

と総称される。CHE は、「内乱や戦争などを含むさまざまな要因に基づくある人口集団における比較的急性の状況で、食糧不足や人口移動などの影響もあって、過剰の死亡や罹患を来す事態」と考えられるが、この際、従来の居住地を離れているが国境を越えてはいないため、国際的に「難民」と認定されず、より悲惨な状況にある IDPs を多数発生させることが特徴ともいえる。

このような避難民への緊急的支援は人道上不可欠ではあるが、発生原因が民族宗教問題化する中で、従来からの人道援助は膨大な資金を要しながら根本解決につながらないことから、特に途上国での難民対策はその発生予防を目指した開発支援に重点を置くべきとする意見も強まっている。いずれにしても、人道上必須ながら対症療法的な『発生した避難民が抱えている問題』対策と、恒久的根治的ではあるが政治的で実践困難な『難民問題の発生予防』への取り組みが、不可分なまま、あいまいに混同されてきたきらいはある。

さらに、例えばイラク、アフガニスタンのように、紛争地での無差別テロが常態化する現在、善意や意欲だけでの救援が不可能なだけでなく、civilian による人道援助が限界にある事態が増えている。

古典的な援助のあり方は周知しておくべきだが、それを修得したからといって、直ちに救援現場で活動できる時代ではないことを十分理解しておく必要がある

## 5. 避難民援助

災害や紛争の被災者への救援は、救急医療の一部として始まった\*が、やがて公衆衛生活動を中心とするようになった\*。UNHCR や UNICEF、国際的な NGO/NPO らは、それぞれ救援のガイドライン、ハンドブックまたはマニュアルをもっているが、ここでは 1997 年に、人道援助に従事する NGO と国際赤十字・赤新月社連盟 (IFRC) が主体となり、WHO など国際機関も関与して合意したスフィア・プロジェクト Sphere Project (<http://www.sphereproject.org/>) のハンドブックにそって解説したい。

著者の一人は、WHO 本部緊急人道援助部勤務時、同僚からスフィア・プロジェクトへの関与を要請され、ハンドブック作成を手伝ったが、その副題が「人道憲章と災害救援に関する最低基準」とされた最大の理由は、「基準とは、与えられる/救援されるべきものの最低量や数値ではなく、被災者であれ、人間として持つべき尊厳のある最低の生活の質であり」、どこでも当たり前のこととして適応されるものとの考えからであった。

スフィアの特徴は、以下のようなものである。まず、それまでの具体的な医療・保健活動また

はロジ的支援ではなく、① 救援の柱は人道憲章としたこと、② 5主要セクターとして、i) 水と衛生、ii) 栄養、iii) 食糧援助、続いてiv) シェルター、最後に保健活動が置かれ、現実の地域集団の生存に沿った救援を想定したこと、また、③ プロジェクトの主導権は NGO を持ち、さらに ④ 救援時の各セクターでの決定時には、必ず、被災者が参加することを求めた上、男性だけでなく女性の関与を求めていること、など、画期的な発想が含まれている。

現在は、2000年に完成し、翌年は発行された初版(日本語は2001年)を試行した多数のNGOの現場経験のフィードバックを含めた、2004年に出版された改訂版があるが、上記HPでダウンロードできる。日本語版は、アジア福祉教育財団 難民事業部が扱っている。

改訂版も初版同様、人道憲章を最初においているが、紛争や災害など、原因の如何を問わず、本来の居住地を離れざるを得ない「避難」を、「人権を侵された事態」として取り組む必要があることを示している。今後、救援者が十分認識し、理解しておくべきであろう。改訂版では、さらにある集団が実際に居住・生存できることに沿った救援のあり方が強化され、食糧の安全性(確保)の追加と共に、避難民の参画、初期評価、(救援)活動、援助の対象、モニタリング、救援活動の評価および救援スタッフの能力や管理など、セクターとは関係なく、救援に共通する事項についても基準が示されたことである。さらに、セクターに関わりなく考慮すべきものとして、子ども、高齢者、障害者、ジェンダー、保護、HIV/AIDS、環境という7事項が取り上げられている。

以下、同ハンドブックの内容に準じて避難民救援を解説する。

### 5-1. 救援と人権

被災者は援助を必要としていても、すべての人々が、無力で無能なわけでない。個々の人々だけでなく、家族や地域集団としての能力や回復力をもっており、それを尊重することは救援の基本である。一方、誰でも、どのような状況でも、人間としての尊厳は護られるべきである。スフィアという人道憲章(Humanitarian Charter)は、いわゆる国際人道法<sup>5</sup>とよばれる多様な条約が含まれるが、その骨子は、「災害または武力紛争の被災者

<sup>5</sup> 「国際人道法」という固有名詞をもった条約はなく、1971年に「武力紛争に適用される国際人道法の再確認と発展」に関する会議で用いられた国際的な条約や慣習法を総称したものである。基本的には、武力紛争で傷ついたり病気になったりした戦闘員、捕虜さらに紛争に従事しない一般住民 civilian を人道的に取り扱うことに関する合意基盤となる「ジュネーブ4条約(1949)」とそれに対する「2追加議定書(1977)」を中心に、「世界人権宣言」、「難民の地位に関する条約」、「子どもの権利に関する条約」など多様なものが含まれる。

に対して一定レベルのサービスの提供により、基本的な人道原則が遵守されることを目指す」ことである。

## 5-2. 水の安全性と衛生 (Watsam and Hygiene)

生物の集団生活で、最も重要なものは水の確保と排泄物の処理に尽きる。どのような避難民であれ、水補給は最初かつ必須の need であり、排泄物処理を含む衛生対策は最初かつ必須の must である。

