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TRAINING GUIDE

FOR PHYSICIAN WORKING
IN PHCS –IRAQ ON NCD GUIDELINES

DIRECTORATE OF PUBLIC HEALTH
NON-COMMUNICABLE DISEASE SECTION

DISCLAIMER
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Acronyms Used

MOH	Ministry of Health (Public Health)
NCD	Non-Communicable Diseases (Chronic Diseases)
PHC	Primary Health Care (Center)
TOT	Training of Trainers

Training Guide for Physician Trainers
Clinical Guidelines for Selected Non-Communicable Diseases

Overview

This training guide contains the information needed to train the Trainers to use the recently developed Ministry of Health (MOH) national guidelines in three major chronic, non-communicable diseases – hypertension, diabetes and the metabolic syndrome, and asthma, and in turn to train the physicians currently working in the Primary Health and Family Health Care centers of the MOH in the application of these guidelines to their daily practice.

Training Process

The various training cycles will follow a sequential approach, and will include:

1. Training of the Trainers (TOT)
   a. Trainers will be selected from each province of Iraq, generally 2 from each province, for a total of approximately 36 TOT. These trainers will be selected by the Ministry of Health NCD section on the basis of their clinical experience and prior training experience, with preference given to practicing Family Physicians. In addition, the supervising NCD focal physician and a supervising physician from the MOH Health Promotion Division (where available) of each province will also be invited to participate in the TOT training, for a total of 4 physicians from each province.
   b. The training of the Trainers will take place in 3 separate workshops of 5 days each, with a total of about 24-25 participants in each workshop. They will be divided according to region; the TOT from 6 provinces from the South and those from the 6 provinces of the Central region will be trained in two separate workshops in a secure zone of Baghdad, while the participants of the 6 provinces of the North will be trained in Erbil. These three workshops will be conducted by 2-3 capable international and local clinical experts in the current management of these chronic diseases.
   c. The TOT will be expected to begin putting into practice the clinical guidelines in their own clinical work, and will be given specific clinical exercises to complete upon finishing the training, to provide appropriate experience in the application of these guidelines.

2. Training of Primary Health Care Center clinical staff
   a. The trained trainers will then be responsible for conducting similar training workshops of 4 days duration in their own provinces for local PHC physicians and other appropriate paramedic and nursing staff, with coordination and logistics support from the Primary Health Care project. The number of PHC clinical staff will vary depending on the training facilities available, transportation and other logistic issues, and the total number to be trained; however it is estimated that 4-6 separate sessions of no more than 20 participants each will be required in each province to cover the applicable PHC clinical staff.
   b. Each of the PHC clinical staff trained will be given a copy of the clinical guidelines, appropriate abbreviated job aids, and other learning material as appropriate.
   c. Each of the PHC clinical staff trained will be also given appropriate clinical exercises relating to the application of the guidelines, to be conducted following the training on the patients with these diseases in their own PHC center. The training group will then be reconvened for a 1 day workshop approximately 2-4 weeks after the training to review the findings of these practical exercises, and to discuss the successes and barriers encountered in the application of these clinical guidelines.

3. Evaluation of the training and the application of the guidelines
   a. Each participant's comprehension of the material presented will be informally evaluated by the Trainers during the course of the workshop through the Question and Answer and discussion sessions.
   b. Each training workshop (both of the TOT and the local training of PHC clinical staff) will be evaluated by the participants for completion of the training objectives, quality of the content presented, and effectiveness of the training style and methodologies used by the trainers.

c. The comprehension of the material presented will be evaluated in each training workshop (both TOT and local training) by means of a pre-test/post-test on the guideline material and their application.
d. The follow-up 1 day workshop with the local PHC staff after completion of their assigned clinical exercises relating to the application of the guidelines (noted in 2c above) will allow the trainers to assess the completeness of their training and the practical applicability of the guidelines in real practice.
e. The performance checklists included with each guideline will be used by PHC supervisors to assess the application of the guideline directives in a facilitative, supportive manner. This QI process can be used both as an evaluative tool and educational tool to encourage compliance with these guidelines.

Training Materials Needed for each Workshop

The materials required for each workshop will include the following:

- Conference room adequately sized for at least 25 participants
- Overhead projector and screen (or appropriate wall)
- Flip chart and markers (or white board and markers)
- Blood pressure cuffs and stethoscopes – at least 10 sets (for 1st day practicum)
- Flexible measuring tape (tailors measuring tape) of 150 cm. at least – at least 10 units (2nd day practicum)
- Glucometers and test strips, lancets, alcohol swabs – at least 10 glucometers and 30 test strips and supplies (for 3rd day practicum)
- Peak flow meters – at least 10 units with 25 disposable mouthpieces (for 4th day practicum)
- Salbutamol inhalers (or equivalent demonstration inhalers) – at least 10 units (4th day practicum)
- Workshop folder with copies of all 3 guidelines, short job aids, note pad, pen – for each participant
- Name tags and daily attendance register
- Arrangements for breaks and lunch

Training Approach and Methodology

The workshops described in this guide are based on adult learning principles, in which actual learning is expected to result in changes not only in knowledge, but also attitudes and behaviors; which in the case of this training on new clinical guidelines is expected to result in significant changes in the clinical management of these chronic diseases, and ultimately in improved morbidity and mortality across Iraq from these diseases. A variety of teaching approaches (such as lecture/discussion, small group projects, hands-on practicums, assigned presentations and projects) will be used to enhance the comprehension and practical application of the material presented. The participants will be approached as mature adults who learn best when the following are included:

- Participants are expected to be motivated to learn and are treated with respect
- They are actively involved in establishing the expectations and objectives for the training
- The learning experiences are interesting and meaningful, build on what the participants already know, and encourage problem-solving and reasoning
- The experiences are organized, logical, and practical, and include a variety of teaching methods
- New information and skills are relevant to the participant's responsibilities and are able to be immediately applied
- The training involves every participant in active practice, and they share the responsibility for learning
- Trainers are knowledgeable in the subject matter and competent in teaching skills, use a variety of teaching methodologies that take into consideration various learning preferences, pay attention to participant's concerns, and provide feedback and encouragement
- Feedback is immediate and focused on behavior that the participants can control
- Assessment of learning and skills is based on objectives that are understood by the participants

Trainer Preparation

Although each training session will require some specific preparation which will be detailed in the "Training Session Detail" guide, there are common preparations which the trainer should make or verify that they have been completed prior to each training session. These daily preparations should include the following:

- Assure that the room is properly marked or identified so that participants can find it easily. This is especially important when the training is located in a large institution such as a hospital or administration building
- Verify that the room is properly arranged. Ideally the seating should be arranged so that the participants are in a semi-circle in 1-3 rows, so that the participants can see each other as well as the trainer. A side table or separate break room for refreshments and/or lunch should also be present
- The screen should be positioned so that all can easily see it, and the data projector properly positioned and focused
- Verify that markers and flip chart or a white board are available and positioned so that all can see. If a white board is used, verify that the markers are labeled "Dry Erase" or similar; flip chart ("Permanent") markers cannot be used on a white board.
- Review steps for the practical activities used in the training session. Verify that all necessary supplies and equipment are available for the hands-on sessions
- Copy materials and verify that sufficient handouts needed for the session are available:
  - Registration and attendance list
  - Pre-test or Post-test
  - Approved guideline package
  - Accompanying job aids or Executive Summaries
  - Performance checklists
  - Evaluation sheets
- Verify that Powerpoint slides are available and functional
- Review all course materials, and review specific tasks in the session plan for the day's session

