Chapter 16
The New H^5 Model of Refugee Trauma and Recovery

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Introduction

Refugees and internally displaced persons remain high on the international priority agenda, as a result of war, inter-ethnic conflict, and other forms of violent conflicts. According to the World Bank, approximately 1.5 billion people live in countries affected by violent conflicts, with an estimated 40.0 % of post-conflict societies returning to conflict within 10 years (World Bank 2012). The numbers of traumatized persons and communities throughout the world is staggering. The humanitarian care of those affected by human violence and aggression is a major issue that must be addressed.

This chapter will specifically focus on the millions of refugees worldwide primarily living in refugee camps across the globe. Our focus will be on the impact

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of their experience on their health and mental health and their communities. We will then offer a new model of refugee care called: *The H^5 Model of Refugee Trauma and Recovery* that will explore the 5 overlapping dimensions essential to trauma recovery. A part of this effort will be to describe the cultural and scientific breakthroughs over the past three decades that now allow the international community the capacity to identify and treat the traumatic life events of refugees and the mental health impact of these events. Finally, based upon this new model of refugee care, recommendations will be made for implementing culture and evidence-based policies and actions for traumatized refugee populations worldwide. Our new approach aims at refugees living in camps and who have not been repatriated. Hopefully, this model can serve civilian populations that have experienced ethnic conflict, war and other forms of extreme violence.

Magnitude of the Problem: The Physical and Mental Health Impact of the Refugee Experience

The 1951 United Nations Refugee Convention, that established the United Nations High Commission for Refugees (UNHCR), spells out that a refugee is a person who *owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country*. In 2013, there were approximately 15 million refugees worldwide. In 2011, an estimated 4.3 million people were newly displaced due to conflict or persecution according to UNHCR (e.g. armed conflict in Syria). While refugees cross international borders into industrialized countries, approximately 80.0 % of refugees are hosted by developing countries. Trends in the numbers (Global Trends 2011) of refugees are shown in Figs. 16.1 and 16.2.

Internally displaced persons (IDPs) are *persons or groups of persons who have been forced or obliged to flee or leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border*. Currently, there are 27 million IDPs—that is, individuals who are displaced within the borders of their country of origin, thereby not meeting the definition of refugee (Global 2011).

In 2013, women and children accounted for approximately one-half of all displaced (refugees and IDPs). UNHCR in *Global Trends 2011* underscores the protracted nature of displacement—someone who becomes a refugee is likely to remain as such for many years—often in a camp or living precariously in an urban location. Indeed, in 2011 an estimated 7 million refugees were estimated to be living in protracted refugee situations (a term used by UNHCR to describe a situation where *more than 25,000 refugees have been living for more than five years*). These figures mask the real magnitude of displacement throughout the world, as they do not include a number of refugee populations, including, for example, the Palestinian refugees

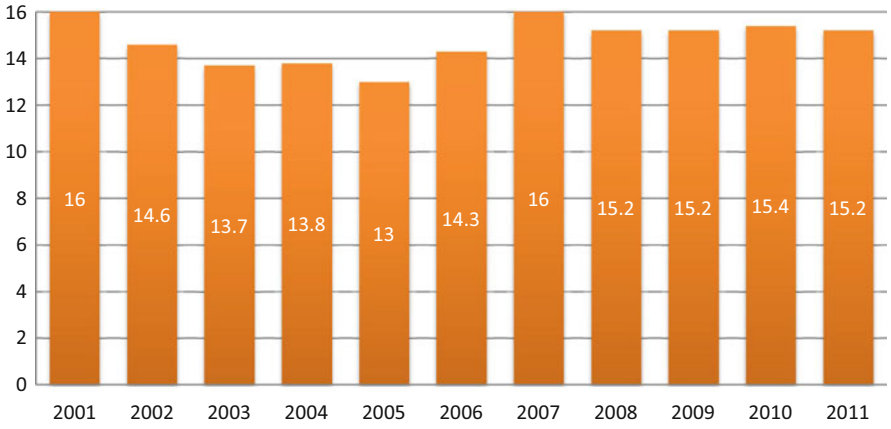

Fig. 16.1 Global refugees 2001–2011 (end-year) (in millions)

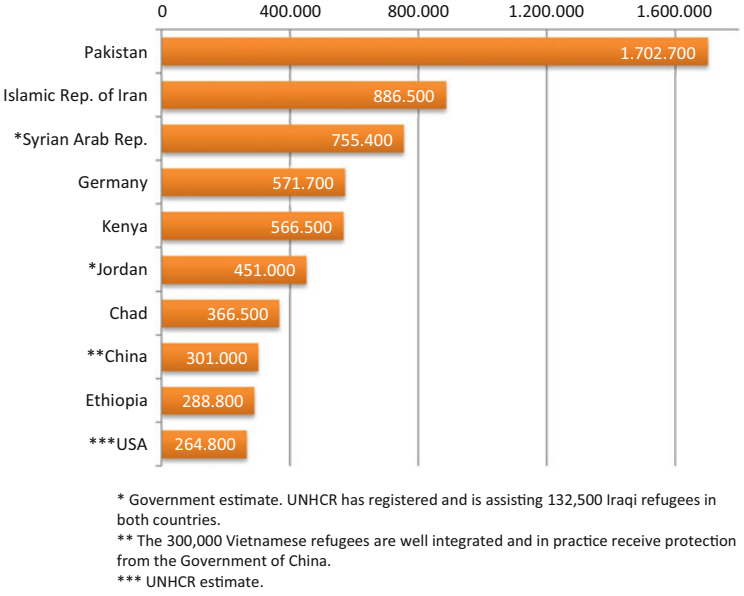

Fig. 16.2 Major refugee-hosting countries 2011

living scattered throughout the Middle East. Many of these displaced populations are fleeing conflict, but are not accounted for in the above figures.

Displaced populations such as refugees, like all conflict-affected persons, suffer the devastating physical and mental health consequences of their plight in the short term and long term. Porter and Haslam (2005) and Steele et al. (2009) through their meta-analyses summarizing the resettlement refugee literature worldwide demonstrated the high prevalence of post-traumatic stress disorder (PTSD) and depression

amongst refugees communities worldwide. Mollica et al. conducted the first longitudinal study to reveal that the repatriation of Bosnian refugees from Croatian refugee camps were associated with chronic and persistent psychiatric morbidity over time (Mollica et al. 1999). One study of Palestinian refugee children and adolescents living in shelled houses, and sometimes tents, following military conflict found that 54.0 % of the children suffered from severe, 33.5 %, from moderate and 11.0 %, from mild and sub-clinical levels of PTSD (Murthy and Lakshminarayan 2006). A review of a large number of studies on the mental health of adolescents (N = 4,868) surviving conflict, found across settings that adolescents reported high levels of exposure to traumatic events and high to severe levels of acute stress reactions after war. Adolescents can have delayed reactions to traumatic events, developing depression and panic disorder after the conflict ends (Fisher et al. 2011).

The current review of the refugee camp literature as being distinct from resettled refugee populations is shown in Table 16.1 (Rahe et al. 1978; Mollica and Jalbert 1989; Mollica et al. 1993; Hourani et al. 1986; Punamaki 1990; de Paardekooper et al. 1999; Ahmad et al. 2000; De Jong et al. 2002; Tang and Fox 2001; Van Ommeren et al. 2002; Lopes Cardozo et al. 2004; Kamau et al. 2004; Kim et al. 2007; Onyut et al. 2009; Akinyemi et al. 2012).

In the early 1980s, our research began with the study of the Site 2 Cambodian population living in confinement in the Thai-Cambodian border under UN control (Mollica and Jalbert 1989). Prior to this study, acknowledgment of the mental health problems of refugees by the international community caring for refugees was non-existent, and mental health care was almost completely absent. It was generally assumed at that time by international agencies, such as UNHCR, that refugees were *like stretched rubber bands that would spring back to normal once they were successfully repatriated*. In addition, while the physical concrete problems were readily identifiable, the mental health problems of refugees were considered by policy planners and medical professionals to be:

1. Ambiguous, vague and difficult to measure
2. Impossible to determine in culturally diverse and non-Western populations
3. Have little if any impact on health and social functioning; and
4. Lacking effective treatments.