5-2-1. 水: 生存に必要な水の量 1日 2.5~3.0ℓ、調理に必要な水を 3~6ℓ、基本的な衛生状態を維持する 2~6ℓなど、一人当たり 1日最低 7.5~15ℓが推奨される。日本人の一日当たり平均水使用量 324ℓからすると、きわめてわずかであるが、実際にはこれを確保することすら困難な場合が多い。最も近い給水源を 500m 以内、また簡易水道では 1 蛇口当り人口を 250 人、1 手動ポンプでは 500 人、1 開放井戸では人口 400 人当りとする。

水質の問題も重要であり、排泄物による汚染を防ぐことは必須(100ml 当り大腸菌ゼロを基準とする)だが、下痢性疾患が発生している場合には、塩素などの消毒薬による殺菌水配布も考慮する。化学物質は軍事的な放射性物質の汚染の危険がある場合には、早急に専門的な調査を行う。

給水に関して重要なことは、10~20ℓ程度の蓋または栓付きの容器を最低 2 個、清潔を保つための石鹼の配布などにも留意する。ただし、水不足の避難地での石鹼使用は、ある種矛盾もあってジレンマを感じることもある。

5-2-2. トイレと排水: 集団生活では、排泄物処理を含む衛生対策もきわめて重要である。1 家族あるいは最大 4、5 家族または最大 20 人に 1 トイレを居住区から 50m 以内に設置することが推奨される。しかし、避難当初は最大 50 人までを許容するが、それも不可能な場合、用便の穴を含め、厳重に排泄区域を規定し、水源を汚染しない対策を徹底する。集団が大きくなれば、通常、男女別比率を 1:3 の公共トイレも設置する。また、避難当初には、インフラのない避難地での排水問題も重要である。まず、し尿と生活廃水の混合を防止し、洗濯などの排水は菜園などの利用できる。

いずれにせよ、水、トイレの安全対策は、避難民の関与なくは成功しない。あわせて衛生教育を行うことが重要となる。

## 5-3. 食糧の確保 (Food Security)

救援時、栄養障害は最大の公衆衛生的問題であり、実際、「食糧は最良の医療/くすりである」といえる。また、すべての人は、生存に必要で、かつ汚染されておらず、文化的にも許容できる食糧を保障されているべき、との考えに基づくと、災害や紛争時の安全な食べ物補給は、水を除き、最大の柱となる。

実際に行うべきことは、避難地の地理的条件や生活状況をも考慮しての食糧の入手、移送、保存、配布を含む「食糧確保」の評価、と個人および集団の「栄養状態」の初期評価を同時並行して実施し、その結果から、適切な対応を迅速に決定する。しかし、きわめて多数の避難民の救援では、まず、① 集団生存のため、② 救命活動、③健康増進(補助レベル)に分けて考えねばならないが、規模の小さな救援活動では、成果は限定されてしまうため、例えば、妊婦や授乳女性または小児、高齢者などに特化したプログラムを考えることも必要となる。また、救援のため食糧が買い占められ、食糧不足や物価高騰のためにホスト地域住民の生活が脅かされたり、過剰の食糧配布によって、避難民の自助努力を阻害されたりするようなことがあってはならない。一方、Food for work(働いて食糧を)という雇用と食糧配布を結びつけた活動もある。

栄養評価は、集団の概観<sup>6</sup>、食糧保持量の推定、指導者を含む一定人数への問診などをおこなうが、計測は、通常、5歳未満児の栄養障害をみる。短期間の食糧不足を反映しやすい年齢別身長対体重比(weight-for-height)、または上腕周囲径(Mid-Upper Arm Circumference、MUAC)<sup>7</sup>を参考とする。各種栄養障害の有無と頻度、下痢症など栄養状態と関連する要因と程度、食糧備蓄や配布状況、難民の調理手段や栄養知識も参考にする。

#### 5-4. 栄養(Nutrition)

栄養に関しては、前項の食糧確保における具体的な栄養障害の有無の初期評価に続く段階だが、一般的栄養支援と具体的な栄養障害への対応に分けて考えるが、最近では、1人当たり1日2,100Kcal<sup>8</sup>、内10-12%をたんぱく質で、17%を脂肪で補うことが推奨されている。

<sup>6</sup> 通常、人口構成をみる時、5歳未満と10歳までおよび15歳までを各10~12%、計30~35%、妊産婦は約5%、高齢者を5~7%と想定する。

<sup>7</sup> 1歳頃までは筋肉発達未熟だが、かなりの脂肪があり、5歳頃には筋肉発達に応じて脂肪が減少するため、上腕中部の太さの変動がわずかなことを利用した測定法。一見簡単そうだが、実際は数mmの誤差が判断を誤らせることがあり、訓練が必要。

<sup>8</sup> このカロリーが継続的に補給可能な救援計画はほとんどない。また、緊急時には500Kcalの削減も提言されているが、80年代には1600Kcal程度が基準であったこと、さらに健常者と治療食を同列に論じることはできないが、わが国の糖尿病治療食が1500Kcalであることからすると、やや、過大な感を受ける。

一般的に基本的な栄養支援は、主食となる穀物やイモ類、豆類を中心に、脂肪さらに供給可能な動物性蛋白を一定量確保することに始まる。トウモロコシ類を主体の時には豆、ナッツ類によるナイアシン補給を、また、ビタミン類特に A や鉄分補給を考慮して食糧品を選択するが、緊急事態には実践困難なことが多い。