Schedule and Curriculum for Training of Trainers – NCD Clinical Guidelines

Sunday – Day 1 9:00 – 16:30	**Monday – Day 2** 9:00 – 16:30	**Tuesday – Day 3** 9:00 – 16:30	**Wednesday – Day 4** 9:00 – 16:30
Hypertension Guideline Module Introductions and Overview (30 min) Pre-test (30 min.) Significance, definition, and types of hypertension (30 min.) Practical review session – appropriate measurement of blood pressure – small groups (30 min.) Break (15 min.) Classification and evaluation of hypertension (45 min.) Risk stratification and management strategy (case studies) (30 min.)	**Diabetes/Metabolic Syndrome Guideline Module (Part 1)** Pre-test (30 min.) Overview and classification of Diabetes and Metabolic Syndrome (30 min.) Diagnosis and Evaluation of Diabetes and Metabolic Syndrome (45 min.) Diabetes Type I and hypoglycemia (30 min.) Break (15 min.) Diagnosis, overview, and goals of integrated management of Metabolic Syndrome (45 min.) Review of waist circumference measurement (small groups) (15 min.)	**Diabetes/Metabolic Syndrome Guideline Module (Part 2)** Review and discussion of Part 1 – Diabetes/Metabolic Syndrome module (30 min.) Management – pro-thrombotic state and special diabetic populations (15 min.) Follow-up of diabetes and Metabolic Syndrome (45 min.) Break (15 min.) Referral criteria (30 min.) Prevention and health education messages (60 min.)	**Asthma Guidelines Module** Pre-Test (30 min.) Overview, pathophysiology, definition, of asthma (45 min.) Diagnosis and evaluation of asthma – with differential diagnosis (45 min.) Break (15 min.) Classification of asthma severity (15 min.) Goals, overview of management, and medications available for asthma (45 min.) Review of use of peak flow meter and inhalers with spacers (small groups) (15 min.)
Lunch (12:30 – 1:30)	Lunch (12:30 – 1:30)	Lunch (12:30 – 1:30)	Lunch 12:30 – 1:30
Lifestyle modification (30 min.) Medication selection and management 60 min.) Break (15 min.) Special considerations (45 min.) Referral and Follow-up (15 min.) Prevention, Health education and counseling (30 min.)	Lifestyle changes (45 min.) Diabetes Type II management (30 min.) Hypertension management (30 min.) Break (15 min.) Dyslipidemia management (60 min.)	Management of insulin therapy with exercises (75 min.) Foot care in diabetics (30 min.) Review of use of Glucometer (small groups) (15 min.) Break (15 min.) Changing health behavior (with small group exercise (75 min.)	Management protocol (60 min.) Follow-up of asthma (15 min.) Break (15 min.) Emergency management and referral guidelines (30 min.) Health education and home care (60 min.)

Thursday – Day 5 9:00 – 14:00
Training of the Guidelines Module Overview of Training Schedule and Expectations (30 min.) Review of Training Methodologies (45 min.) Workshop – Training plan for each module (3 small groups) (60 min.) Break (15 min.) Workshop report – Training plan for each module (report from each of 3 groups) (45 min.) Post-Test and Evaluation (45 min.)
Lunch 1:00 – 2:00

Training Session Detail

1st Day (Sunday) – Hypertension

Session Objectives	At the end of the session, participants will be able to: • Describe the risks of hypertension and the value of blood pressure control • Measure blood pressure accurately and consistently • Diagnose and categorize hypertension correctly • Develop an effective plan for hypertension management according to evidence-based guidelines • Communicate to the patient and family necessary steps and messages in the understanding, prevention and control of hypertension
Time	6 hours teaching time – 3 hours in the AM and 3 hours in the PM 7.5 hours total with 1.5 hours lunch and 2 breaks
Trainer Preparation	• Review the complete guideline on "Hypertension – Prevention, Diagnosis, and Treatment" • Bring blood pressure cuffs and stethoscopes for the practicum on blood pressure measurement – ideally there should be 1 BP cuff and stethoscope for every 2 participants. Verify that all of the BP cuffs are functional • Confirm that the presentation material is available on Powerpoint slides.

Facilitation Steps	**Introductions and Overview (30 min)**
	• The trainer should introduce himself/herself, and ask all participants to introduce themselves to the group
	• Give a brief overview of the training plan, the training objectives, and expected outcomes. This should include at a minimum:
	  – A description of the three guideline modules that will be reviewed (hypertension, diabetes and metabolic syndrome, asthma)
	  – The primary objectives for the training, including:
	  o Familiarize participants with the major evidence-based guidelines for the diagnosis and management of common chronic diseases
	  o Improve the long-term management of these chronic diseases at the PHC level, with the goal of reducing morbidity and mortality from these diseases
	  o Review practical skills in the management of these diseases
	  o Review adult-learning teaching methodologies for reproducing these skills at the local PHC level
	  – The anticipated outcome of the training is that all participants are fully competent in the diagnosis and management of these chronic diseases, and able to train others in the same material with similar results
	
	Pre-test (30 min.)
	• Distribute the pre-test for completion. Advise participants that it is anticipated that they may not know all of the correct answers; these will become evident as the training proceeds
	
	Significance, definition, and types of hypertension (30 min.)
	• Review the guideline material with the participants for these sections. You may want to add further prevalence or incidence rates for Iraq or the local area, if available.
	• Discuss with the participants – "What is the significance for us as physicians if the prevalence of hypertension in Iraq is truly over 40%?"

Facilitation Steps	• Emphasize the rates of decrease in morbidity with effective treatment of hypertension. This is our opportunity to intervene very positively on behalf of the patient with hypertension.
	
	Practical review session – appropriate measurement of blood pressure – small groups (30 min.)
	• Ask participants to separate into groups of 2 or 3 (depending on how many blood pressure cuffs and stethoscopes are available). Review the elements of correct measurement of blood pressure (Annex 1), and ask the participants to practice these correct steps on each other.
	• Group discussion – Ask the participants to reflect on what differences they note between the correct techniques described in the Annex 1, and how blood pressure is measured in actual clinic practice.
	
	Break (15 min.)
	
	Classification and evaluation of hypertension (45 min.)
	• Review the classification of hypertension, and the various steps in the initial evaluation of a patient with diagnosed hypertension, focusing on:
	  – Assess lifestyle and identify other cardiovascular risk factors or concomitant disorders (table 4).
	  – Reveal identifiable causes of high BP (secondary hypertension) (see table 2).
	  – Assess the presence or absence of target organ damage (TOD) and CVD (table 5).
	• Discuss with participants - "What elements of the recommended targeted history and physical examination should help identify the critical issues to be evaluated (CV risk factors, secondary hypertension, and target organ damage)?"
	• Discuss with participants the possibilities and barriers of performing all of the recommended elements of the history and physical exam at the PHC level. Is this feasible? What more is needed for the PHC physicians to perform such an evaluation?
	• Discuss the recommended initial laboratory evaluation. Is this feasible? How might these be completed within the current system?
	
	Risk stratification and Management strategy (case studies) (30 min.)
	• Review the risk stratification section, showing how for a given patient, the 10 year risk of a major cardiovascular event can be predicted. Explain the difference between the two charts (one where the total cholesterol level is known, the other without cholesterol level)
	• Ask the group to give the 10 year risk prediction for the following cases:
	  – Ahmad – a 42 year old male with a long history of smoking, with a normal fasting blood glucose, a total cholesterol level of 7.2 mmol/L, and a blood pressure of 144/94
	  – Fatima – a 64 year old female who does not smoke, with Type II diabetes, and a blood pressure of 168/102
	  – Yassar – a 56 year old male who smokes regularly, without diabetes, a total cholesterol level of 6.8 mmol/L, and a blood pressure of 138/92.
	• Review the overall management strategy for hypertension with participants, making sure that there is good understanding of each component part (which will be reviewed in detail in the afternoon session)
	
	Lunch (12:30 – 1:30)
	
	Lifestyle modification (30 min.)
	• Review the recommended elements of lifestyle modification with the participants (Annex 3). Discuss the following questions with them:
	  – Which of these elements are quite possible to convince someone to implement?