The existing UN emphasis on safety, protection and the material needs of refugees viewed mental health care as a "luxury" that could not be afforded (Ekblad and Silove 1998; Mollica 2000).

As Table 16.1 reveals, the "rubber-band" model is grossly inaccurate. It denies refugees access to policies and programs that can greatly aid their overall health, wellbeing, social life and economic productivity. These studies have taken place in refugee camps in Thailand, Lebanon, Palestine, Sudan, Kurdistan, Tanzania, Gambia, Nepal, Kenya, Uganda and Nigeria. While the mental health sequelae of refugee trauma can vary, research reveals that 30.0–60.0 % of refugees in camps suffer from PTSD and depression. These rates are dramatically higher than those found in mainstream non-massively traumatized populations (Mollica et al. 2004). While the high rates of PTSD in refugee communities have now come to be accepted, some

Table 16.1 Published studies based on refugee camps with regard to traumatic experiences, mental health outcomes and social functioning

Source	Population/phase (camps)	Study design/Aim	Primary measures analyses	Translation/adaptation	Outcomes
Rahe et al. (1978)	Random sample	Valid estimation of the mental health of the refugees at large.	Standardized questionnaires:	All questionnaires were translated into Vietnamese. Vietnamese graduate students in the San Diego area, USA, were recruited as interviewers.	Recent life changes data: for the most subgroups (different ages and gender) the mean numbers of war-related life changes experienced over the 6-month period immediately before leaving Viet Nam were very similar – between 2 and 4 changes. Men between 20 and 39 had experienced the greatest number of recent life changes.
				Vietnamese translations of informed consent	CMI data: Women aged 20–29 and 30–39 showed in camp psychological symptom levels greater than the upper limit
	Camp Pendleton. Randomly selected family groups. A	All interviews were carried out at the refugee	The Recent Life Changes Questionnaire (RLCQ)		SAS data: moderately high. However, highly stressed men reported

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Table 16.1 (continued)

Source	Population/phase (camps)	Study design/Aim	Primary measures analyses	Translation/adaptation	Outcomes
	randomization of refugees' identification numbers was performed and 2–4 names were selected from each week's new arrivals. All family members were invited. Toward the end of the study a second selection method: randomly selected tent numbers from each of the 8 large tent areas in the camp.	camp at the crisis clinic.			relatively low illness symptoms on the CMI, but reported the most pessimistic SAS scores.
	May 1975 N = 200		Cornell Medical Index Health Questionnaire (CMI) The Self-Anchoring Scale (SAS)		
Mollica and Jalbert (1989) and Mollica et al. (1993)	The largest Cambodian refugee camps Site 2	Key informants interviews and an epidemiological survey of a systematic sample of refugees aged 18 or older, living in an area-probability sample of camp households	Standardized interview schedules to collect data on personal characteristics, trauma experiences, work and social activities, and symptoms of	Translated and adapted specifically for this study. Standard translation methods of cross-cultural research were used to construct the final Cambodian	More than 80.0 % felt depressed and had a number of somatic complaints despite good access to medical services.

			depression, PTSD and functional health status	version of the interview schedule	
			Logistic regression	HTQ, trauma for each time period	
			Univariate and multivariate analyses	HSCL-25	
				Psychosocial risk factors	
	No = 993			Diagnostic validity of PTSD criteria with the notable exception of avoidance. The inclusion of dissociative symptoms increased the cultural sensitivity of PTSD.	Approximately 55.0 % and 15.0 % had symptom scores that correlated with Western criteria for depression and PTSD, respectively. Despite high reported levels of trauma and symptoms, social and work functioning were well preserved in the majority of respondents. Cumulative trauma continued to affect psychiatric symptom levels a decade after the original trauma events.
Hourani et al. (1986)	Total 5,795 individuals residing in West Beirut between June and Sept 1982. Drop out: 7, n = 5,788	Randomly selected household sample. The sampling procedure for the former group consisted of a random selection of city blocks from each of 6 administrative areas. From maps	Items regarding family composition, housing, environmental sanitation, food and water supply, and relief aid need in addition to information regarding mental health,	In Arabic	Out of the total population, 8.3 % reported at least 1 unusual or inappropriate behavior.

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Table 16.1 (continued)

Source	Population/phase (camps)	Study design/Aim	Primary measures analyses	Translation/adaptation	Outcomes
		of selected blocks, interviewers randomly chose the building, floor and flat for inclusion in the ample. Since families in the latter group had to be registered in order to receive aid, a random selection of refugees was drawn from lists maintained by relief workers	displacement of residence and morbidity. Interviewers were college student residents who underwent training in the data collection procedure Symptom questionnaire		
	Two categories of families were sampled: families living in their won flats and families displaced to other flats or to special displacement (refugee) centers.		Psychological distress, an interview checklist of symptoms of psychological distress administered to a key informant in each household	In consideration for security and social customs, male and female interviewer pairs conducted the interviews. The key informant method was used to obtain data on all family members (senior member of the family) present at the time of the interview	The occurrence of psychological distress symptoms varied significantly by age, sex, nationality, socioeconomic status, loss of physical health and economic loss.
Punamaki (1990)	Three groups of Palestinian women: (1) a West Bank/Gaza group of 174 women from the Israeli-occupied areas; (2) A Beirut group fo 30 women from the refugee camps of	The author and a female Palestinian interviewer visited the homes of the women, The West Bank/Gaza group was selected by quota sampling.	Structured interview, Multiple Affect Adjective Checklist Political hardship – 17 stressful events Worries – 20 items	The questionnaires were in Arabic Under foreign military occupation the security of families who accepted being	The results showed significant differences between the 3 groups in their stress response. The women of the Beirut group were the most traumatized, but

	Sabra and Shatila; and (3) a comparison group of 35 Palestinian women living in Israel proper who were not exposed to direct political violence	The comparison group was matched with the West Bank/Gaza group with regard to the age of woman, social class and place of residence.	Locus of control Coping modes Mental health – 15 items Social-economic factors Descriptive analysis	interviewed was at risk, so the description of the fieldwork was kept to a minimum in the article	psychologically this was reflected only in their showing more helplessness and lack of control in their personal lives than the women of the other Palestinian groups. The Beirut group expressed the lowest and the comparison group the highest level of political and personal worries. The Beirut group suffered less from mental health problems than the West Ban/Gaza group. Thus, mental health problems tended to be more common in threatened areas, where fighting is expected to occur, than in actual fighting areas. Exposure to political hardships also increased mental health problems.
de Paardekooper et al. (1999)	A total of 193 Sudanese refugee children aged between 7 and 12 years were interviewed in Transit Camp and	An adapted form of snowball-sampling was used	Trauma List, subscale of HTQ	All interviewers were fluent in English, Arabic and at least 1 other South-Sudanese language	Symptoms of PTSD and depression were found to be highly prevalent among Sudanese children living in the

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Table 16.1 (continued)