次いで、栄養障害に陥りやすい集団として、妊婦、授乳女性、乳幼児さらに高齢者や HIV 感染者<sup>9</sup>や AIDS や結核など慢性病を持つものへの対応を考える。このような場合、全避難民集団内で不公平が生じないような計画が必要であり、栄養センターなどで対象集団に平等に配布する。

#### 5-5. 食糧援助 (Food Aid)

最近の武力紛争による避難民での食糧援助は、WFP など規模の大きな組織にゆだねられることが多いが、基本的な考えは以下のものである。

出来る限り、避難民が常食してきたものを主体に、家庭で調理可能な固形食糧を基本とする。また、過剰の無料配布は極力避ける。配布は、食糧不足が最も深刻な人々を優先し、可能な限り、早く配布を終了する。きわめて緊急な事態あるいは調理手段がない場合には、調理済み食糧や集団給食の計画も必要となるが、外部からの過剰なインスタント食糧の持ち込みは極力制限する。また、救援のための調達で、地域の食糧不足や価格の高騰をもたらさない配慮も必須である。

#### 5-6. シェルターおよび定着 (Shelter and Settlement)

シェルターは、かつては避難地の居住のみが想定されていたが、最近では、本来の居住地への帰還・定着までを考慮した最終的かつ最良の解決を意味している。

一時的避難地では、1人当りの居住空間を最低 45 m<sup>2</sup>とするが、この中には、家族の生活の場、道路、教育・衛生施設、給水・貯水場などの公共施設や管理事務所、さらに家庭菜園や小動物の飼育区域を含む。集会や娯楽施設、特に子どものための施設を含む公共の場、また、安全な通路の設置などがシェルター計画の範疇に置かれる。

多くの避難地では、テントや一時的住居内で調理することが多いが、その際の換気とくに煙の排出に留意する。

<sup>9</sup> HIV/AIDS と授乳に関し、避難地でも途上国でもジレンマがある。母親(女性)の HIV 感染の認識の有無にかかわらず、赤ん坊に十分な代替栄養が保障できない場合、AIDS 治療薬のないまま母乳をすすめざるを得ないこともある。

緊急時で、十分な場所を確保できない場合、最低限、留意することは、寒暖、降雨、風雪などの自然現象から保護されること、紛争地での武力襲撃からの遮断と、避難地区内では、トイレ用穴などを含む排泄処理地域を区画し、居住地区の衛生を保持することである。時に、死者への弔いや遺体処理の場が最も重要な場合や広い墓地が必要になることもあるが、文化的風習は避難民の意向を尊重する<sup>10</sup>必要がある。

食糧調達同様、シェルターのために近隣の山林が伐採されたり、市場の建材が高騰したりすることのないような配慮も必要である。

#### 5-7. 食糧以外の補給 (Non-Food Items)

この中には、衣類、毛布やマットなどの寝具、石鹸類や歯ブラシ、剃刀などの個人的衛生用品、さらに女性の生理用品や乳児のオムツ、高齢者の失禁対策用品、また、料理鍋、フライパン、包丁、スプーンなどの調理用品、最低 10ℓ以上の蓋また栓付きの貯水タンク、調理用コンロまたはストーブ、個々人の食器、ランプ、ろうそくなどの照明器具も含まれる。

しばしば、哺乳ビンが提供されるが、特別な事情で用いなければならない場合以外は使用しない。

#### 5-8. 保健活動 (Health Services)。

現在の避難民への保健医療支援は、すべての人は健康を維持し、必要で適切な保健サービスを受ける権利があることを全うすることが、基本の考えとなっている。かつて救急医療が避難民援助の主体のように行われた時期もあったが、現在は人道的配慮を加味し、保健教育を同時に行う、予防的<sup>11</sup>な Primary Health Care が主体となる。表 2 に、各種災害が及ぼす公衆衛生面への影響を示したが、緊急時には、隔離された少数者への支援のために、一時的には移動診療 (mobile clinic) が必要なこともあるが、地域の保健機関との連携が必要である。

また、如何なる保健活動を行うかは、避難民の集団としての健康状態、ニーズ、ど

表 2 各種災害が及ぼす公衆衛生面への影響

<sup>10</sup> 弔いのために遺体を抱擁する習慣がある地域では、特に、エボラなど出血熱などの流行や感染症がないかどうかの判定が重要である。

<sup>11</sup> 単なる感染症予防ではなく、集団の過剰の死亡や罹病を防止することが含まれる。

影響	Complex Emergency	地震	洪水を伴 わぬ強風	洪水	津波 / 鉄砲水
死亡	多	多	少	少	多
重篤な外傷	色々	多	中	少	少
感染症のリスク	高	低	低	色々	少
食糧不足	よくある	稀	稀	色々	よくある
大規模避難	よくある	稀	稀	よくある	色々

んな健康の危機が発生する危険性があるか評価し、避難民とともに決定するが、その際避難民内にどのような人材とどのような資源があるかも含めて迅速に決定する。5-3に述べたが、大雑把に15歳以下を30～35%、妊産婦と高齢者をそれぞれ5%とみなして、保健活動に必要な資材を算出し、計画を立てる。また、全体としての健康状態は、粗死亡率（CMR、Crude Mortality Rate。人口10,000の1日当りの死亡数）と5歳未満児死亡率（U5MR、Under 5 Mortality Rate。5歳未満児10,000人の1日当りの死亡数）を参考に、すばやく判断する必要がある。

表3に改訂版スフィア・プロジェクトが参照にしている地域毎のCMR、U5MRを示したが、いかなる理由であれ、粗死亡率が2.0を越える事態は、集団全体の生存に関わる事態がさし競っていることを示している。