Facilitation Steps	Which are likely to be very difficult to implement? – What approaches to the patient might they use to convince a patient to implement these life-style changes? – What additional information or material might be useful to you (the doctor) to assist you in counseling patients regarding these life-style changes? **Medication selection and management (60 min.)** • Review Tables 8, 9, 10, 11, and Annex 2 (treatment algorithm) regarding the use of medications to treat hypertension. • Divide the participants into 5 small groups, and give each group one of the following cases to discuss. Ask them to develop a treatment plan for the next 4 months for their assigned case, which will be one of the following: 1. Ahmad – a 42 year old male with a long history of smoking, with a normal fasting blood glucose, a total cholesterol level of 7.2 mmol/L, and a blood pressure of 144/94 2. Fatima – a 64 year old female who does not smoke, with Type II diabetes, and a blood pressure of 168/102 3. Yassar – a 56 year old male who smokes regularly, without diabetes, a total cholesterol level of 6.8 mmol/L, and a blood pressure of 138/92. 4. Mohammad – a 48 year old male who does not smoke, with a fasting blood glucose of 102 mg/dl. (5.6 mmol/L), a total cholesterol level of 5.5 mmol/L., and a blood pressure of 152/96. 5. Muna – a 72 year old female who does not smoke, with a fasting blood glucose of 148 mg/dl. (7.9 mmol/L), a total cholesterol of 4.8 mmol/L, and a blood pressure of 180/88. She has been suffering from chronic heart failure for years, has evidence of an enlarged heart, and has a serum creatinine level of 2.5 mg/dl. • Reconvene the participants and ask one of each group to explain their management plan for their patient, and their rationale for doing so. Discuss their choices briefly among the participants, and correct and explain misconceptions. **Break (15 min.)** **Special considerations (45 min.)** • Review the list of special considerations in the management of hypertension. Discuss among the group: – Which of the special populations are they most likely to encounter in the PHC? – Which of the causes of "resistant hypertension" are they most likely to encounter in the PHC? – Are there any barriers to the implementation of the guidelines presented for these special situations? **Referral and Follow-up (15 min.)** • Review the referral and the follow- guidelines with the participants. Discuss the following: – Are there any additional referral guidelines that the participants would recommend? – Is the follow-up protocol feasible? What steps would need to be taken to implement the follow-up protocol in the PHC of the participants? – Are there any follow-up elements that the participants consider to be difficult to implement? **Prevention, Health education and counseling (30 min.)** • Review with the participants the prevention and health education recommendations. Discuss with them: – How might they counsel their regular patients on the prevention of hypertension? – Which of the suggested health education topics do the participants consider to be the

Facilitation Steps	most important to communicate? – In what ways could they communicate these messages to their patients and community? **Closing** • Summarize any important points that you feel need further emphasis • Thank the participants for their participation and collaboration. • Remind them of the beginning time and topic for the next day of training (Diabetes and the Metabolic Syndrome)
Evaluation/ Assessment	• Pre-test • Participation in discussion issues
Handouts	• Pre-test • MOH Guideline – "Hypertension – Prevention, Diagnosis, and Treatment" • Executive Summary of Hypertension guideline

Day 2 (Monday) Diabetes and Metabolic Syndrome Management (Part 1)

Session Objectives	At the end of the session, participants will be able to: • Implement the appropriate screening and correct diagnosis of diabetes and the metabolic syndrome • Describe the cardiovascular complications of diabetes with the metabolic syndrome • Understand the inter-relationships between the multiple factors involved in diabetes and the metabolic syndrome • Apply an evidence-based management strategy to the management of diabetes and the metabolic syndrome
Time	6 hours teaching time – 3 hours in the AM and 3 hours in the PM 7.5 hours total with 1.5 hours lunch and 2 breaks
Trainer Preparation	• Review the complete guideline on "Diabetes and Metabolic Syndrome Management" • Bring flexible measuring tapes for the practicum on measuring waist circumference – ideally there should be 1 measuring tape for every 2 participants. • Confirm that the presentation material is available on PowerPoint slides.
Facilitation Steps	**Pre-test (30 min.)** • Distribute the pre-test for completion. Advise participants that it is anticipated that they may not know all of the correct answers; these will become evident as the training proceeds **Overview and classification of Diabetes and Metabolic Syndrome (30 min.)** • Review the general description and definition of diabetes, and the data presented on the progression of diabetes. • Ask participants to reflect on their own practice – How many of their patients with diabetes do they estimate also have hypertension or lipid problems? Are they managing both at the same time?

Facilitation Steps	• Review the classification of diabetes. Again, ask participants to reflect on their own experience – What percentage of the diabetics that they manage have type 1, and what estimated percentage have type 2 diabetes? **Diagnosis and Evaluation of Diabetes and Metabolic Syndrome (45 min.)** • Review the major elements of diagnosis, targeted history and physical examination, and laboratory evaluation. • Ask participants – "Which of the possible diagnostic tests for diabetes is most likely to be used in your PHC center?" • Discuss with participants - "What elements of the recommended targeted history and physical examination should help identify the critical issues to be evaluated (CV risk factors, microvascular complications, and existing organ damage)?" • Discuss with participants the possibilities and barriers of performing all of the recommended elements of the history and physical exam at the PHC level. Is this feasible? What more is needed for the PHC physicians to perform such an evaluation? • Discuss the recommended initial laboratory evaluation. Is this feasible? How might these be completed within the current system? **Diabetes Type I and hypoglycemia (30 min.)** • Present the elements commonly seen in the presentation of children with type 1 diabetes, and the diagnostic difficulties that can be encountered. • Ask 2-3 participants to give a short case presentation of their initial encounter with a child presenting with the first signs of type 1 diabetes – what were the initial symptoms and history, the initial physical exam findings, and how was the child managed? • Present the section on recognition and management of hypoglycemia. Also ask 2-3 participants to recount a short case history of their encounter with a patient with hypoglycemia. How was it managed? How might it have been managed better in view of the guidelines presented? **Break (15 min.)** **Diagnosis, overview, and goals of integrated management of Metabolic Syndrome (45 min.)** • Present the criteria for diagnosis, the target goals, and the summary of the integrated management of the metabolic syndrome. • Considering the criteria for diagnosis, discuss with participants – "How can these patients be identified in the PHC?" • Continue discussion – "What step of management (of the 4 listed management steps) can we manage in the PHC, and when should a patient be referred to a specialist?" • Continue discussion – "Is this level of care feasible? How can we make this level available to the patients?" **Review of waist circumference measurement (small groups) (15 min.)** • Divide the participants into small groups of 3-4 each. Give each group a flexible measuring tape, and have each participant measure their waist circumference (tape parallel to the ground, at the level of the top of the iliac crest) • Take a survey of the percentage of the participant group that has a waist circumference greater than the limit (102 cm. for men, 88 cm. for women). Is this applicable to the general population? What percentage of the participant group fit the further criteria for the metabolic syndrome? **Lunch (12:30 – 1:30)**

Facilitation Steps	**Lifestyle changes (45 min.)**
	• Review with the group the recommended lifestyle changes, and Annex 3 (Diet for Diabetics and Metabolic Syndrome).
	• Suggested discussion questions:
	  – How are these recommendations different from the lifestyle changes recommended for control of hypertension? (Answer – not really different – the same measures will help to control both blood pressure and blood glucose, and lipids as well. However, the need for weight loss to reduce insulin resistance is acutely important in diabetes and the metabolic syndrome.)
	  – How can the diet recommendations be implemented in Iraq (See annex 3)?
	  – Are there other recommendations that can be given to smokers other than those presented in the guideline? What have you found to be effective in encouraging smokers to quit?
	
	Diabetes Type II management (30 min.)
	• Review the specific recommendations for the medical management of diabetes type 2
	• Ask 2-3 participants to present a short case summary of their management of an adult with diabetes. Had they followed the recommended guideline for beginning with metformin, with the addition of the sulfonylurea drug (glibenclamide or equivalent) for management?
	• What barriers have the participants found in the recommended strategy? How might these barriers be overcome to allow implementation of this strategy?
	
	Hypertension management (30 min.)
	• Review the protocol for management of hypertension in the context of diabetes and the metabolic syndrome
	• Discuss with participants "How is the management in this context different from the hypertension protocol presented yesterday?" (Answer – the target blood pressure and threshold for treatment is much lower – 130/80 instead of the standard 140/90)
	• "Why is the threshold for treatment and target blood pressure so much lower in the metabolic syndrome?" (Answer – the risk for cardiovascular complications is much higher, and can only be controlled with strict management of blood pressure. This is well shown in large population based studies)
	• "Why is an ACE inhibitor (or ARB) the preferred medication for control of blood pressure in the metabolic syndrome?" (Answer – because the ACE inhibitor appears to significantly protect the kidney from the microvascular damage of diabetes, as reflected by a much slower progression to the development of microalbuminuria and increasing creatinine. It also slows the development of cardiac and left ventricular enlargement and eventual heart failure.)
	• "Why is a thiazide diuretic a preferred second medication in management of hypertension?" (Answer – it is inexpensive, it has very few major side effects, it is very effective in decreasing blood pressure, and it potentiates the activity of second added medications.)
	