Source	Population/phase (camps)	Study design/Aim	Primary measures analyses	Translation/adaptation	Outcomes
	123 children were interviewed from settlements. The Sudanese children were compared with a group of 80 Ugandan children, basically with the same cultural background but without experiences of war and flight.				refugee camps Refugees had higher rates of individual psychopathology than the general population and it was observed that the cumulative stress grew as the years in exile progressed
	Nov 1995 – Jan 1996	6 interviewers were recruited from the refugees, 3 males and 3 females.	Daily Stressors Inventory		
		The interviewers received 2 weeks interviewing training	Coping measures Social support measures Mental health assessments WHO Reporting Questionnaire for Children (RQC) adding a question about conduct disorder	During interviewing, they translated and explained the questions in the appropriate language	
Ahmad et al. (2000)	45 Kurdish families in 2 camps				PTSD was present in 87.0 % of children and 60.0 % of their caregivers
De Jong et al. (2002)	A random sample (n = 854) and a sample of clients of a psychosocial support	Examination of the prevalence of mental health problems in refugees living in camps that	Screening survey by trained interviewers	GHQ-28 was translated into Kinyarwanda and Kirundi (the national languages of Rwanda	The prevalence of serious mental health problems was estimated at 50.0 % (SE = 12.0 %).

	programme in these camps (n = 23).	emerged in Tanzania during the Rwanda crisis that started in 1994		and Burundi). Back-translation into English was carried out by 2 translators who worked for other organisations and who had not seen the questionnaire before. Their translation led to some adjustments.	When using the GHQ-28 as a screener, a cut-off score of 14 was recommended
			Questionnaires: GHQ-28	Sensitivity, specificity and positive- and negative predictive values were estimated for several cut-off scores of the GHQ-28	
Tang and Fox (2001)	Senegalese population. Adult refugees ≥18 years from Casamance region of Senegal. A total of 80 participants (39 women and 41 men)	Randomly selected from refugee camps in the Gambia	Questionnaires: HTQ, HSCL-25		Forced separation from family members (77.5 %) and lack of food or water (76.3 %) was most common; 16.3 % mentioned torture experience On the HTQ the average PTSD score was 1.96. On the HSCL-25, the mean anxiety scores was 1.75 and the mean Depression score was 1.92
			Interview schedule:		

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Table 16.1 (continued)

Source	Population/phase (camps)	Study design/Aim	Primary measures analyses	Translation/adaptation	Outcomes
Van Ommeren et al. (2002)	526 tortured and 526 nontortured Bhutanese refugees living in U.N. refugee camps in Nepal.	Interview of a random community sample.		A checklist of 52 types of physical torture believed to occur in Bhutan, and a list of 17 questions covering a Nepali translation of the *Diagnostic and Statistical Manual* of Mental Disorders, revised third edition criteria for PTSD	Number of PTSD symptoms, independent of depression and anxiety, predicted both number of reported somatic complaints and number of organ systems involving such complaints.
	Data collection in 1995	Interviews were conducted by Nepali medical doctors who had received 1-day training in differential diagnosis of PTSD.	Demographics, torture, somatic complaints, PTSD, HSCL-25 A checklist of 25 somatic complaints	World Medical Association definition of torture	
Lopes Cardozo et al. (2004)	Post-emergency	Population-based survey to assess psychosocial issues, the prevalence of mental illness related to traumatic experiences, and to identify risk and mitigating factors	Questionnaires: Demographic section, SF-36, HSCL-25, HTQ	Tailor-made demographic q,	The most trauma events during the past 10 years: Hiding in the jungle (79.0 %) Forced relocation (67.0 %) Lost property (66.0 %) Destruction of houses & crops (48.0 %) 3.0 % of women and 3.0 % of men were raped Mean score: Social functioning: 64

				Prevalence rate: depression 41.0 %, anxiety 42.0 % and PTSD 4.6 % for the 3 camps combined Women compared to men were more likely to have anxiety symptoms Older age and lack of sufficient food were significantly correlated with worse social functioning Previous mental illness was associated With higher prevalence of anxiety, depression and PTSD symptoms Harassment, basic and violence category of trauma events was associated with anxiety and depression. Separation was associated with increased rates of PTSD, anxiety and depression.
May 20-June 20, 2001 Karenni refugee population residing in camps in Mae Hong Son, Thailand	Systematic sampling design to randomly select households with stratification for the 3 camps. The household registration	Multivariate an analysis	HTQ adapted Translated from English to Burmese and back-translated into English by a team of translators	A higher total number of trauma events showed an association with PTSD, anxiety and depression

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Table 16.1 (continued)

Source	Population/phase (camps)	Study design/Aim	Primary measures analyses	Translation/adaptation	Outcomes
	Every 12 h household in the 3 camps: Total 317 households: 495 participants Camp I: Camp II: 214 Camp III: 71 Camp V: 39 All adults over 15 years in each household were asked to participate	system in the camps, updated monthly, was used as the sampling frame. Sample sizes were calculated for each stratum. Households were the primary sampling unit, and the sample of households was chosen by a single-stage systematic random sampling procedure.			
Kamau et al. (2004)	Clients of a community mental health service in the Kakuma refugee camp in Kenya. Based on a handwritten case logbook maintained by the nurse-manager over a period of 3 years	Data collection 1997–1999, the camp population increased from 60,000 to 90,000 persons and they came from Sudan (60.0 %), Somalia (25.0 %) and Ethiopia (15.0 %) and minority groups.	In the log book was documented *DSM*-IV-based diagnoses made during the first assessment of each patient as well as a record of follow up appointments. Due to limited resources it was not possible to collect more extensive data.	PTSD was much lower than the expected community-wide rates for that condition. Several factors (severity, disability, social support and stigma) may influence whether persons with disorder seek treatment in an African setting	Service for 1,852 refugees, slightly less than 1.0 % of the camp population. 60.0 % were Somali, 31.0 % Sudanese. Post-traumatic stress disorder (38.6 % twice as many females as males) and anxiety (22.7 %) was the most common diagnosis. Depression (10.6 %), psychosis (schizophrenia and bipolar disorder, 12.3 %, twice

					prevalent among males), psychosomatic complaints, insomnia and psychosexual disorders (8.9 %), and epilepsy (6.9 %). Notable increase in attendance over the 3 years were PTSD (125.0 %) and epilepsy (70.0 %), with psychosis showing a reduction. PTSD accounted for the greatest percentage of consultations.
		1997 a community mental health service was set up 1 psychiatric nurse			It is feasible to establish a low-cost community mental health service in refugee camps in low-income countries such as Kenya.
Kim et al. (2007)	6 registered internally displaced persons camps in Nyala District. Systematic random sampling, 1,293 households, interviewing	To assess basic health, women's health and mental health among Sudanese internally displaced persons in South Darfur.	Interviewing with a questionnaire (102 questions) demographic, basic needs, morbidity, mental and women's health, and opinions regarding women's rights and roles in society. Asked about events since the	The questionnaire was written in English, translated into Sudanese Arabic and backtranslated into English by 3 native speakers, Three regional, human rights, and medical experts reviewed the	A majority of respondents had access to rations, shelter and water. 68.0 % (861 of 1,266) used no birth control, and 53.0 % (614 of 1,147) reported at least 1 unattended birth. 30.0 % (374 of 1,238) shared spousal

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Table 16.1 (continued)

Source	Population/phase (camps)	Study design/Aim	Primary measures analyses	Translation/adaptation	Outcomes
	1 adult female/ household N = 1,274, respondents' households totalled 8,643 members Interviews during 1 week in January 2005		holiday of Eid al-Adha, 2003, which coincided with rebel insurrections n Feb 2003 Patient Health Questionnaire (depression), well-validated; Major depression was diagnosed if 5 or more of 9 depressive symptoms were present nearly every day during the previous 2 weeks., cut off score of 15, which has been found to be valid in predicting a clinical diagnosis of major depression Questions regarding suicidal ideation and suicide attempts over the past year among household members were reported as yes or no	questionnaire for content validity, and the survey was pilot-tested with 6 Sudanese IDPs in Sudan	decisions on timing and spacing of children, and 49.0 % (503 of 1,027) reported the right to refuse sex. 84.0 % (1,043 of 1,240) were circumcised. The prevalence of major depression was 31.0 % (3,990 of 1,253). Women also expressed limited rights regarding marriage, movement and access to health care. 88.0 % (991 of 1,121) supported equal educational opportunities for women.