表 3 地域毎の粗死亡率・5歳未満児死亡率

地域	CMR	緊急事態指標 となるCMR	U5MR	緊急事態指標 となるU5MR
サブ・サハラアフリカ	0.44	0.9	1.14	2.3
中東・北アフリカ	0.16	0.3	0.36	0.7
南アジア	0.25	0.5	0.59	1.2
東アジア・太平洋地域	0.19	0.4	0.24	0.5
中南米	0.16	0.3	0.19	0.4
中央・東ヨーロッパ <sup>a</sup> /CIS/ バルト諸国	0.30	0.6	0.20	0.4
先進工業国	0.25	0.5	0.04	0.1
発展途上国	0.25	0.5	0.53	1.1
後発展途上国	0.38	0.8	1.03	2.1
全世界	0.25	0.5	0.48	1.0

出展：UNICEF State of the World's Children 2003

保健活動は集団全体の過剰の死亡や罹病を減らすこと、予防するものが優先されるが、可能な限り、受入国や地域の保健セクターの責任機関が主導的役割をもつこと、また、どのような状態でも、全救援者/組織の連携が必要である。外部救援はあくまで支援の立場、また、一時的であるべきだが、中央または地方政府が崩壊したり機能不全に陥ったりしている場合には、主導的にならざるを得ないこともある。また、地域の保健セクターや国連機関（UNHCR、WFP、UNICEF、WHO など）との連携、また、救援活動の他分野との連携も重要だが、最近の武力紛争では、軍隊との連携も無視し出来ない事態もある。

スフィアでは、コミュニティレベルでは、住民 500～1000 人に対し 1 ヘルスワーカーを、2000 人に対し訓練を受けた分娩助産者 1 を、家庭訪問員 10 名ごとに 1 指導者を置くこと、また、人口 10,000 人程度の地域の保健施設では、医師 1 名と 2～5 名の保健スタッフその他の勤務者を、また、リフェラル施設は、人口 50,000 名をカバーし、医師 1 を含め有資格保健員 5 名以外に、入院、調剤、検査など約 10 名の勤務員を推奨している。

具体的な活動については以下のようである。

5-8-1. 感染症予防対策：一般的な予防対策では、衛生、保健教育が重要である。

緊急時には、生後 6 ヶ月から 15 歳の全員への麻疹予防接種を優先する。麻疹の予防接種率が 90% 以下と判断される場合には、5 歳未満児への集中的な予防接種キャンペーンを施行し、次いで、対象を年長児に広げる。予防接種の際には、ビタミン A 投与を同時に行う。

マラリア<sup>12</sup>、コレラ、赤痢、腸チフス、黄熱、髄膜炎その他の感染症予防は状況に応じて行う。

5-8-2. 感染症治療対策：大規模集団発生への対応は、地域あるいは避難キャンプが一帯となり、緊急的な対策を要するが、通常、WHO などの関与を求めることが多い。

急性疾患では、短期間の対応を徹底するが、HIV/AIDS や結核<sup>13</sup>など、経過が長期にわたるものでは、栄養、衛生その他のプログラムとの連携が重要になる。また、マラリア汚染地区では、早期診断と感受性のある薬剤の提供が必要である。一般的に、経口補水

<sup>12</sup> 殺虫剤付蚊帳の使用が有効だが、住居の構造などから、緊急時の避難キャンプでは、配布および使用が困難なこともある。

<sup>13</sup> 避難民キャンプでも、DOTS(Directly-Observed Therapy, Short-course、短期直接監視下療法)が推奨される。



塩や静脈用補液、基本的な抗生物質、ワクチン、さらに投与に必要な消耗品などは必須医薬品<sup>14</sup>として継続的に補給できるようにする。

通常、多くの感染症は臨床診断が可能なため、検査診断に精力はおかれないが、基本的な治療による効果が限定的な場合、検査が必要になることも想定し、連携をもてる検査室を決めておく必要がある。

5-8-3. HIV/AIDS 対策:世界各地で、一般的におこなわれている HIV/AIDS 対策を継続することに尽きるが、緊急時、男性用コンドームの無料配布と、その使用法の教育を徹底することは、きわめて重要である。また、紛争地付近では、安全な血液補給の徹底が必要だが、困難なことも多い。

不穏地域では、レイプによる感染も稀ではないが、特に居住地から離れた地点での水汲みや燃料収集における女性の保護、HIV 感染者への差別、偏見の解消への炉力も忘れてはならない

5-8-4. 非感染症対策:外傷、リプロダクティブヘルス、精神衛生問題、悪性腫瘍や生活習慣病など、先進国型疾患が含まれる。

5-8-4-1. 外傷:大規模自然災害では、通常、生存者の 90%程度は、72 時間以内に、近隣の住人か地元の救援隊によって救出されている。したがって、自然災害では、初動救援そのものを地元住民が担える体制作りが重要となる。この際、トリアージが必要だが、トリアージ節を参照されたい。

5-8-4-2. リプロダクティブヘルス: 通常、分娩の 15%程度に合併症があり、5%程度の帝王切開を想定する。避難民でのリプロダクティブヘルス(RH)の重要性は認識されているが、実際の対応が等閑にされていることが多い。スフィアでは、緊急時の最小限の RH のニーズ対応に、基礎的な用具と消耗品<sup>15</sup>に、実際の活動を組み合わせた MISP (Minimum Initial Service Packate、最低初期活動パッケージ)という考えを想定している。この中には、女性への暴力(Gender-based violence)対策、HIV 感染予防、新生児と妊産婦の過剰の死亡防止、総合的な RH サービスなどが含まれる。