	Break (15 min.)
	
	Dyslipidemia management (60 min.)
	• Note – many physicians have had little exposure to the complex nature of dyslipidemias – it may be necessary to take some time to provide an overview of the various lipid components and their role in atherogenesis. What is presented in the guidelines has been established by large randomized studies, but there is much unknown still about the biochemistry and roles of the lipids in the human and is still under study.
	• Present the basic recommendations for lipid management, with an emphasis on the critical role of diet (low saturated fat, low cholesterol, gradual weight loss) (Annex 3)

	• Discuss with participants: "How can these recommendations best be implemented at the PHC level?" "What are the barriers that need to be overcome?" **Closing** • Summarize any important points that you feel need further emphasis • Thank the participants for their participation and collaboration. • Remind them of the beginning time and topic for the next day of training (continuing with Diabetes and the Metabolic Syndrome)
Evaluation/ Assessment	• Pre-test • Participation in discussion issues
Handouts	• Pre-test • MOH Guideline – "Diabetes and Metabolic Syndrome Management " • Executive Summary of Diabetes and Metabolic Syndrome Management guideline

Day 3 (Tuesday) Diabetes and Metabolic Syndrome Management (Part 2)

Session Objectives	At the end of the session, participants will be able to: • Indentify the critical elements of follow-up of diabetes and the metabolic syndrome • Describe the basic principles involved in management of insulin therapy in a diabetic patient • Teach patients and medical staff the correct method of obtaining a whole blood glucose level using a hand-held glucometer device • Communicate to the patient and family necessary steps and messages in the understanding, prevention and control of diabetes and the metabolic syndrome • Understand the criteria for referral of a patient to a diabetes or cardiology specialist
Time	6 hours teaching time – 3 hours in the AM and 3 hours in the PM 7.5 hours total with 1.5 hours lunch and 2 breaks
Trainer Preparation	• Review the second half of the guideline on "Diabetes and Metabolic Syndrome Management" • Review the material on "Health Behavior Change" (Annex 1), and make enough copies of the outline for distribution to each participant • Bring glucometers, lancets, and alcohol swabs for the practicum on obtaining a whole blood glucose level using a hand-held glucometer – ideally there should be 1 glucometer for every 2 participants, and sufficient supplies for all participants • Confirm that the presentation material is available on PowerPoint slides.
Facilitation Steps	**Review and discussion of Part 1 – Diabetes/Metabolic Syndrome module (30 min.)** • Briefly review the material covered on the previous day, with a focus on the key elements of diagnosis of diabetes and the metabolic syndrome, and the management of life-style changes, diabetes Type 2, hypertension, and dyslipidemia • Identify questions or areas of misunderstanding, and assist the participants in answering these issues

Facilitation Steps	**Management – pro-thrombotic state and special diabetic populations (15 min.)**
	• Review the material on management of the pro-thrombotic state and of special diabetic populations with the participants.
	• Discuss the risk/benefits of low dose aspirin therapy
	  – Increasing risk of GI bleeding or intracranial bleeding with advancing age and prolonged use VERSUS benefit of inhibiting platlet aggregation and formation of thrombi in coronary and cerebral vessels.
	  – Risks can be slightly decreased by taking enteric coated tablets, and by taking with food
	• With special diabetic populations, main task at PHC level is recognition and referral to diabetic specialist
	
	Follow-up of diabetes and Metabolic Syndrome (45 min.)
	• Review follow-up protocols and discuss how these might be implemented at PHC
	• Discuss how follow-up visits could be recorded to facilitate continuity of care at PHC. Would a separate chart or flow sheet of parameters be useful?
	• Discuss recommendation to refer patient to hospital for specialized lab tests and consultation with specialists every 6 months. Is this feasible on a regular basis?
	
	Break (15 min.)
	
	Referral criteria (30 min.)
	• Review and discuss referral criteria. Are there additional criteria that should be included? Are any of these listed for referral capable of being managed at the PHC?
	
	Prevention and health education messages (60 min.)
	• Review and discuss the prevention and health education messages
	• Ask the participants who are currently participating in chronic disease screening activities to describe their experiences with this program. How effective has the screening program been in identifying those with diabetes or possibly the metabolic syndrome? What could be added to the screening program to improve the number identified of those with the metabolic syndrome? (? Possibly adding measurement of waist circumference to the screening?)
	• Ask the participants – "How can the listed health education messages effectively be taught to the communities served by your PHC?" "Are there any additional messages that should be included in this?"
	
	Lunch (12:30 – 1:30)
	
	Management of insulin therapy with exercises (75 min.)
	• Begin by asking participants how many of them perform some adjustment of insulin doses in their chronic diabetic patients. If some are doing this, ask 2-3 of them to briefly describe the insulin regimen that they prefer, and the principles they use in adjusting the doses
	• Review the Annex 3 on insulin principles. Identify the insulin regimens commonly used by the participants, and how these might be adjusted. Emphasize need for frequent self-monitoring of blood glucose by the patient.
	• As a group, discuss the following patient scenarios (written on the flip chart or white board), and conclude on the best way of adjusting the insulin to meet the following situations:
	  – A 12 year old female (35 kg.) with Type 1 diabetes, maintained on twice daily regimen of AM – 8 U regular and 16 U NPH; in the PM 4 U regular and 8 U NPH. How should the insulin be adjusted in the following situations:
	  ○ Persistent fasting blood glucose of 220-260 in the morning (Answer - increase PM

Facilitation Steps	NPH dose by 2-3 U. – but also check blood glucose at about 2 AM to prevent nocturnal hypoglycemia) ○ Persistent blood glucose of 260-280 in the afternoon (about 3-4 PM) (Answer - increase AM NPH dose by 2-4 U., or decrease caloric intake of food at lunch) ○ Persistent hypoglycemic reactions in the late morning (Answer - decrease AM regular insulin, or encourage more carbohydrate intake with breakfast) ○ Persistent blood glucose of 250-280 throughout the day – fasting, mid-afternoon, and evening (Answer - increase both regular and NPH in the AM by about 2 U. each; consider increasing PM dose of both regular and NPH if additional increase needed) **Foot care in diabetics (30 min.)** • Review the foot care Annex 2 and discuss with participant group. • Ask 2-3 participants to share a patient experience of managing a diabetic with a foot ulcer. How was it identified? How was it managed? • Ask "How can routine foot screening of diabetics be incorporated into the regular visits of diabetic patients?" "Which diabetic patients should be screened for foot problems?" • Ask "How can diabetic patients be educated about the routine care of their feet, following the guidelines of this annex?" **Review of use of Glucometer (small groups) (15 min.)** • Demonstrate the proper use of a glucometer to measure blood glucose, emphasizing common errors in practice • Divide the group into small groups of 2-3 participants, and have each participant measure either his/her own blood glucose, or have one participant measure the glucose of another • Since this exercise will take place about 2 hours after lunch, this can be taken as a rough 2 hour post-prandial blood glucose. Are any of the participants > 200 mg/dl? **Break (15 min.)** **Changing health behavior (with small group exercise (75 min.)** • Distribute and present the supplemental "Health Behavior Change" teaching outline (Annex 1) • Discuss the principles of the behavior change model. Ask 2-3 participants to share a story of how they were able to change some area of health behavior (smoking, weight control, low fat diet, etc.) • Ask those who currently smoke to raise their hands, and then ask each one (if willing) to identify what stage they are in the health change model regarding their desire to stop smoking (Precontemplation, contemplation, etc.) • Divide the group into 4 small groups, and assign each one a group exercise included in the teaching outline. Have them discuss the issue for about 10-15 minutes, and then come together to report on their decisions. **Closing** • Summarize any important points that you feel need further emphasis • Thank the participants for their participation and collaboration. • Remind them of the beginning time and topic for the next day of training (Asthma)
Evaluation/ Assessment	• Participation in discussion issues
Handouts	• "Health Behavior Change" teaching outline (Annex 1 to this Guide)