			Women's rights and roles in society were assessed by a response of agree or disagree. Mental health counseling was defined as *having someone to talk to about your problems who will listen and give emotional support* Authors did not study trauma.		
Onyut et al. (2009)	Nakivale Refugee Settlement is one of the 8 official refugee camps in Uganda. Participants came from the Rwandese and Somali refugees resident in	(1) assess the general nutritional, socio-economical, educational, and physical health status, of the refugees (2) assess the prevalence of mental disorders associated with exposure to stressful and traumatic armed conflict situations, spec PTSD and depression, © ascertain the types, descriptions and	Sociodemographic interview A 34-Event Checklist Posttraumatic Stress Diagnostic Survey (PDS) Validation Interview:	Translated into the local languages Somali and Kinyarwanda using several steps of translations, blind back translations and subsequent corrections by independent groups of translators.	32.0 % of Rwandese and 48.1 % of the Somali refugees suffered from PTSD The Somalis had a mean of 11.95 (SD = 6.17) separate traumatic even types while the Rwandese had 8.86 (SD = 5.05). The Somalis scored a mean sum score of 21.17 (SE = 16.19) on the PDS while the Rwandese had a mean sum score of 10.05 (SD = 9.7) A mental health intervention is as urgent for

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Table 16.1 (continued)

Source	Population/phase (camps)	Study design/Aim	Primary measures analyses	Translation/adaptation	Outcomes
	this camp. The inclusion criteria: All Rwandese (Hutu) and Somali refugees of either sex above the age of 12 officially registered and resident in this camp in 2003. N = 516 Somalis N = 906 Rwandese	numbers of extremely stressful and traumatic events to which survivors were exposed	The Composite International Diagnostic Interview (CIDI) HSCL-25		post-conflict migrant populations as physical health and other emergency interventions- A mental health outreach program was initiated based on this study.
Akinyemi et al (2012)	Oru Refugee Camp, in outskirts of Oru town, Nigeria	A cross-sectional study design comparing refugees with nonrefugees within the same geographical location Power calculation	Interviewer-administered structured questionnaires: MINI, WHOQOL-BREF, Community Quality of life	Cronbach α	While the majority (84.7 %) of the refugees were married, most (88.8 %) of the native population were not. Significantly higher proportion of

Opened 1990, the only in the country Residents of Oru community and the refugee camp aged 18 years and above who had resided in the area for at least 1 year prior to the study N = 444 refugees and n = 527 non-refugees, 2/3 Liberians	N = 431 Cluster sampling	Assessment of clinical variables such as suicide ideation, visual hallucination, drug and alcohol abuse, mania, PTSD, obsession and depression (MINI)	refugees had polygamous marriages, lived in poorer type of accommodation and had no moral education compared to the non-refugees. Overall QoL and Community QoL scores were both significantly lower for the refugees. Refugees were 3 times more likely than non-refugees to have poor mental health. Unskilled workers, skilled workers and the unemployed had 2 or more times odds of poor mental health compared to professionals. QoL and occupational status were the major threats to the mental health of the refugees.

believe that trauma-related symptoms are not having a significant impact on the health and well-being of the refugee communities (Summerfield 1999). Indeed, a recent study by Mollica et al. (2013) reveals that the latter is a misconception. Cambodian civilians living in the Siem Reap province in Cambodia 25 years after the Pol Pot genocide were shown to have high rates of PTSD and depression as compared to non-traumatized Khmer living in Surin province in Thailand. In this study, comparing 2 Khmer communities, the prevalence of PTSD in Siem Reap, Cambodia, was 20.6 % compared to 2.2 % in Surin, Thailand. In addition, the negative health impact of trauma was significant. Of note, women and children were shown in each case to be at higher risk for mental health disorders. It is still unclear, however, whether women and children have a differential response to trauma, and are more vulnerable as well to severe trauma (e.g. rape and sexual violence) overtime while living in the camps. A diary of the traumatic life experiences of refugees by gender and demography overtime has never been conducted by camp authorities. In contrast to the "rubber-band" analogy, research has been suggesting that the mental health disorders associated with the refugee experience exist and can be identified and persist for decades after the refugee camp experience has ended (Priebe et al. 2010). One study by Priebe et al. (2010) of war-affected community samples (N = 3,313) in 15 regions throughout each of the 5 countries in the Balkans several years after the conflict in the region found that the prevalence of anxiety disorder reached 41.8 %, mood disorders, 47.6 % and substance use disorders, 9.0 % (Table 16.2).

New Model of Refugee Care (H^5 Model of Refugee Trauma and Recovery)

The authors of this chapter drawing on advances in culturally and scientifically valid research with refugees and traumatized communities are offering *H^5 Model of Refugee Trauma and Recovery*. This constitutes a new mental health model for refugee care. This model advances the work of Mollica and his colleagues that generated the multi-dimensional *Global Mental Health Action Plan*, based upon a meeting of the world's conflict and post-conflict MINISTRIES of Health in Rome, December 2004 (Mollica et al. 2011). The *GMH Action Plan* emphasizes the importance of considering all 8 dimensions in mental health planning and clinical care when considering the recovery of traumatized communities. These dimensions are:

- policy legislation;
- financing;
- science-based mental health services;
- multi-disciplinary education;
- role of international agencies;,
- linkage to economic development; and
- human rights, /ethics; and
- research evaluation.

Table 16.2 Comparison of no-trauma, trauma & PTSD by chronic illness

	No trauma	Trauma	PTSD	Trauma vs. no trauma		PTSD vs. no trauma		PTSD vs. trauma	
	n = 738	n = 4,054	n = 574						
	%	%	%	AOR	95.0 % CI	AOR	95.0 % CI	AOR	95.0 % CI
Chronic Pain conditions									
Arthritis/rheumatism	16.9	28.3	38.1	1.9	(1.5–2.5)*	2.8	(1.9–4.1)*	1.5	(1.2–1.8)*
Back/neck pain	17.2	30.2	49.4	1.8	(1.4–2.3)*	3.0	(2.1–4.2)*	1.7	(1.4–2.0)*
Headaches	14.8	22.1	50.3	1.6	(1.1–2.3)+	3.2	(2.1–4.9)*	2.0	(1.6–2.6)*
Chronic pain	1.8	10.1	22.1	5.4	(3.6–7.9)*	10.1	(6.6–15.5)*	1.9	(1.5–2.4)*
Cardiovascular conditions									
Heart attack	1.5	3.6	2.7	1.7	(0.6–5.0)	1.5	(0.5–4.9)	0.9	(0.4–1.7)
Heart disease	1.3	4.9	7.5	3.1	(1.3–7.1)*	6.3	(2.3–17.2)*	2.1	(1.5–2.9)*
High blood pressure	16.7	24.6	26.7	1.5	(1.0–2.3)	2.0	(1.3–3.2)	1.3	(1.1–1.7)
Respiratory conditions									
Seasonal allergies	27.6	39.0	45.2	1.7	(1.3–2.2)*	1.2	(1.1–1.4)*	1.1	(0.9–1.3)
Asthma	88.1	11.9	14.1	1.5	(1.0–2.2)	1.4	(0.9–2.0)	0.9	(0.7–1.2)
Lung disease	0.5	2.2	4.6	3.8	(1.0–15.1)	6.0	(1.3–27.3)	1.6	(0.8–3.0)
Neurologic conditions									
Stroke	2.0	2.6	3.7	1.0	(0.6–1.9)	2.0	(0.9–4.6)	1.9	(1.0–3.6)
Epilepsy	0.8	1.8	4.4	2.0	(0.7–6.0)	3.8	(1.1–13.8)+	1.9	(1.2–3.0)+
Other conditions									
Diabetes	3.1	7.7	7.8	2.6	(1.7–4.1)*	3.1	(1.8–5.3)*	1.2	(0.8–1.7)
Ulcer	4.2	9.5	17.5	1.9	(1.2–3.0)+	2.8	(1.7–4.5)*	1.5	(1.1–1.9)*
Cancer	1.7	6.4	7.3	3.5	(1.7–7.3)*	4.8	(2.1–10.9)*	1.4	(0.9–2.0)