5-8-4-3. メンタルヘルス: 本来の居住地を離れざるを得ない事態、避難、未知の地での生活など、避難民のすべてが精神的にダメージを受けていても不思議はない。ことに最近

<sup>14</sup> 必須薬品(Essential Medicine)としての補給が重要。

<sup>15</sup> UNFPA(国連人口基金)は、コミュニティ、異なる PHC レベルヘルスセンター、リファレルセンターなどで段階的に使用できる 12 種のサブキットから RH キットを作成している。

の地域紛争は、それまで地域住民として交流があったり、時には親しい隣人であったりしたものが対立し、家族同士が殺しあうこともあって、特に子どもでは、耐え難い苦痛を受けている。PTSD(Post-traumatic Stress Disorder、心的外傷後ストレス障害)を含め、出来るだけ、早期からメンタルヘルス対策を行うが、通常は PHC レベルでの対応を考える。

#### 5-9. 普遍的な基準(Common Standard)

この章は、スフィアでは、人道憲章の次ぎに置かれている。救援計画への避難民の参画、初期(迅速)評価、実際の対応、モニタリング、評価さらに救援者の資質・能力、管理のあり方、について一般的な留意点を述べているが、ここでは概略を示すにとどめる。

#### 参考文献

- 1) UNHCR Home page. <http://www.unhcr.org/home.html>
- 2) UNHCR Handbook for Planning and Implementing- Development Assistance for Refugees (DAR) Programmes. <http://www.unhcr.org/publ/PUBL/44c4875c2.html>
- 3) Sphere Project. <http://www.sphereproject.org/>
- 4) Refugee Health. An Approach to Emergency Situations. Medecine sans Frontiers [http://www.refbooks.msf.org/msf\\_docs/en/Refugee\\_Health/RH1.pdf](http://www.refbooks.msf.org/msf_docs/en/Refugee_Health/RH1.pdf)
- 5) US Committee for Refugees and Migrants Home page: <http://www.refugees.org/>
- 6) Perrin, P. War and Public Health。 Handbook on War and Public Health。 ICRC、 Geneva. 1996
- 6) 喜多悦子 厚生省国際医療協力研究班「被災民の保健医療援助に関する研究」報告書 1996
- 7) Leaning, J. Humanitarian Crisis The Medical and Public Health Response. Harvard University Press. Boston. 1999.

Public health policies and health services

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**1 Overview**

This chapter aims to describe Japanese experience in making public health policies and providing with health services during the economic and social development, and to draw lessons that may be applicable to other developing countries. First, Japanese history of public health and medical services is briefly overviewed to help understand background concepts and views toward health services in Japan. Second, as an example of Japanese experience in the process of social and economic development, maternal health care and family planning policies and services in 19th and 20th centuries are reviewed. Third, the development of universal coverage of health insurance and new challenges caused by demographic and economic changes are examined. Finally, lessons from Japanese experience are discussed, so that the experience could contribute to improve health policies and services in developing countries.

**2 Historical review**

**2.1 Before modernization**

During ancient and medieval eras in Japan, medical services were mainly composed of Chinese herbal medicine, originally brought by the Buddhism monks and scholars, and various kinds of spiritual prayers. In those days, medical service provision was one of the important tools of reigning people, as well as a charitable activity based on Buddhism belief.

The first government's attempt to establish a health service institution for the general public was probably the Seyaku-in in 730, which provided the poor with herbal medicines. The government in eighth century also defined a legal framework and job descriptions of health service providers, such as physicians and midwives.

Medical skills of Europe were brought in Japan by Christian missionaries in 16th century. During 17th and 18th centuries, the feudal government banned

Christianity and isolated the country from all foreign countries except minimum contacts with the Netherlands and China. However, quite a few Japanese physicians were eager to learn European medical knowledge and skills. A landmark achievement was *Kaitai-shinsho*, published in 1774, which was an anatomy book translated into Japanese from Dutch by a group of Japanese physicians lead by Sugita Genpaku. The physicians who learned European medical sciences tried to introduce a scientific approach in medical services.

In 1823, Philipp Franz von Siebold, a German physician served for the Dutch Consular in Nagasaki, arrived in Japan. He opened a school called *Narutaki-juku*, and taught European medical and biological sciences, as well as clinical skills, to well-motivated Japanese students.

However, most people could not afford to consult any physicians during the feudal era in Japan. It was an urgent need for the government to provide the poor with medical services to mitigate frustration of the people and to prevent anti-government uprisings. The government established a clinic to serve the poor, *Koishikawa Ryoyo-sho*, in 1722 within a medical herb garden complex in Edo, or current Tokyo, which is the current *Koishikawa botanical garden* of Tokyo University.

A first large scale public health intervention in Japan was small pox immunization campaign. The immunization technique was brought in Japan at first in 1744 by a Chinese and then in 1848 by Dutch physicians. Following the advice of Japanese physicians who learned Dutch medicine, the government established *Shuto-sho*, or a small pox immunization facility. Then, small pox immunization activities were extended throughout the country, including the northern island Ezo, or current Hokkaido, thanks to the efforts of a group of devoted physicians.

## 2.2 After Meiji restoration

Established in 1868, the Meiji imperial government tried hard to catch up the industrialized countries in Europe and the United States in terms of economic and military capabilities. The major objective of the government was to defend the countries from invasion of the advanced countries by building up a rich industrialized country and a strong military force. It was an urgent task for the government to improve health and education of the people to increase productive laborers and strong soldiers. Particularly, controlling infectious diseases such as tuberculosis and improving maternal and child health were important policy objectives.