Day 4 (Wednesday) Diagnosis and Management of Asthma

Session Objectives	At the end of the session, participants will be able to: • Diagnose and categorize correctly the degree of asthma • Describe the risks and triggering factors for asthma • Describe an effective plan for the management of chronic asthma, based on the level of severity. • Instruct patients and health staff in the correct use of inhalers and spacers • Understand the initial management and conditions in which to refer a patient for an acute attack of asthma • Communicate effectively with the patient and the family regarding long-term control of asthma.
Time	6 hours teaching time – 3 hours in the AM and 3 hours in the PM 7.5 hours total with 1.5 hours lunch and 2 breaks
Trainer Preparation	• Review the complete guideline on the "Diagnosis and Management of Asthma" • Bring demonstration inhalers or salbutamol inhalers, and if possible, some sample spacers, for the practicum on correct use of the inhaler and spacers. Also, have available some 120-160 cc. paper or Styrofoam cups and 250-500 cc water bottles for construction of home-made spacers. • Confirm that the appropriate PowerPoint materials on asthma are available electronically.
Facilitation Steps	**Pre-Test (30 min.)** • Distribute the pre-test for completion. Advise participants that it is anticipated that they may not know all of the correct answers; these will become evident as the training proceeds **Overview, pathophysiology, definition of asthma (45 min.)** • Review with the participants the overview, pathophysiology, and definition of asthma • Ask for questions, and provide clarification • Emphasize that asthma is not just a problem of bronchospasm, but a problem of inflammation (but not often infection) of the bronchi, which results in various problems in addition to bronchospasm. **Diagnosis and evaluation of asthma – with differential diagnosis (45 min.)** • Review the diagnostic criteria and appropriate history and physical exam with the participants. Emphasize that the diagnosis of asthma is primarily on the basis of history, so the history must be detailed and complete for accurate diagnosis. Both the history and physical exam can assist in excluding the various elements of the differential diagnosis • Review the spirometry findings in asthma, especially the reversibility with short-acting bronchodilator medication. This may require a review of the process of spirometry itself. Emphasize that this is not required for a diagnosis of asthma, but can help confirm the diagnosis in cases of doubt. • Review the various elements of the differential diagnosis. Ask the participants to share one or two cases from their own experience in which asthma was suspected, but the symptoms were found to be due to another cause. **Break (15 min.)**

Facilitation Steps	**Classification of asthma severity (15 min.)** • Review the classification of asthma severity, and emphasize that only one or more of the listed symptoms need be present – not all. • List several different case scenarios with symptoms of various levels of severity on the flip chart or white board, and ask participants to identify which level of asthma severity these represent **Goals, overview of management, and medications available for asthma (45 min.)** • Discuss the goals of treatment, management strategy and medications available for asthma management • Emphasize the difference between a RELIEVER medication (for short-term relief of acute symptoms) and CONTROLLER medication (primarily to suppress underlying inflammation and prevent onset of symptoms) • Ask participants "How many of your patients with asthma are currently and regularly taking a CONTROLLER medication?" Discuss the reasons why many patients may not be using CONTROLLER medications. • Review the medications listed, and discuss their availability to the PHC. Discuss what steps might be taken to increase availability of these medications. • Discuss the use of medications which have been shown in multiple studies to be ineffective in the management of asthma. Ask participants – "Why do these medications continue to be used?" **Review of use of peak flow meter and inhalers with spacers (small groups) (15 min.)** • Demonstrate the proper use of an inhaler and a spacer to the group, using Annex 1 as a guide. Then, divide the group into small groups of 2-3 participants each, and ask them to practice using the inhaler via the open mouth technique on themselves. If a salbutamol inhaler is used, recommend that no more than 2-3 puffs of medication be used for each individual. • Demonstrate the use of a plastic water bottle and a paper or Styrofoam cup as a spacer. Have participants practice converting these materials into a spacer. **Lunch 12:30 – 1:30** **Management protocol (60 min.)** • Review and discuss the asthma management protocol, and emphasize again the critical role of the CONTROLLER medications at each level of severity • Using the case scenarios previously written on the flip chart ("Classification of asthma severity" above), review each and discuss the management strategy using the protocol. Note that for both mild and moderate persistent severity, there are several options for medication control – discuss how each of these options might be developed. • Discuss the concepts of "Step-up" treatment for asthma exacerbations, and "Step-down" treatment for patients with good asthma control. **Follow-up of asthma (15 min.)** • Review and discuss the follow-up protocol for those with asthma. • Discuss how often patients should be monitored depending on their level of severity and medication doses • Review again the "Step-up" and "Step-down" management decisions to be sure that all understand the basis for this and how it is done. **Break (15 min.)**

Facilitation Steps	**Emergency management and referral guidelines (30 min.)**
	• Ask 2-3 participants to share a patient experience in which they cared for someone with an acute asthma exacerbation. What did they feel worked well, and what would they have done differently?
	• Review the emergency management and referral guidelines. Do the participants feel that these are appropriate? Could a patient with a more severe exacerbation be managed at the PHC?
	• Emphasize the need for immediate use of the corticosteroid prednisolone or prednisone, which is as effective given by mouth as by IV. Ask the participants – "What hesitation do some physicians have to the immediate use of this medication?"
	
	Health education and home care (60 min.)
	• Review and discuss the guidelines on patient education and home care. Ask the participants – "Are there any other elements that patients and their families need to understand?"
	• Discuss the home care recommendations.
	  – Are these feasible for the patients cared for by the participants?
	  – Is it possible to purchase a peak flow meter in your area, and if not, could it be requested?
	  – What are the potential advantages to educating a patient and his family about the home care? What are the barriers to the effectiveness of home care?

Evaluation/ Assessment	• Pre-test • Participation in discussion issues
Handouts	• Pre-test • MOH Guideline – "Diagnosis and Management of Asthma" • Executive Summary of Asthma Management guideline

Day 5 (Thursday) Training of the Guidelines

Session Objectives	At the end of the session, participants will be able to: • Describe the training schedule in their province, and the expectations of the MOH in training their colleagues in the management of these chronic diseases • Understand the basic principles of effective training of others, and reproduce these techniques in their own training • Develop a training plan for their own use, and apply this to their local training
Time	4 hours teaching time in the AM 5.25 hours total time with 1.25 hours for lunch and 1 break
Trainer Preparation	• Review the anticipated training schedule, and expectations of the Trainers • Review the supplemental training material "Principles of Teaching" (Annex 2), and make enough copies to distribute one to each of the participants • Make enough copies of the post-test to distribute one to each participant • Copy enough of the Participant Evaluation sheet for each participant • Make enough copies of the "Field Exercises" for each participant

	• Make at least 2 copies of each sample flow sheet for each participant, and review the parameters that are requested for monthly follow-up visits.

Facilitation Steps	**Overview of Training Schedule and Expectations (30 min.)**
	• In collaboration with a representative of the Chronic Disease division of the MOH, present and discuss the anticipated training schedule of the Trainers in their own district
	• Discuss the expectations of the MOH for the process and completion of the training in their district
	• Review the logistic help that will be available to the Trainers in the process of their training
	
	Review of Training Methodologies (45 min.)
	• Review and discuss the Annex 2 "Principles of Teaching".
	• Ask participants to reflect – "What teaching principles did you see applied in this current training that you found particularly effective for your own learning?"
	• Ask participants to reflect – "What is my own teaching style?" "How can I develop my teaching strengths to improve my teaching effectiveness?"
	
	Workshop – Training plan for each guideline module (3 small groups) (60 min.)
	• Divide the participants into 3 small groups, and assign each group one of the 3 chronic disease reviewed this week. Assign each group with the task of developing a rough training plan for the assigned disease for their own local training, with a focus on the following elements:
	  – Primary objectives of the guideline module
	  – Elements of the guideline that should be emphasized as critical to effective implementation
	  – How the module topics are to be divided through the day
	  – How each section will be taught – teaching techniques to be used for maximum effectiveness
	  – How the comprehension and implementation of the guideline will be evaluated
	
	Break (15 min.)
	
	Workshop report – Training plan for each module (report from each of 3 groups) (45 min.)
	• Reconvene the participants, and ask 1 or 2 representatives from each small group to present the training plan for their assigned guideline.
	• In the large group, discuss the merits and potential weaknesses of each training plan presented, especially in regard to the goal of implementation of these guidelines by the local physicians trained.
	
