulomas. If your immune system can't control the bacteria that cause TB, the bacteria multiply and the granulomas enlarge and become tumorlike masses or nodules in your lungs. These masses or nodules have the consistency of soft cheese. As the disease progresses, more of your tissue is destroyed and the granulomas expand and may liquefy. Eventually, cavities may form in your lungs. The TB bacteria may grow in these cavities and spread to other areas of your body.



Enlarge Image

Causes

The bacterium *Mycobacterium tuberculosis* causes TB. The bacteria can attack any part of your body, but the bacteria usually attack your lungs. If a person with active TB coughs or sneezes near you, there's a slight chance you may inhale microscopic TB bacteria.
Tuberculosis is not easily spread. Infection usually requires repeated exposure to TB bacteria. TB spreads more readily in cramped, enclosed and poorly ventilated spaces where the chance of repeated exposure is greater.

If you become infected with TB, you won't necessarily develop the active disease. If your immune system is healthy, it will produce antibodies that wall off the TB bacteria. But the organism remains dormant, and if your immune system is weakened, the bacteria may overcome your body's defenses.

Another kind of tuberculosis infection that isn't contagious is caused by "sister" organisms to the infectious variety of tuberculosis (atypical mycobacteria). This type of tuberculosis isn't as serious as the infectious variety unless you have AIDS.

Risk Factors

These factors increase your risk of TB:

- **Lowered immunity.** When your immune system is healthy, a type of white blood cell called a macrophage engulfs the TB bacteria, walling it off from the rest of your body. Weakening of your immune system, due to a condition such as AIDS or corticosteroid use or undergoing chemotherapy treatment for cancer, leaves you more vulnerable to all infections, including TB. Poor antibody protection allows TB bacteria to spread to other parts of your body.

- **Poverty, homelessness and drug abuse.** People in such situations often are in poor health and so are more susceptible to TB. Living conditions that are crowded or poorly ventilated, or both, also help spread the disease. It's not uncommon for miniepidemics to occur in nursing homes.

- **Age.** Weakening of your immune system accompanies aging.

- **Malnutrition.** Poor nutritional status weakens immunity.

- **Health care work.** Regular contact with people who are ill increases your chances of exposure to TB bacteria. When health care workers or family members don't know they're being exposed to tuberculous organisms in the air, they are at the greatest risk. Simply wearing a mask — both the person with TB and the potentially exposed person — and frequent washing of hands reduces the chance of acquiring the disease to near zero.

- **International travel.** As people migrate and travel widely, they may expose others or be exposed to the TB bacteria.

Global travel: A healthy itinerary

When To Seek Medical Advice

If you're at a higher risk of tuberculosis because of a compromised immune system, drug use, international travel, living in crowded conditions or working in a health care facility where you may have been exposed to tuberculosis — and if you're feeling more tired than usual, have a fever and have a persistent cough that produces a bloody sputum — see your doctor. An examination by your doctor and diagnostic tests may reveal whether tuberculosis or some other medical condition is causing your symptoms.

Screening And Diagnosis

Tests to determine exposure to TB bacteria or active TB disease include:

- **Skin test.** In a widely used skin test called a purified protein derivative (PPD) test, a small amount of fluid (tuberculin) is injected under your skin. Your reaction after 72 hours can indicate presence of TB bacteria. A positive skin test doesn't mean you have active tuberculosis. If you've been exposed to TB bacteria and your immune system is healthy, it will produce antibodies to wall off the bacteria and the disease will remain dormant. If it's known that you once had a negative tuberculin skin test and now the test is positive (conversion), your doctor may consider treating you for a period of time.

- **Chest X-ray.** If you've had a positive skin test, your doctor may order a chest X-ray to look for possible asymptomatic infection. Imaging may reveal white spots (granulomas)

where your immune system has walled off TB bacteria. An X-ray may also reveal a nodule or cavities that may have formed in your lungs, as well as the presence of pneumonia or fluid around the lining of your lungs.

- **Culture tests.** If an X-ray reveals a nodule or abnormal tissue that might represent tuberculosis or a fungal infection that can mimic tuberculosis, you doctor may want to obtain tissue and fluid samples. Samples of sputum from your lungs, urine and stomach secretions may be taken and examined for the presence of TB bacteria. Culturing of TB organisms allows them to be tested to see if they're sensitive to the usual medications given to treat tuberculosis.

Diagnostic imaging: Getting the inside view

Treatment

Drugs offer the most effective treatment for TB. But successful drug therapy may require taking two to four drugs for 6 to 12 months to completely destroy the TB bacteria.

Treatment commonly starts with your taking four drugs — isoniazid, rifampin, ethambutol and pyrazinamide. To decide which medications to continue to use, cultures of sputum or other body secretions or tissues are evaluated in the laboratory to determine the bacteria's sensitivity or resistance to each drug.

When the results are available in 6 to 8 weeks, ineffective drugs may be replaced with other drugs. Or treatment may continue with fewer than four drugs. You'll need to wear a mask in public until you're no longer contagious.

Although TB is usually no longer contagious after a few weeks of treatment, a full course of therapy is necessary to kill all the bacteria. Failure to properly complete treatment can create drug-resistant strains of the disease that may render the treatment ineffective. This development may cause TB to progress to a potentially lethal stage and may cause spread of the disease to others. So it's important to take the drug treatment exactly as directed and not to skip doses.