It was also urgent to bring in European and American science and technology. The government invited European scholars to teach Japanese academics and

students in imperial universities and public schools. The salaries of the foreign scholars were sometimes as high as those of high-ranking government officials and prefecture governors. For example, Aichi prefecture authority invited Leonor Michaelis as Professor of Biochemistry of Nagoya University School of Medicine between 1922 and 1926, offering a very high salary. Michaelis, then 47 years old, was a German biochemist and physician who had been already famous for Michaelis-Menten hypothesis of the mechanism of enzyme-catalyzed reactions. During his tenure in Nagoya University, he established Department of Biochemistry, and trained many Japanese scholars and physicians.

The government also sent capable young officials and students to European countries such as Germany and the United Kingdom to learn medicine, science, law, and so on. They returned to Japan after several years, and worked for the government to develop their specialties in Japan. For example, Mori Rintaro (Ogai), an Army physician and a novelist, was sent to Germany from 1884 to 1888 and later became the head of the Army Medical Services. Takaki Kanehiro, a Navy physician and the founder of Jiikei Medical School, was sent to the United Kingdom from 1875 to 1880 and later became the head of the Naval Medical Services.

The concept of public health and hygiene was developed by Nagayo Sensai and Goto Shinpei. Nagayo, a physician who learned Dutch medicine, was sent to Europe as a member of the government study team lead by Iwakura Tomomi between 1871 and 1873. He came back to Japan to be the director general of medical services. He introduced the concepts of public health and hygiene, and developed public health policies and legal frameworks of medical services. Goto, a prominent statesman, was originally a physician and was the director of Aichi Hospital, or current Nagoya University Hospital. After studying in Germany between 1890 and 1892, then 35 year old Goto was appointed by Nagayo to be the director general of hygiene of the Ministry of Interior.

Lacking specific technical knowledge of public health and medicine, the Ministry of Interior and local police offices could not manage the growing demands of public health services. Thus, Ministry of Health and Welfare was established in 1938, integrating functions of public health and hygiene, quarantine, infectious disease control, food safety control, pharmaceuticals, social insurance and welfare in the Ministry of Interior and other bureaus.

There were about 5,200 physicians who learned European medicine and about 23,000 physicians who learned traditional herbal medicine in 1874. Since the estimated total population of Japan then was about 35 million, there were about 80 physicians per 100,000 population. However, their qualification and capability were varied and hardly any physicians were available in rural areas.

Thus, the government established qualification and licensing mechanisms of physicians, called I-sei, in 1874. Medical schools were established in most prefectures by 1877 as affiliations of public hospitals.

### 2.3 Post World War II

Following the end of the World War II, Japan was occupied and administered by the general headquarters (GHQ) of allied forces lead by the United States Army. Colonel Crawford F. Sams was responsible for rehabilitating and rebuilding public health and medical services in the occupied Japan between 1945 and 1951.

Sams gave orders to his Japanese counterparts in the Ministry of Health and Welfare to control infectious diseases through various measures such as improving sanitation and hygiene, spraying DDT, and immunizing children. He also tried to improve nutrition of children by introducing school feeding programs. Sams brought a scientific and evidence-based approach in Japanese public health and medical services. His team established model public health centers for installing the concepts of epidemiology, public health and hygiene among health policy makers and administrators, as well as providing people with basic health services by public health nurses.

Japanese economy had taken off since mid 1950s. Prevalence of infectious diseases dramatically fell down, because of various public health measures, as well as improvement of living conditions along with economic development. In mid 1950s, there were about 90,000 physicians, or about 100 physicians per 100,000 population, and about 500,000 hospital beds. By the end of 1990s, physicians increased to over 200,000, or about 170 physicians per 100,000 population, and hospital beds reached over 1.6 million. Universal coverage of health insurance was achieved in 1961, thus, affordable health services were guaranteed to all Japanese.

Along with economic development and life style changes, non-communicable diseases, such as cardiac diseases and cancers, increased. Although the major causes of deaths had been tuberculosis and pneumonia, strokes, cancers, and cardiac diseases took over the top killers position in mid 1950s. Life expectancy of Japanese people also dramatically extended: life expectancy at birth was 50 years for male and 53 years for female in 1947, and it reached 76 years for male and 81 years for female in 1987.

Rapid industrialization between 1950s and 60s resulted environmental pollution, which caused serious health problems among local residents. For example, air pollution by sulfur dioxide caused asthma in Yokkaichi, water contamination with methyl mercury caused neurological disorders in Minamata

and Niigata, and water and soil pollution by cadmium caused renal failure and osteoporosis in Toyama. It took more than a decade to install mechanisms for preventing industrial pollution through tightening environmental regulations. It took another decade for saving the victims through medical and financial compensations following many painful litigation cases.

#### **2.4 Challenges after 1980s**

Health care costs in Japan are increasing rapidly, because of the health and demographic transitions that implied increasing non-communicable diseases, declining young population and increasing aged population, as well as development of high-cost medical technologies. The government tried to contain health care costs through modifying the benefit package, standard fees for services, and co-payment amounts. In 1983, the government introduced a separate health care scheme for the aged, based on contributions from employees health insurance funds and the government budget. In 2000, long-term care insurance scheme was started.

As Japanese economy stagnated since early 1990s, the government was obliged to implement an economic structural reform. Health care was one of the targets of structural reform, thus public spending for health and welfare services was revisited and reduced. Traditional long stay in hospitals was not allowed anymore, therefore quite a few small public and private hospitals had difficulties to sustain their business.