	Post-Test and Evaluation (45 min.)
	• Distribute the post-test for completion. This examination will cover the essential elements of all presentations and workshops of the week.
	• Distribute the final participant evaluation for completion. Remind the participants that this evaluation is anonymous, and will be used primarily to help improve future similar training events
	• Distribute the Field Exercises for participants to complete in the next 2-4 weeks. Remind them that the training is not enough – the guidelines must be consistently applied to their patients to be effective, and the exercises will assist them in application of these guidelines to the appropriate patients.
	• Distribute sample flow charts to each participant for their consideration of use. Demonstrate how they can be used to follow individual patients for any of these three chronic diseases, and used as a memory aid to the necessary history, exam and procedures that are recommended in the guideline for follow-up visits.

	Closing and Lunch • Thank the participants for their attention and participation. Remind them that a follow-up session will be held in approximately 2-4 weeks to review and discuss the results of their interim exercises in the application of these guidelines.
Evaluation/ Assessment	• Participation in discussion issues • Participant evaluation of the trainers and overall training • Post-test results • Completion of practical application exercises (to be reviewed in workshop 2-4 weeks later) • Auto-evaluation using Performance Checklist for each disease • Evaluation of PHC supervisor using Performance Checklist for each disease as part of QI process and facilitative supervision
Handouts	• Post-test • Supplemental module on "Principles of Teaching" (Annex 2) • "Participant Evaluation" form (Annex 3) • "Field Exercises" (hypertension, diabetes and metabolic syndrome, asthma) (Annex 4) • "Sample Flow Sheets" (Annex 5)

ANNEX 1
HEALTH BEHAVIOR CHANGE

LEARNING OBJECTIVES:
By the end of this session trainees are expected to:
- Understand the stages of health behavior change
- Understand the factors that influence health behavior change
- Describe the main approaches to health behavior change.

LEARNING POINTS:
- Knowledge and education about behavior related health problem does not necessarily mean that patient will change their behavior
- Actual change of risk behavior dependant on many factors:
  - Knowledge and education regarding risk
  - Family and cultural values
  - Peer attitudes and pressures
  - Relationship with and trust of health care providers
  - Personal self-image
  - Present versus future perspectives
  - Readiness to accept a change in health-related behavior
- Intervention – health provider can identify and help patient think through their willingness to change
- Once patient willing to accept change (Preparation and Action phase) – health provider can help patient set up a realistic, achievable program to change behavior
- Stages of behavior change and health provider strategies (see below tables)

Stages of Health Behavior Change

Stage of Change	Patient Characteristics
Precontemplation	The problem exists, but the patient minimizes or denies it
Contemplation	The patient is thinking about the problem and the advantages and disadvantages of continuing with the problem or try to change it.
Preparation	The patient commits to a time and plan for resolving the problem.
Action	The patient makes daily efforts to overcome the problem.
Maintenance	The patient has overcome the problem and continues to watch for recurrence of the problem.
Relapse	The patient has gone back to the problem behavior on a regular basis after a period of successful resolution.

Stages of Health Behavior Change, and Provider Interventions

Stage of change	Patient Characteristics	Health Provider Strategies
Precontemplation	Denies problem and its importance. Is reluctant to discuss problem. Problem is identified by others. Shows reluctance when pressured. High risk of argument.	Ask permission to discuss problem. Inquire about patient's thoughts. Gently point out discrepancies. Express concern. Ask patient to think, talk, or read about situation between visits.
Contemplation	Shows openness to talk, read, and think about problem. Weighs pros and cons. Dabbles in action. Can be obsessive about problem and can prolong stage.	Elicit patient's perspective first. Help identify pros and cons of change. Ask what would promote commitment. Suggest trials.
Preparation/ Determination	Understands that change is needed. Begins to form commitment to specific goals, methods, timetables. Can picture overcoming obstacles. May procrastinate about setting start date for change.	Summarize patient's reasons for change. Negotiate start date to begin some or all change activities. Encourage to announce publicly. Arrange a follow-up contact at or shortly after start date.
Action	Follows a plan of regular activity to change problem. Can describe plan in detail (unlike dabbling in action of contemplator). Show commitment in facing obstacles. Resists slips. Is particularly vulnerable to abandoning effort impulsively.	Show interest in specifics of plan. Discuss difference between slip (a single episode of failure) and relapse (repeated episodes of failure) Help anticipate how to handle a slip (single episode of failure) Support and re-emphasize advantages of changing. Help to modify action plan if aspects are not working well. Arrange follow up contact for support.
Maintenance	Has accomplished change or improved through focused action. Has varying levels of awareness regarding importance of long-term vigilance. May already be losing ground through slips or wavering commitment. Has feelings about how much the change has actually improved life. May be developing lifestyle that precludes relapse into former problem.	Show support and admiration. Inquire about feelings and expectations and how well they were met. Ask about slips, any signs of wavering commitment. Help create plan for intensifying activity should slips occur. Support lifestyle and personal redefinition that reduce risk of relapse. Reflect on the long term nature of this stage as opposed to the more immediate gratification of initial success.
Relapse	Consistent return to problem behavior after period of resolution. Begins as slips that are not effectively resisted. May have cycled back to precontemplation, contemplation, or determination stages. Lessening time spent in this stage is a key to making greater progress toward fully integrated, successful, long-term change.	Discuss relapse as a learning opportunity in preparation for next action stage. Ask about specifics of change and relapse. Remind patient that contemplation work is still valid (reasons for changing). Use "when," rather than "if," in describing next change attempt. Normalize relapse as the common experience on the path to successful long-term change.

1. Group Exercise
You realize that smoking causes a lot of illness in your community. As a health care provider you want to try to do something to help people stop smoking. Using the Health Behavior Change Model, discuss how you would approach this problem with your patients.

2. Group Exercise
Fatima is a 54 year old mother of 6 children. Her neighbor Alia is a 45 year old mother of 4 children. Both women live in a village provided with a primary health care center, and both are obese with hypertension and a strong family history of stroke and heart attack. Fatima has been diagnosed with the metabolic syndrome, and is currently in the process of losing weight, exercising, and taking 4 different medications to control her diabetes and hypertension and abnormal lipids. Her neighbor Alia only visits the PHC center for emergencies and her frequent headaches.
Question: Using the Health Behavior Change Model, what are the possible explanations for this discrepancy in behaviors of these mothers towards managing their high cardiovascular risk?

3. Group Exercise
Using the Health Behavior Change Model, what are the steps to be taken in helping a patient with the Metabolic Syndrome develop and continue with a weight loss program?

4. Group Exercise
Many of our young people are becoming obese, preferring to watch the television or play games than play football or other outside activities. Many have also started to smoke in their groups. You want to begin to educate them to control their weight, increase their level of physical activity, and to stop smoking. How do you use the Health Behavior Change Model to design this intervention?

ANNEX 2
PRINCIPLES OF TEACHING

LEARNING OBJECTIVES
- Understand the basic principles of effective teaching
- Develop skill in the use of different methodologies of teaching

TEACHING STRATEGIES
- Use lecture format to present the basic principles noted
- Encourage group discussion of the principles
- Use role play to demonstrate and practice the use of teaching methods

LEARNING POINTS
- Teaching is much more than giving a presentation
- Steps in teaching any subject
  - Presentation of subject material
  - Reception by learners of subject material
  - Integration of subject concepts into learner's perspective
  - Putting subject material and concepts into practice by learner
  - Learner teaches others the same material and concepts
- Presentation of material
  - Must be done in a way to maximize reception and integration by the learners
  - First step – knowledge of the material by the teacher
  - Second step – knowledge of the audience, and their most common learning styles
  - Third step – presentation of material in a way designed to be effectively received and integrated by the majority of the learners
  - Multiple techniques and skills available for effective presentation – discussed later
  - Can learn much by observing and reflecting on presentation styles that are most effective for you
- Reception by learners of material
  - Dependent on many factors of learner – some controllable and some not controllable
    - Preliminary expectations of learner
    - Felt need of learner for material
    - Perceived possibility of integrating and putting concepts into practice
    - Perception of the qualifications and capability of the teacher
    - Comfort and relaxation factors – chairs, environment, temperature, comfort with the other members of group or class
    - Personal factors – other stresses from home, family, or work
  - Duration of teaching – most effective time is first 30 - 45 minutes of concentration
  - Time of teaching – most effective is first hours of the morning (for most people)
  - Reception more effective by using at least two or more of receptor senses
    - Hearing PLUS seeing (visual aids)
    - Seeing (visual) PLUS feeling (handling of a model)
    - Seeing PLUS smelling or tasting (demonstration)
  - Reception most effective when teaching styles are varied regularly
  - Breaks should provide a transition from one subject to another, without interrupting the flow of thought or concentration
- Integration of subject concepts into learner's perspective
  - Material must not only be received, but incorporated into learner's frame of reference
  - Example – teaching someone in Sudan how to ski on snow – no real frame of reference
  - Must make constant reference to how this can be applied to daily life