Copy of Table 2 of Sledjeski et al. (2008)

Adjusted for gender, race, age, income, insurance coverage, smoking status, and lifetime diagnoses of MDD, other anxiety disorders, and substance related disorders

*Significant after Bonferroni adjustment, + marginally significant

Fig. 16.3 Refugee care H[5]

Silove et al have introduced the Adaptation and Development after Persecution and Trauma *(ADAP T)* model (Silove and Rees 2011). The *ADAPT* model emphasizes a two-tier system of recovery that encourages improving social conditions and clinical services. *ADAPT* dimensions include: (1) establishing safety; (2) repair of interpersonal bonds; (3) building systems of justice; (4) establishing meaningful roles and identities; and (5) recreating meaningful political and social institutions. The *GMH Action Plan* and *ADAPT* overlap quite considerably. In this chapter we offer a new refugee care model as a companion to the others. While the *GMH Action Plan* and *ADAPT* sketch out domains of recovery, each are limited in not elaborating concretely the underlying psychological and medical practices that are informing each of these domains. In addition, priorities of action and concrete practices are not fully described.

Figure 16.3 depict the 5 dimensions of our model for the recovery of traumatized refugee communities worldwide. Each will be discussed in turn after the central core of all five—the "centrality of the trauma story" is first addressed. The implications of this new model for refugee policy and planning will then be finally addressed.

The Centrality of the "Trauma Story"

By definition, refugees experience many human rights abuses. The refugees' exposure to extreme violence (e.g., including atrocities and violations of unspeakable horror) includes 100.0 % of the entire refugee population. Unfortunately, refugee camps sometimes can expose refugees to new traumatic life experiences, not to mention exposure to severe poverty, being unable to return home to friends and family, and the possibility of suffering the psychological distress of resettlement. While the public health and clinical response to diseases of epidemic potential have improved especially in camps (Salama et al. 2004), the identification and treatment of mental health conditions remain inadequate, and is rarely reported in the scientific literature. In spite of the latter, progress over the past three decades has been made regarding the full recognition of refugees as traumatized persons who have suffered major human rights violations leading to major health and mental health problems.

Medical insight into the potential impact of trauma on the health and mental health of refugees began when Mollica and Jalbert (1989), collaborating with the *World Federation of Mental Health,* conducted the first mental health assessment of a Cambodian refugee camp, Site 2, on the Thai-Cambodian border, between September 26 and October 6, 1988. Their report, submitted to the UN Secretary General on February 15, 1989, established in a reliable fashion the past and present human rights violations and the high level of unacknowledged mental health problems affecting the more than 300,000 Khmer living in confinement under UN control. (This report is available from the authors, upon request.) After this initial breakthrough occurred and the mental health reality of the Cambodians revealed, the United Nations requested a policy document to implement an action plan (Mollica et al. 1989). Following the dissemination of these results, the *Ford Foundation*, with the UN approval, funded the first large-scale epidemiological survey of a refugee camp (i.e. Site 2), that housed more than 176,000 Cambodian men, women and children. The Site 2 study (Mollica et al. 1993) was a large scale study to actually measure the trauma events experienced by a refugee community using culturally validated instruments.

The Site 2 study was enabled the development of the Harvard Trauma Questionnaire (HTQ) by the Harvard Program in Refugee Trauma (HPRT). HTQ allowed researchers engaged in large epidemiological studies to actually measure types and levels of traumatic events. As Fig. 16.4 shows, the degree and types of trauma experienced by these camp residents was massive and horrific – with many traumatic life experiences continuing during UN refugee camp internment. While torture dropped from 35.8 to 7.8 % and rape from 17.0 to 5.9 %, for example, it was still occurring at unacceptable levels in the camp.

This ability to successfully measure the traumatic life experiences of refugees in large scale studies lead to a revolution in our understanding of the relationship between traumatic life experiences and health, mental health and well-being of affected populations. Dose-effect relationships measuring cumulative trauma and

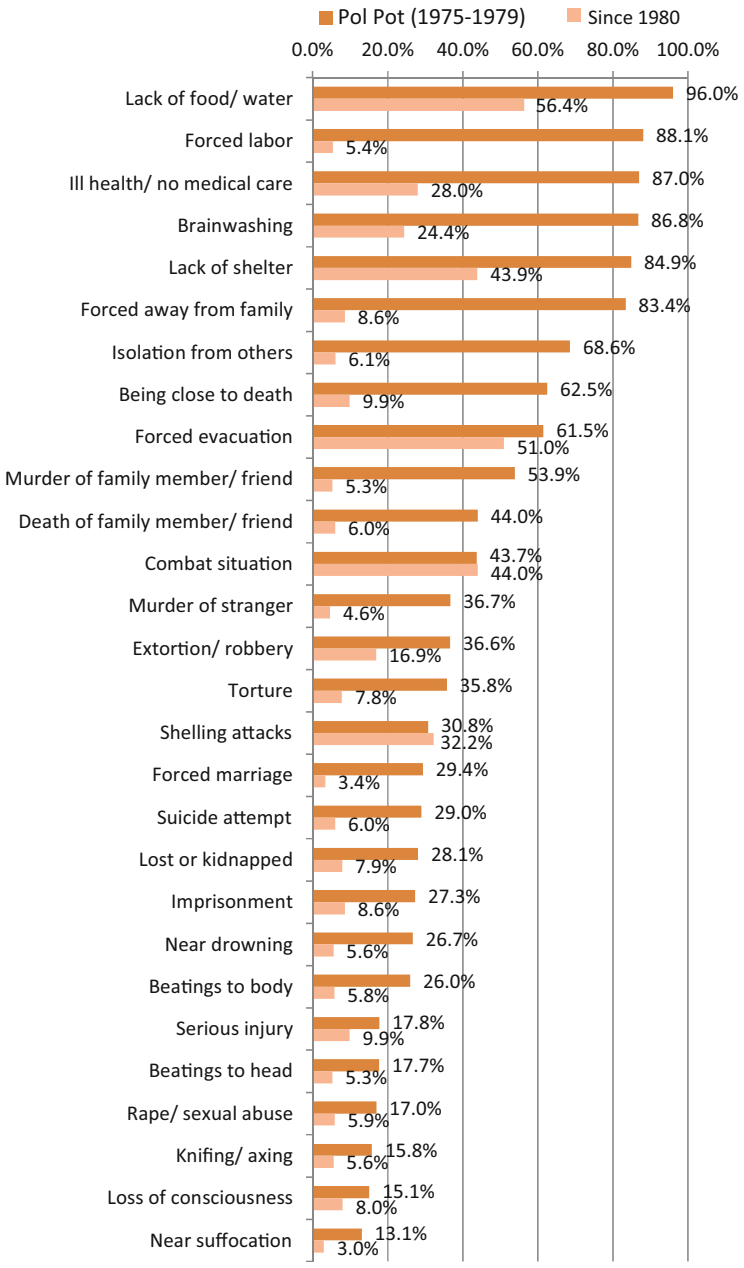

Fig. 16.4 Trauma events experienced during Pol Pot regime and since 1980 in Site 2, n = 993

mental health outcomes have been demonstrated (Mollica and McKinnes 1998). Başoğlu et al. (2007) dramatically revealed in a study of the survivors of torture in the Balkans, that maltreatment during captivity, such as psychological manipulation, humiliating treatment, and forced stress positions were not substantially different than physical torture in the severity of the mental health suffering produced. Mollica et al. (2009) showed in neuro-imaging studies brain disorder associated with torture in Vietnamese re-education camp survivors who had experienced traumatic head injuries.