Meanwhile, demands for sophisticated medical technologies and high quality of services grew, along with the increase of patients' rights recognition and mass media information. This caused overburden of physicians in hospitals and difficulty to make referral mechanisms function properly, particularly in obstetric and pediatric services.

#### **2.5 Background principles, concepts and views towards public health and medical services in Japan**

Before modernization, public health and medical services were regarded as charitable activities, as well as social services to govern people. Although there were not much systematic efforts to introduce modern medical sciences, handful physicians and academics motivated by their curiosity made enormous efforts to bring in new knowledge and skills.

During the period of industrial and military development between late 1800s and early 1900s, the government aimed to improve health of Japanese people, so that they could be productive laborers and strong soldiers. The government systematically imported scientific knowledge and skills from Europe and the

United States by inviting foreign scholars and sending Japanese officials and students abroad. These efforts could be considered as a sort of technical transfer program, however, spending a large portion of their own budgets, the government had strong ownership and motivation throughout the whole process.

After the World War II, the backbone principle of public health and medical services was to protect individual human rights, democracy and freedom. The government took egalitarian approach to cover all Japanese with affordable health services. Equality was more emphasized than efficiency, while the government controlled costs and quality of services. Only minor adjustments had been done to meet the changing social demands, however, major structural reform in the health sector had no been carried out yet.

### **3 Maternal health care and family planning in the post modern era**

#### **3.1 Maternal health care before the World War II and Aiiiku-kai activities**

Maternal and child health situation had been very poor during 19th and early 20th century. Maternal mortality ratio was about 437 per 100,000 live births, and infant mortality rate was 155 per 1,000 live births in 1900. This poor situation was due to lack of: proper maternal health care systems; well-trained birth attendants; and scientific knowledge among people. Most women delivered many children without spacing, and worked hard until immediately before the delivery. Many women and children were malnourished and infectious diseases were prevalent.

Most deliveries were taken place at home assisted by traditional midwives, called Sanba. Traditional midwives had privately practiced since the medieval era, and were trusted and respected by pregnant women and their families. The Meiji government introduced midwife licensing examination in 1899 and integrated traditional midwives into the new medical system. Qualification and job description of midwives were clarified and standardized. The qualified midwives were allowed to practice privately.

As the country had been deeply involved in wars, the Army strongly advocated for improving health and sanitation of the people, so that they could recruit healthy soldiers. The framework of maternal and child health administration was established through Public Health Center Law and Maternal and Child Protection Law in 1937. The Ministry of Health and Welfare was established in 1938. In 1939, all infants underwent health check-ups in a mass screening program. Public health nurses played important roles for maternal and child health and community health, therefore, qualification and job description were clarified by a law in 1941.



In December 1934, the Imperial Gift Foundation for Mothers and Children (Onshi Zaidan Boshi Aiiku-kai) was established, commemorating the birth of Crown Prince, or the current Emperor of Japan. This was an imperial initiative to improve health and welfare of mothers and children. The Aiiku Survey Society was first established to conduct research on maternal and child health issues, which had revealed very high infant mortality rates in rural villages.

In 1936, Aiiku-kai started a community based intervention to improve health of mothers and children through extensive health education in five pilot villages, or Aiiku-villages. The executive board of an Aiiku-village was composed of local influential figures such as schoolmasters, physicians, monks, and police heads. The executive board oversaw three activities: (a) management of nurseries and public facilities of daily life assistance; (b) literacy and health education programs; and (c) activities of married women's voluntary groups, called Aiiku-groups, for delivering health information and identifying needs through visiting homes. One group covered a primary school zone, with each group member covering about 10 households.

The Aiiku-village activity then spread to more than 1,200 villages in 35 prefectures nationwide. After the World War II, the Aiiku movement was linked to the maternal and child health program by the Ministry of Health and Welfare, contributing to strengthen local organizations concerned with maternal and child health.

Public health nurses played important roles for the Aiiku-village activities. They were based at primary schools, and visited homes by bicycles or by walk to instruct people for improving maternal and child health. For example public health nurses recommended residents in mountainous areas, who were in shortage of animal protein, to keep goats at home, so that pregnant women and children could take milk. Public health nurses opened nurseries during busy farming seasons, checked pregnant women, assisted home deliveries, and provide with postnatal nutrition education and children's growth monitoring.

### **3.2 Maternal health care after the World War II and the maternal and child health handbook (MCH handbook)**

After the World War II ended in 1945, GHQ identified maternal and child health as a priority public health issue in occupied Japan. In 1947, Maternal and Child Health Section of the Children Bureau, the Ministry of Health and Welfare, was established to administer maternal and child health matters. The Child Welfare Law and the New Public Health Center Law were also enacted in 1947. Public health centers started to provide the community with maternal and child health services.

Learning from a German system, pregnant mother's handbook system was launched in 1942 during the wartime. The handbook aimed to register pregnant women and encourage them to have regular antenatal check-ups to reduce the risks. The handbook simply contained guidelines for pregnant women and new mothers, and spaces for recording health conditions of the mother and child and the details of the delivery. These records of the pregnancy and delivery were utilized to plan the next pregnancy and delivery.

The handbook system was re-launched by issuing the mother and child handbook in 1948. Guideline function of the handbook was expanded to include child raising tips. Then the handbook was further revised in 1966 to become the present maternal and child health handbook (MCH handbook). The handbook has become a booklet of about 70 pages, comprising of a common section of medical records of the mother and child and a locally unique section of administration and public health information, prepared by each local administration.