- Helpful techniques for encouraging integration of material:
  - Learner can take notes, write or draw key points presented
  - Learner can restate or summarize what was just covered
  - When appropriate, learner can practice concept with a role play
  - Ask leading questions that draw on learner's existing knowledge (Socratic method)
  - Present a problem, and ask learner to propose or discover solution

- Putting subject material and concepts into practice by learner
  - Effective integration of material should lead to change in practice or attitude
  - Teaching is not truly effective until change in practice, attitude, or behavior occurs
  - Barriers to practice must be anticipated and possible solutions or alternatives discussed
  - Learner needs time to discover the implications of change in practice, and cope with this change
  - Reinforcement and encouragement of changes needed at this point
- Learner teaches others the same material and concepts
  - Final step in true integration of new material or concepts – reproducing this in others
  - Because material has passed through the filter of personal integration, must be careful to assure that distortions have not occurred.
    - Example – repetition of same message from one person to another – distortion of message
  - Distortion can be minimized by reference to a standard – protocol, written outline, etc.

DEVELOPMENT OF YOUR OWN TEACHING STYLE

- In each learning opportunity, ask yourself the following questions:
  - What factors helped or hindered my learning in this situation?
  - What did the teacher do best that helped me to learn?
  - What did the teacher do poorly that I should avoid when I am teaching?
  - How did I integrate this material into my own frame of reference?
  - How am I going to put into practice this concept or material?
  - How might I most effectively teach this to someone else?
- Identify and use your own strengths and skills
  - Example – if you remember and tell jokes well, use them to increase relaxation and illustrate your concepts
  - Don't try to copy the style of someone who has different skills from yours – develop your own style of teaching
  - Consider teaching as a team with someone who has different teaching skills than your own
- Practice using various methods of teaching
  - Large group discussion
  - Small group discussion of specific issues
  - Role play
  - Demonstration of skill
  - Drawing of concepts
  - Development of transparencies and presentation materials
- Encourage learners to integrate material that you teach
  - Take notes
  - Summarize what you have just taught
  - Practice concepts with role play or demonstration
  - Ask questions that encourage the learners to think through a problem
- Insist on putting into practice what has been learned
  - Monitor changes in behavior and attitude and practices in the learners

ANNEX 3
PARTICIPANT EVALUATION
NCD Trainer Workshop

Please place an "X" in the box that reflects your answer to the evaluation question.

	Not at All 1	2	Average 3	4	Very Good 5
The teaching objectives were achieved					
The topics covered are practical to my daily work					
What I learned in this workshop will help me solve some problems related to my work.					
The guidelines were clear and easy to use					
The handout materials will be useful to my work					
The small group activities were useful and effective					
The presentation style was interesting and effective					
The facilitators were knowledgeable about subject					
The facilitators covered material clearly					
The facilitators responded well to questions					

1. What was the best part of the workshop for you?

2. What could be improved in future workshops?

3. Any further comments?

ANNEX 4
FIELD EXERCISES
Chronic Disease Guidelines

Objectives:

- Provide an opportunity for further study and to put into practice knowledge and skills learned in the previous training sessions
- Develop further skills in patient interviewing, examination, counseling, and application of clinical protocols

Expectations:

- All participants will be expected to complete all assignments within the weeks of field work time
- You should continue to perform your usual tasks (as a general practitioner, supervisor or clinic director) in the Health Center. Most of the assignments can be completed during your normal working day
- You should schedule your field assignment work to be completed during normal working hours. The project cannot pay for overtime work.
- Normally, patient interviews and examinations which are part of the field assignments should be performed in your usual place of work. Because these are teaching situations, you should expect to spend somewhat more time with each patient to adequately complete the assignment.
- You will be asked to submit documentation of completion of all the field assignments at the beginning of the next training session
- If you have any questions, or experience problems which cannot be resolved by your director, you should discuss the situation with one of the Trainers

ASTHMA PROTOCOL EXERCISE

Name of Physician_____ PHC _____

Instructions: For each patient, answer the following questions, based on your review of their medical record and a brief interview with the patient and/or a family member..

First Name of Pt.	1	2	3	4	5
Height and Weight recorded past visit?	Y N	Y N	Y N	Y N	Y N
Any visits To ER for Asthma since last visit?	Y N	Y N	Y N	Y N	Y N
Any school absences since last visit?	Y N	Y N	Y N	Y N	Y N
> 1 **night/week with cough** since last visit?	Y N	Y N	Y N	Y N	Y N
Pt. **using salbutamol Inhaler > 1/day**	Y N	Y N	Y N	Y N	Y N
Was Pt. **hospitalized for asthma** past year?	Y N	Y N	Y N	Y N	Y N
Chest exam. recorded past visit?	Y N	Y N	Y N	Y N	Y N
Pt. **using inhaler with spacer or open mouth?**	Y N	Y N	Y N	Y N	Y N
Pt. **taking Controller medication?**	Y N	Y N	Y N	Y N	Y N
Current classification of asthma?					
Is **medication appropriate** according to guideline?	Y N	Y N	Y N	Y N	Y N
If medication not approp., **did you make changes?**	Y N	Y N	Y N	Y N	Y N
Referral to specialist Past year for asthma?	Y N	Y N	Y N	Y N	Y N
Is asthma controlled according to guideline?	Y N	Y N	Y N	Y N	Y N
What further follow-up does pt. need for better management?					

DIABETES AND METABOLIC SYNDROME PROTOCOL EXERCISE

Name of Participant _____ PHC_____

Instructions: Select five patients known to have diabetes and possibly the metabolic syndrome. For each patient, answer the following questions based on your review of their medical record and a brief interview with the patient

First Name of Pt.	1	2	3	4	5
BP recorded past visit?	Y N	Y N	Y N	Y N	Y N
Weight recorded past visit?	Y N	Y N	Y N	Y N	Y N
Waist Circumference noted?	Y N	Y N	Y N	Y N	Y N
Fasting Glucose recorded past visit?	Y N	Y N	Y N	Y N	Y N
Foot exam recorded past visit?	Y N	Y N	Y N	Y N	Y N
Neuro exam done past 6 months?	Y N	Y N	Y N	Y N	Y N
Urine albumin done past 6 months?	Y N	Y N	Y N	Y N	Y N
Hemoglobin A1C done past 6 months?	Y N	Y N	Y N	Y N	Y N
Cholesterol or **Lipid Profile** done past year?	Y N	Y N	Y N	Y N	Y N
Creatinine done past year?	Y N	Y N	Y N	Y N	Y N
Does pt. have Metabolic Syndrome by criteria?	Y N	Y N	Y N	Y N	Y N
Pt. taking **Metformin**?	Y N	Y N	Y N	Y N	Y N
Pt. taking **Thiazide**?	Y N	Y N	Y N	Y N	Y N
Pt. taking **Lipid control** medication?	Y N	Y N	Y N	Y N	Y N
Pt. taking **correct diet**?	Y N	Y N	Y N	Y N	Y N
Pt. practicing good **foot care**?	Y N	Y N	Y N	Y N	Y N
Pt. actively doing **exercise**?	Y N	Y N	Y N	Y N	Y N
Pt. understand **correct use medication**?	Y N	Y N	Y N	Y N	Y N
Referral to specialist past yr for diabetes?	Y N	Y N	Y N	Y N	Y N
Is blood glucose at target?	Y N	Y N	Y N	Y N	Y N
Is blood pressure at target?	Y N	Y N	Y N	Y N	Y N
Are lipids at target?	Y N	Y N	Y N	Y N	Y N
What further follow-up does pt. need for better management?					