A study by Husain et al. in the Tamil area of Jaffna district in Sri Lanka (Hussain et al. 2011), using the original Site 2 methodology, revealed the ongoing advances in scientific knowledge on the mental health impact of traumatic life experiences based on population studies of refugees. In this study, currently displaced persons were more likely to report symptoms of PTSD, anxiety and depression as compared to long-term residents. While the population average for trauma events was a mean of 2.76 events, more than half of internally displaced persons experienced more than 10 events compared to 4.0 % of resettled and 2.5 % of long-term residents. Again a dose-effect relationship between trauma and mental health symptoms was demonstrated. Mental health symptoms affected more than 50.0 % of those living in IDP camps. These authors pointed out, that traumatic events themselves may be a proxy for a more traumatic scenario for IDPs that includes insecurity, deteriorated living conditions, loss of livelihood, and lack of services. These researchers postulated that specific trauma events may trigger off greater mental health disorders in individuals who are made to be increasingly psychologically fragile because they are living in degraded camp conditions, as compared to long-term residents. This interaction between trauma and camp environment is taken up in the H[5] refugee care model.

While these advances are clarifying the concrete health and mental health impact of trauma events on refugees and IDPs, there is still a long way to go toward generating knowledge on the possible, irreversible brain damage created by trauma, the differential impact of trauma on women, children, and adolescents, and the response of all age groups to treatment interventions.

Five Dimensions of the New H[5] Model

Human Rights

Human rights violations are embedded in the definition of refugee. Safety and security is a foundation of refugee care (Mollica et al. 2004). Unfortunately, in many refugee camps human rights violations continue to occur. All human beings faced with the experience of violence want to tell someone else they trust their trauma story. Since their traumatic life history affects all aspects of the refugee's well-being, the question is, where do we begin? And what action do we take once

the story is told to a UN camp manager, a NGO team leader or a camp doctor or social worker?

According to our model, at some point in the refugee camp process, individuals must have an opportunity to officially tell camp officers their trauma story and to reveal to authorities all of their experienced human rights violations, past and present. Mollica et al. have outlined the major dimensions of the trauma story (Mollica 2006) that they use in research and in clinical practice. While it is not expected that the refugee in the acute crisis will be able, or should be able to do this, ultimately as safety and security is established the individual's trauma story must be recorded and acknowledged. The implications for recovery are enormous. UN and camp NGOs must also be ready to hear about existing camp violence. In consideration of past and present violence, some sense of justice must be discussed with the refugee and their community about related human rights violations. While it is well known that the UN may not be able to offer effective solutions of justice, such as criminal prosecution, compensation, or apologize to the refugee community, at least the refugee's need for justice will be acknowledged (Petevi and Kerko 2011). In our model, the rape of a refugee during the pre-flight experience in the refugee camp is a violation not just of the individual, but of their family, community, the larger refugee camp, and even the world. From a public health perspective, trauma is the agent, the camp is the environment, and the refugee is the person and all 3 are interacting to cause potentially severe negative health, mental health and social consequences. In summary, the refugee trauma story must be acknowledged by camp authorities and given a response.

Humiliation

An underlying goal of perpetrators of violence is to culturally annihilate the person, the family, the community, and even the nation. The goal of violent acts, regardless of intensity, is the same—to create the emotional state of humiliation. Rarely do we hear the word "humiliation" used in the planning of relief to refugees. How can so many millions of people who have deeply been humiliated by violence, who have experienced atrocities, lost their home and belongings only to enter into impoverished refugee camps, be psychologically denied their reality? This lack of an appreciation of humiliation is not difficult to understand when one recognizes that modern psychology has ignored humiliation completely, not only as a personal state but also as a social process. Sigmund Freud in all his works never mentioned the term "humiliation." It is not hard to also witness that humiliating events are used to create the state of humiliation—the desired goal of the perpetrator. And that state is hidden often by the deeper and stronger emotions of despair/depression and anger/revenge. Often, both sets of strong emotions alternate in the same person. Humiliation is a profound and widespread form of human suffering associated with loss of dignity, honor, and the feeling of injustice.

Mollica (2006), in *Healing Invisible Wounds* referred to the phenomenological description of humiliation: *Perpetrators try to introduce into the minds of their victims their fundamental worthlessness. During acts of violence there is a complete absence of love, affection, and empathy. In trauma stories of extreme violence, the feeling of humiliation is fully revealed, allowing us to achieve a complete appreciation of all dimensions. Humiliation is a very complex human emotion because it is primarily linked to how people believe the world is viewing them. It is not a clear-cut emotion like fear, but rather a state of being, characterized by feelings of physical and mental inferiority, of uncleanliness and shame, of spiritual worthlessness and guilt, and of repulsiveness to others, including God or higher being.*

Only now we are beginning to clarify a humanistic psychology underlying the refugee experience, missing in *ADAPT* and the *GMH Action Plan*. Humiliation and violence leads to a totalizing loss of self-respect. It can have major impacts on a refugee's personal and social behavior. In psychology there are very important concepts associated with humiliation, such as learned helplessness and lack of self-efficacy. Violence-induced states can affect the refugee's ability to rebuild his/her community and a sense of well-being for their family. Often in refugee camps we re-create the state of humiliation by not allowing refugees to work, plant food, and make money for their families. Then there is always the ongoing threat of sexual abuse of self, family, friends, and neighbors. The refugee camp can freeze the state of humiliation in time not allowing a competent, dignified and effective human being with a well-defined social role to emerge. Unfortunately, no research on the state of humiliation and its impact on health and well-being for any refugee group exists. In a recent study of humiliation in Pakistani youth (N = 3,415), including some in refugee camps, exposure to humiliation was highly associated with somatic complaints after controlling for gender, residence and other measures of violence (Giacama et al. 2007). The researchers stated: *There are some worrisome links between "humiliation" and the "hunger for retaliation and revenge."* Through the incorporation of humiliation concepts into existing measures of exposures to violence and trauma, we can begin to make headway into our understanding of mental health, risky behavior and the healing of trauma. The full delineation of humiliation in refugees of all ages and its impact on their recovery needs to be established.

Healing (Self)

Research on resiliency and self-healing has opened up an entirely new area to be considered in dealing with highly traumatized refugee populations. This focus of research is now being directed at refugee camps through NGOs and humanitarian relief agencies, focusing primarily on psychosocial interventions. This dimension of refugee care builds on: (1) the strengths of refugees and their communities; and (2) the refugee's social support systems and network. The current focus on family

re-unification is to be applauded. Refugee camps become new communities, and these new communities need all of the political and economic support of any local civil society in a village or town. Mollica (2006), in *Healing Invisible Wounds*, recommends that the traumatized person at the outset of care be asked the following 4 self-healing questions: *(1) What traumatic events have happened?; (2) How are your body and mind repairing the injuries sustained from those events?; (3) What have you done in your daily life to help yourself recover?; and (4) What justice do you require from society to support your personal healing?* The NGO or UN agency can build upon the answers to these questions. This is usually a potent and inexpensive way of promoting recovery. The major 3 components of the social instruments of self-healing (i.e. work, altruism, and spirituality) have been well-described in the scientific and in the grey-literature of humanitarian relief organizations.

The recent document from the World Health Organization (WHO) and UNHCR entitled *Assessing Mental Health and Psychological Needs and Resources: Toolkit for Humanitarian Settings (World Health Organization and UNHCR* 2012*),* is based on the publication *Mental Health Support in Humanitarian Emergencies: What Should Humanitarian Health Actors Know (IASC Reference Group* 2010*)*, and the *Sphere Handbook's Standard on Mental Health (Sphere Project* 2011*)*. This document sets out to offer a wide range of tools related to Mental Health and Psychological Support (MHPSS) for actors and donors at all levels to improve the mental health and well-being for populations served by the UNHCR. The new WHO/UNHCR document does an adequate job in trying to bridge the need to assess mental health disorders and the access of these individuals to care, as well as provide the tools for assessing the wide range of psychosocial needs and services delivered to refugees by UNHCR and their NGO partners.