Japanese MCH handbook system is unique in registering all pregnant women. The handbook system offers free antenatal check-ups and vaccinations. It used to provide with extra food and maternity goods, as well. These direct benefits for pregnant women helped spread the handbooks.

In 1954, the Ministry of Health and Welfare issued a directive, Strengthening Health Guidance for Pregnant Women and New Mothers. This aimed to reinforce various antenatal and postnatal programs, and to promote institutional deliveries. In 1958, the Ministry started to establish maternal and child health centers for institutional deliveries in rural areas where medical facilities were scarce. Pregnant women and mothers welcomed the centers as the places for the safe and clean delivery and postnatal care within their villages.

The scope of maternal and child health programs widened progressively. In 1961, nationwide programs of health check-ups of neonates and three year old children were started. Then Maternal and Child Health Law was enacted in 1965. Based on community organizations such as Aiiiku-groups before the War, the Ministry of Health and Welfare allocated budgets to local administrations to support women volunteers acting as maternal and child health promoters in 1968. Their activities extended throughout the country. Most maternal and child health programs were installed by 1980s.

Following the introduction of universal coverage of health insurance in 1961, many medical facilities were built and access to medical services was improved even in rural villages. As a result, the proportion of institutional deliveries increased from five percent in 1950 to 96 percent in 1970.

In 1947, maternal mortality ratio was 168 per 100,000 live births and infant

mortality rate was 77 per 1,000 live births. Maternal mortality ratio declined to 52 per 100,000 live births in 1970 and nine per 100,000 live births in 1990, and infant mortality rate reached 13 per 1,000 live births in 1970 and five per 1,000 live births in 1990.

### 3.3 Family planning

Increasing demands for birth control, or family planning, was openly advocated since around 1920 during the economic depression, as a part of the labor movement and the women's liberation movement. Margaret Sanger, the forerunner of the birth control movement in the United States, visited Japan in 1922 and family planning became a popular topic in women's magazines, despite the government ban of her activities. Influenced by Sanger, Shizue Kato founded the Japan Birth Control Research Association in Tokyo to develop contraceptive methods. Following three month training at the Sanger Clinic in New York, Kato established a birth control clinic in Tokyo in 1932.

However, the rise of militarism in the 1930s called for population increase. The birth control movement was suppressed and the clinic was closed in 1938. In 1941, the government prohibited contraception, lowered the legal age of marriage, and promoted to have five children per couple.

Following the end of the War in 1945, Japan's population increased sharply, due to the return of demobilized soldiers and residents in former colonies. The total population was 72.8 million in 1943, and increased to 89.3 million in 1955. The average annual population growth rate was 1.4 percent in 1955.

Unwanted pregnancies increased due to difficulty to obtain contraceptives. Although abortion was regarded as a crime, women sought for illegal unsafe abortions, which often caused deaths or serious complications.

Responding this situation, abortion was legalized under certain conditions in 1948. Then in 1949, economic reasons were added to the conditions, and requirement of official evaluations was removed in 1952. The number of abortions increased markedly from 1949 to 1955. Manufacturing and selling contraceptives were also permitted in 1949.

In 1950 a program of model villages for family planning started in 3 villages. While promoting family planning, suitable methods in Japan were investigated and numbers of averted abortions were estimated. Influenced by the success of the model village program, various companies started family planning guidance to their employees. These programs achieved additional benefits for the companies by reducing the amount of family allowances.

In 1952, the government established a family planning worker system and family planning promotion activities were started. Midwives, as well as public

health nurses and nurses, took training sessions in each prefecture and were accredited as family planning workers. Midwives instructed mothers individually to use a contraceptive device, while public health nurses provided health education including information of family planning to groups. Family planning workers were allowed to sell contraceptives in 1955. This system enabled to deliver contraceptives to the clients upon request, as well as providing additional incentives to the workers by retaining the profit margin.

As the contraceptive prevalence rate rapidly increased, the abortion rate sharply declined. Although contraceptive prevalence rate was less than 20 percent in 1950, it reached over 40 percent in the 1960s, overtaking the abortion rate. The number of abortions declined every year after the highest peak at 1.17 million in 1955. Total fertility rate declined from 4.5 in 1947 to 2.1 in 1965.

Since the rapid economic development period in 1960s, family planning was not a priority issue of the government any more. Business and political communities even advocate not to promote family planning because of shortage of young laborers. Thus, non-governmental organizations (NGOs) took over the major roles of family planning activities.

### **3.4 Challenges for achieving reproductive health and rights**

In 2004, maternal mortality ratio was 4.4 per 100,000 live births, infant mortality rate was 2.8 per 1,000 live births, and total fertility rate was 1.3. Women's life expectancy at birth increased from 54 years in 1947 to 85 years in 2004, which indicates remarkable changes of life cycles of Japanese women.

Although most maternal and child health programs were extended throughout the country by early 1980s, there are growing needs of public support for childrearing in the changing society where community networks diminished and small nuclear families increased, particularly in urban areas.

Because the number of children declined and medical services were always available, women often demanded high quality of obstetric and pediatric care anytime they need. In addition, the litigation cases of obstetric malpractice increased along with recognition of patients' rights.

Meanwhile, many public hospitals closed obstetric and pediatric departments, due to financial difficulties caused by decreasing childbirths and shortage of specialist physicians. Many institutional deliveries in Japan had been taken place in small clinics, however, in some remote areas, it became difficult for a clinic to refer cases of obstetric complications to a referral hospital.

The government started to reorganize the obstetric referral system, particularly in remote areas in northern Japan, to concentrate specialists in the top referral hospital in the region, so that complicated cases could be safely