FIELD EXERCISE - HYPERTENSION PROTOCOL EXERCISE

Name of Participant _____ PHC _____
(Write Name) (Name PHC Center)

Instructions: Select five patients known to have hypertension. For each patient, answer the following questions, based on your review of their medical record and a brief interview with the patient

First Name of Pt.	1	2	3	4	5
BP recorded past visit?	Y N	Y N	Y N	Y N	Y N
Hypertension **classification?**	Pre 1 2	Pre 1 2	Pre 1 2	Pre 1 2	Pre 1 2
Weight recorded past visit?	Y N	Y N	Y N	Y N	Y N
ECG done past year? (>40 yrs)	Y N	Y N	Y N	Y N	Y N
Ophthalmoscopic exam done past yr?	Y N	Y N	Y N	Y N	Y N
Cardiac exam recorded past yr?	Y N	Y N	Y N	Y N	Y N
Pulmonary exam recorded past yr.?	Y N	Y N	Y N	Y N	Y N
Edema noted past yr?	Y N	Y N	Y N	Y N	Y N
Pt. taking **Thiazide medication**? (if stage 1 or 2)	Y N	Y N	Y N	Y N	Y N
Pt. taking **second BP medication**?	Y N	Y N	Y N	Y N	Y N
Pt. taking **medication daily**?	Y N	Y N	Y N	Y N	Y N
Pt. actively doing **exercise**?	Y N	Y N	Y N	Y N	Y N
Pt. taking **medication daily**?	Y N	Y N	Y N	Y N	Y N
Referral to specialist past yr for BP?	Y N	Y N	Y N	Y N	Y N
Is hypertension within goal range?	Y N	Y N	Y N	Y N	Y N
What further follow-up does pt. need for better management?					

ANNEX 5
HYPERTENSION FLOW CHART

_____ ☐ Male ☐ Female _____ _____

Name of Patient Date of Birth Date Diagnosis Hypertension

Standard/Date												
Blood Pressure												
Weight												
Cardiac Exam												
Pulmonary Exam												
Edema?												
Ophthalmoscopic Exam (nl/abnl)												
Med./dose												
Med./dose												
Med./dose												
Medication Side Effects?												
Ed √ Diet												
Exercise												
Med Use												
Smoking												
Referral to:												
Followup												

ECG Date_____ Creatinine_____ Date_____ Urea Nitrogen_____ Date_____

DIABETES MELLITUS & METABOLIC SYNDROME FLOW CHART

_____ ☐ Male ☐ Female _____ _____

Name of Patient Date of Birth Date Onset Diabetes

Standard/Date												
Blood Pressure												
Weight/BMI												
Waist Circumference												
Glucose (Fast/Random)												
Foot Exam												
Neurologic Exam (foot vib or position)												
Med./dose												
Med./dose												
Med./dose												
Ed √ Use of Meds												
Weight loss												
Foot Care												
Diet												
HBA_1C												
Urine Alb/Creat Ratio												
Ophthalmoscopic Exam (nl/abnl)												
Cholesterol, HDL, LDL, Creatinine	Cholesterol: Date:	HDL: Date:	LDL Date:	Triglycerides: Date:	Creatinine: Date:							
ECG Results	Date: Results:											
Referral to:												
Next Followup												

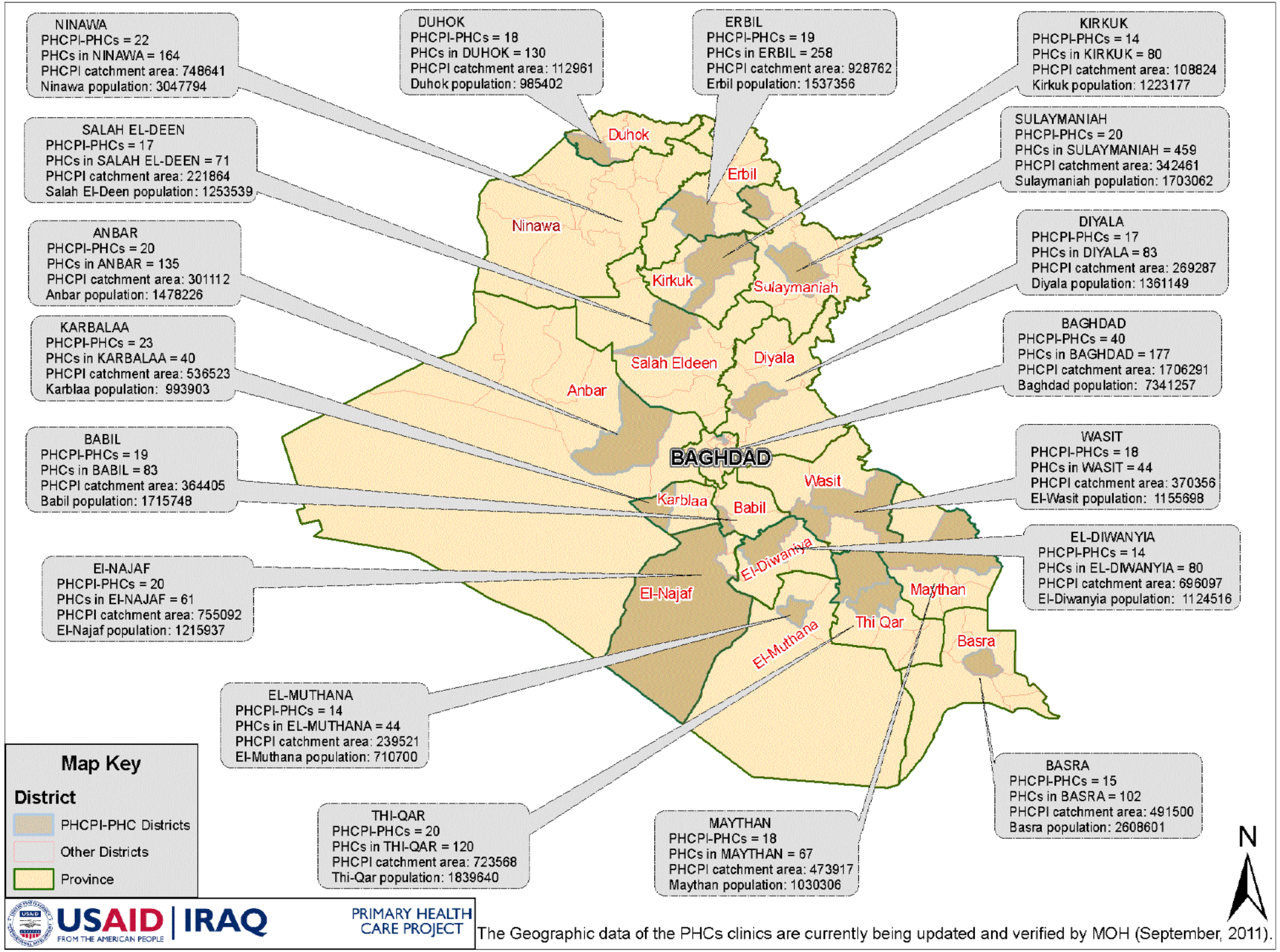
ASTHMA MANAGEMENT FLOW CHART

_____ ☐ Male ☐ Female _____ _____

Name of Patient Date of Birth Name of Parent

Standard/Date												
Weight/Height/ Percentile												
# Visits to Emergency												
# School absence – Asthma or illness												
# nights with cough												
General Resp. Condition												
Chest Exam												
Classification of Asthma												
Med./dose												
Med./dose												
Med./dose												
Ed √	Use of Meds											
	Danger Signs											
	Trigger factors											
	Use inhaler/spacer											
Pulmonary Function Test	Date: Result:											
Chest X-ray	Date: Results:											
Referral to:												
Next Followup												

PHCPI-PHCs population mapped to IRAQ population



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PRIMARY HEALTH CARE PROJECT

The Geographic data of the PHCs clinics are currently being updated and verified by MOH (September, 2011).

U.S. Agency for International Development
Primary Health Care Project In Iraq
http://phciraq.org/
www.usaid.gov