The strength of the WHO/UNHCR document is that it attempts to cover almost all psychosocial areas and mental health problems. The document also emphasizes cultural sensitivity, the need for contributions from all stakeholders, including refugees and informed consent. It is our opinion, that the document in contrast to ADAPT, the GMH Action Plan and the H^5 Model for Refugee Care has a limited theoretical foundation, and does not clearly define the major stresses on refugees and the related health and mental health outcomes. Priorities are not set for establishing the most potent, cost effective strategies for relieving suffering and promoting well-being. The core reality facing refugees—i.e. their traumatic life experience—is not mentioned. Assessing psychological models of suffering such as humiliation are absent. In addition, there is little assessment of the social instruments of self-healing such as work, altruism, and spirituality. Assessing quality of housing is only briefly mentioned in one instrument. Overall, this document reaches out to the UNHCR and WHO constituency with a list of instruments almost all that have not been culturally validated or proven to be evidence-based. The hypotheses underlying these instruments are not stated outright, the scientific validity of the tools not clarified, and the proper translation of instrument data to action at the field level not presented.

However, this document reflects an impressive recognitions by WHO/UNHCR that refugees have mental health needs and that some may suffer from psychiatric disorders and that a system of care needs to be in place to care for persons with mental disorders. It is important to notice that a small percentage of refugees are in need of psychiatric treatment, because they have been so badly damaged that they are unable to profit from community-based psychosocial interventions. In every refugee camp the seriously mentally ill will need quality psychiatric care, since those persons will need more assistance than can be provided by traditional healers and psychosocial programs (Silove and Rees 2011).

Health Promotion

There is emerging evidence that refugees, persons in post-conflict countries and those impacted by conflict have increased levels of long term chronic health outcomes attributable to their traumatic experiences and high levels of distress (Kinzie et al. 2008; Spiegal et al. 2010; Roberts et al. 2012). Refugees with higher levels of trauma have higher blood pressure and more diabetes than the general population (Kinzie et al. 2008). Post-conflict countries are showing long-term higher levels of mortality, harmful health behaviors (smoking, drinking, reduced activity, and higher obesity), high levels of hypertension and other risk factors for major health problems, with limited capacity and settings with which to deal with these problems (Roberts et al. 2012). Excess mortality in conflict-affected persons is higher for people outside refugee camps than those within and higher for IDPs than refugees (Salma et al. 2004), and the health care needs are the greatest where there is least capacity (Spiegal et al. 2010). In a study on the enduring impacts of the Pol Pot genocide, we found that older traumatic experience directly impacted functional and perceived health, whereas with more recent traumatic experiences the effect was fully mediated by PTSD and depression (Mollica et al. 2013). In a study of 105,180 adult asylum seekers in the Netherlands, who on reception were examined for physical illness and PTSD, there was a higher rate of Type 2 diabetes in those with PTSD (Agyemang et al. 2011). These indicators of worse health outcomes and needs are consistent with a growing body of literature showing the long-term relationships between traumatic experience and physical health. Within this light, it must be remembered that refugees and conflict-affected persons are amongst the most trauma-affected persons (Green and Kimerling 2004; Sareen et al. 2007; Janowski 2012; Del Gaizo et al. 2011; Cromer and Sachs-Ericsson 2006; Spitzer et al. 2009; Sledjeski et al. 2008).

The relationship between traumatic experience and health is complex, as neither trauma nor health, are simple constructs. Traumatic experience consists of a wide range of events, with findings generally supporting worse outcomes for human upon human violence compared to natural disasters. However, this is not a simple dichotomy as people throughout their lives experience multiple traumas, natural and human-made, and those that experience childhood trauma are much more likely

to experience other traumatic events (Sameroff and Rosenblum 2006). Further, specific traumatic experiences can be particularly potent, including torture, rape, disappearance of a loved one, unnatural death of a family member, ongoing child maltreatment, making the task of creating simple categories complex. Additionally, it is well established that those traumatized as children are more likely to experience lifelong traumatic experience adding to the burden they already carry (Anda 2006; Anda et al. 2008a, b; Felitti et al. 1998). Since there are dose effects of traumatic experience for all psychological outcomes (Mollica et al. 2013), there may also be dose effects for physical health outcomes (Sledjeski et al. 2008). Compounding these conceptual issues is the complexity of retrospectively measuring traumatic experience, with there being substantial problems in obtaining reliable and valid assessments of historic traumatic experience (Corcoran et al. 2000).

Similarly, health is a complex construct including objective and subjective elements. It consists of a large range of diseases/conditions, chronic and acute, a large number of symptoms that can apply to a range of diseases, functional health, perceived health and lifestyle risk factors known to negatively impact health. Further, the causes of ill-health are complex, including infectious agents, genetic factors, lifestyle factors (e.g. smoking), injury, stress, with many health issues having multi-factorial causes. Related to the outcomes of ill-health are a range of other factors that may in some ways be as important as the ill-health itself in determining the impact of disease, including help-seeking and compliance with and response to treatment. The relationship between traumatic experiences and the long-term physical illness and disabilities in refugees demands a new focus on health promotion (Tables 16.3 and 16.4).

While resettled, refugees, asylum seekers and civilians within post-conflict countries seem to be experiencing significant increases in chronic illnesses. Yet, few studies exist, if any, on the trauma-related health risks in refugee camps, especially those with long-stays. The potential health risk of trauma in refugees, however, is consistent with research showing a link between trauma and chronic disease that has recently been demonstrated. Research in this area shows that persons who experienced trauma are more likely to die younger of all causes, including external causes, and develop chronic illnesses (e.g. ischemic heart disease, diabetes) which severely impact their life. They have poorer behavioral health, they smoke more, use alcohol and drugs more, they exercise less and have poorer eating habits resulting. These are all risk factors for the development of chronic illnesses. This shows that trauma impacts chronic disease through direct and indirect effects, through mental illness (PTSD and depression) and through unhealthy lifestyle. The mediating role or importance of PTSD is an open question. Potentially, the simple trauma dose itself may be sufficient to explain most results, yet some diseases, particularly pain-associated disease, seem to be strongly related to PTSD. Particular traumatic experiences have differing effects, with human-instigated trauma being most toxic. All of this evidence points to the critical role of health promotion in highly traumatized populations such as refugees.

Table 16.3 Comparison of no trauma, trauma & PTSD by cardiovascular and endocrine diseases

Medical conditions, %	No trauma (n = 1,440)	Trauma (n = 1,669)	PTSD (n = 62)	χ^2	Trauma odds ratio (95.0 % CI)	PTSD odds ratio (95.0 % CI)
Angina pectoris	5.3	9.7	27.4	52.61***	1.2 (1.1–1.3)**	2.4 (1.3–4.5)**
Myocardial infarction	2.1	5.8	6.5	27.35***	1.1 (1.0–1.3)	1.1 (0.4–3.5)
Heart failure	16.5	25.6	61.3	93.14***	1.2 (1.1–1.3)***	3.4 (1.9–6.0)***
Stroke	1.5	4.0	3.2	17.70***	1.2 (1.0–1.5)*	0.7 (0.2–3.1)
Diabetes	6.8	13.5	19.4	41.63***	1.1 (0.9–1.2)	1.5 (0.7–3.1)
Thyroid disease	20.0	24.3	37.1	15.85***	1.0 (0.9–1.1)	1.4 (0.8–2.5)
Chronic bronchitis	3.8	5.7	21.0	38.05***	1.3 (1.1–1.4)***	3.0 (1.5–6.0)**
Bronchial asthma	1.9	3.5	11.3	22.04***	1.2 (1.0–1.5)*	2.9 (1.2–7.0)*
Peptic ulcer	5.1	6.1	12.9	7.34*	1.1 (0.9–1.2)	1.3 (0.6–2.9)
Liver diseases	1.0	2.3	9.7	27.62***	1.2 (1.0–1.5)	3.1 (1.2–8.2)*
Renal disease	2.6	5.4	9.7	20.06***	1.3 (1.1–1.5)**	1.6 (0.6–3.9)
Varicosis, thrombophlebitis	10.3	15.3	24.2	23.59***	1.1 (1.0–1.2)	1.5 (0.8–2.9)
Peripheral arterial disease	5.9	10.8	29.0	54.41***	1.1 (1.0–1.2)	2.5 (1.3–4.7)**
Polyarthritis, osteoarthritis	8.3	15.1	22.6	40.32***	1.1 (1.0–1.2)*	1.2 (0.6–2.4)
Osteoporosis	4.0	6.8	16.1	23.56***	1.0 (0.8–1.1)	2.1 (0.9–4.7)

Copy of Table 2 of Spitzer et al. (2009), Punamaki (1990)
* p 0.05; ** p 0.01; *** p 0.001
PTSD posttraumatic stress disorder, *OR* odds ratio, *CI* Confidence Interval

Table 16.4 PTSD compared with no PTSD in a large community sample

Chronic Condition (PTSD ≥ 6 months)	AOR	95.0 % CI
Community Sample n 36,984, ≥ 15 years, response rate 77.0 %		
Asthma	1.99	(1.38–2.88)***
Chronic bronchitis, emphysema or chronic obstructive pulmonary disease	3.08	(2.01–4.72)***
Chronic pain conditions		
Fibromyalgia	2.59	(1.50–4.47)**
Arthritis (excluding fibromyalgia)	3.46	(2.49–4.81)***
Back problems (excluding fibromyalgia and arthritis)	2.04	(1.51–2.74)***
Migraine headaches	2.77	(1.99–3.85)***
Cardiovascular diseases		
Hypertension	1.55	(1.09–2.20)*
Heart disease	1.69	(1.08–2.65)*
Neurologic diseases		
Stroke	2.31	(0.99–5.36)
Epilepsy	1.69	(0.58–4.94)
Metabolic conditions		
Diabetes	1.58	(0.92–2.73)
Thyroid condition	1.06	(0.68–1.64)
Gastrointestinal diseases		
Bowel disorder (Crohn's disease or colitis)	1.85	(1.07–3.21)*
Stomach or intestinal ulcers	1.93	(1.22–3.07)**
Other conditions		
Chronic fatigue syndrome	5.78	(3.47–9.65)***
Cancer	2.69	(1.36–5.32)**
Multiple chemical sensitivities	3.95	(2.46–6.35)***

PTSD posttraumatic stress disorder; chronic condition a condition expected to last or already lasted 6 months, diagnosed by a health professional; AOR (95.0 % CI) adjusted odds ratio and 95.0 % confidence interval-adjusted for gender, age, marital status, education, income, depression, mania, panic attacks, agoraphobia, social phobia, alcohol dependence, and drug dependence

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Housing and Habitat

This is an exciting and important new area of refugee mental health research. The iconic image of refugees living in tents, mud huts, and bamboo shacks liter the global news (Frankenberger and Maxwell 1992). The overall quality of such a housing and it relationship to trauma recovery at this time still seems to be almost an irrelevant question. Simply stated, *Does refugee camp housing affect the refugee's health and well-being?* Similar to the concept of humiliation, this domain of recovery has received little research attention. As Al-Khatib et al stated in their study on the impact of the housing environment on Palestinians' health in their refugee camps: *Nowadays, Palestinian refugee camps are a model of poor*

environmental conditions and lack of green and planted areas or open spaces, with overcrowding (Al-Khatib et al. 2005).

"Habitat" may be a more overarching term than housing, since it is defined by the Oxford Dictionary as, *The natural environment characteristically occupied by a particular organism. One's dwelling place. Usual surroundings.* In this definition, the expression "natural environment" usually implies an underlying state of harmony with one's residence that probably does not exist in the housing and physical environment of most refugee camps. In the study by Al-Khatib et al. (2005) on the effect of housing on women's health these researchers describe in graphic detail the dilapidated quality of UNRWA housing for the Palestinian refugees living in their housing. Nearly 90.0 % of married woman suffered from health problems and the results show a significant relationship between crowding and the lack of privacy. These researchers were able to point out that repetitive use of the upper extremities by women doing hard house work in overcrowded environment lead to neck problems. Mechanisms for headaches and back pain were also discussed. In this age of modern housing design, new materials, the green revolution and technological innovation modern housing for refugees are being reinvented that are cost-effective, healthy, and can replace the UN housing commonly seen in current reports of refugee camps.

Conclusion

This chapter has attempted to demonstrate that refugee care needs a new model of recovery for refugee communities world-wide. Over the past three decades, impressive gains have been made in recognizing the importance of mental health in the emergency phase (Mollica et al. 2004) and in identifying and treating the small number of refugees with serious mental illness (Silove and Rees 2011). It is our opinion that the long-term recovery of refugees focusing on the entire population is in need of a new paradigm of refugee care. We began with the acknowledgement that all refugees are trauma survivors, that their traumatic life experiences are often of a horrific nature, and that they affect all aspects of the refugee's personality, family life, health, emotional well-being and recovery. And in line with the advances at the macro- and micro levels of the *Trauma-Informed Care* movement, all key stakeholders in the UN and their partners and donors, including the refugees themselves, must be cognizant of the impact that traumatic life experiences have on their well-being and recovery. The model by *H[5] Refugee Trauma and Recovery* begins with highlighting the centrality of the trauma story for all refugees of all ages with whom we came into contact. Survivors of trauma need each of the 5 dimensions of care to be considered and used in crafting refugee policy, planning, and services. A refugee and IDP camp must first and foremost be a place of restoring emotional and physical health and well-being, and not an environment of poverty and despair that creates illness and emotional suffering by re-traumatizing its refugee community. In this chapter, the 5 basic dimensions of our "refugee care

model" were presented. Within each of the 5 dimensions, culturally and scientifically valid approaches need to be elucidated and translated into action at the field level. This chapter has laid out the road-map for this process to occur. Our recommendations that follow cite only the beginning of a long and elaborate scientific discussion that needs to occur. These recommendations are the first step that can be embraced by all key stakeholders to create a new trauma-informed care community of practice.

Human Rights

Ongoing human rights violations in the refugee camps need to be documented, closely monitored, and brought to the attention of camp authorities for remedy. Social justice issues, including camp violations, need to be openly addressed with the refugee community and adequately responded to within the limitations of the UN mandate.

Humiliation

Make available the UN *Code of Respect* by the UNCR and its proxies, toward maintaining the dignity of all refugees must be written, enforced, and widely disseminated. Policies and programs that do not degrade refugees and actively enhance their self-living must be planned and implemented. This includes the promotion of independent living and self-sufficiency and zero tolerance for gender and child-based violence, including sexual abuse, rape and domestic violence. UN staff and NGOs should never behave in a humiliating or culturally degrading manner, or exploit the vulnerability of the refugees they serve.

Healing (Self)

Provide an initial needs assessment to determine their self-healing status as early as upon entering the camp to all refugees, including adolescents and children. Psychosocial programs must build on the strengths that are illuminated by the needs assessment, including readily accessible programs for work, spirituality, and altruistic behavior (i.e. volunteerism). Psychiatric services should be made readily available at the refugee health clinics for the seriously mentally ill.

Health Promotion

Implement a universal health promotion program for all refugees in the camps that include diet, exercise, stress reduction, sleep hygiene, and other health promotion techniques and programs.

Housing and Habitat

Enable refugees to participate in the design, construction, and management of their refugee camp homes in order to meet their cultural and personal needs. Emphasize quality of construction; more attention should be paid to safety within the home, including a danger-free work environment for women and play space for children.

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