نظام المساعدة الطبية وولوجية الفئات الفقيرة والهشة للعلاجات الصحية بالمغرب- إقليم برشيد نموذجا-

Medical aid system and access to health care for the poor and vulnerable categories in Morocco (Case Study: Province of BERRECHID)

Yusuf HAFDI, Mohamed ANEFLOUSS, Abdelilah TAJEDDINE

أ.يوسف حافضي -جامعة الحسن الثاني الدار البيضاء -المغرب

أ.محمد أنفلوس-جامعة الحسن الثاني الدار البيضاء -المغرب

أ.عبد الإله تاج الدين-جامعة الحسن الثاني الدار البيضاء –المغرب

ملخص: لقد أصبحت سياسة التنمية الاجتماعية المستدامة والمندمجة تروم في الوقت الحالي تكريس مبدأ التضامن المجتمعي والمساواة في الحقوق، ومن تم بات القطاع الصحي العمومي يشكل قطاعا حيويا ضمن هذه الإستراتيجية الهادفة إلى ضمان حق الاستفادة من الخدمات الطبية والعلاجية لكافة المواطنين، وإلى تحقيق المساواة والإنصاف للولوج إليها، كحق اجتماعي مرتبط بالإنسان باعتباره فاعلا وأداة للبناء والإقلاع. ولبلورة هذا الالتزام الذي يكرس مبدأ الحق في الصحة كما تنص عليه المواثيق الدولية. تهدف هذه الدراسة إلى بسط مدى مساهمة نظام المساعدة الطبية بالمغرب عبر تناول إقليم برشيد كنموذج في استفادة ووولوجية الفئات الهشة والفقيرة للخدمات الصحية. ونظرا لاندراج هذه الدراسة في إطار الجغرافية البشرية، فإن الطابع الشمولي المميز لهذا الفرع من العلوم يستلزم الاستناد إلى مقاربات متعددة الاختصاصات تدمج ما بين العلوم الطبية، البيئة، الجغرافيا، العلوم الاجتماعية واستثمار نتائجها خدمة للعمل الجغرافي إضافة إلى الاعتماد على العمل الكرطوغرافي والإحصائي لبسط النتائج. وقد خلصت الدراسة إلى أن هذا النظام قد ساهم إلى حد ما في ولوج واستفادة العديد من الأسر الفقيرة والهشة للعلاجات الصحية التي يوفرها على الرغم من الإكراهات التي واجهت تطبيق هذا النظام منذ بدايته.

الكلمات المفتاحية: التغطية الصحية، نظام المساعدة الطبية، ولوجية، اللامساواة، خدمة صحية.

Abstract: Parity and societal solidarity principal are the main purposes of many sustainable social development policies nowadays, where the public health sector is considered as a major axis in any strategy that aims to achieve a fair access to medical services and treatments for all population segments, regardless their socioeconomic status or spatial disparity. Taking into account the Human wellbeing as an unavoidable factor to achieve progress and prosperity. This Study tries to underline the Moroccan medical aid system experience by focusing on the province of Berrechid as an example in order to measure its effectiveness to facilitate the medical accessibility for the poor and vulnerable.

Due to the holistic nature of health geography as it combines between medical, environmental, and social sciences, several approaches were adopted through this study for precise and clear outcomes.

As a conclusion, the said system has a relative positive effect on the accessibility to health care for our target population despite the many constraints in his implementation, or even the various problems on the regulation and functional side of the public medical care institution.

Key Words: Health coverage, medical aid system, accessibility, inequality, medical service

Introduction

Studies, surveys and statistics prove that there's a strong correlation between health and poverty, on the one hand, poverty may be a cause of various illnesses on both psychic and organic levels, furthermore, its negative effect on life expectancy, on the other hand, sickness limits the capability and the will to work and to be productive, especially that poor categories are more exposed to health hazards due to illiteracy, unemployment and even marginal jobs with low security standards.

The so called "the face of poverty" may be defined as the duel between the decreased average of life expectancy (less than 50 years in poor countries, while it's approximately 80 years in rich ones), and the growing numbers of infant deaths (Five times more than rich countries), moreover, death during pregnancy, birth with deformations or with insufficient weight, and infectious diseases (malaria, diarrhea, tuberculosis, AIDS,…).

Poor environmental, and socio-economic conditions characterized with indecent housing statues and absence of health culture lead to several "poverty diseases" as malaria, tuberculosis, measles, and lung problems besides illnesses caused by malnutrition and exercising unsafe and stressful jobs. The lack or insufficient health coverage may worsen the situation of our target population which embodies in the high rate of deaths among infants and pregnant women due to shortage in medical accompaniment during pregnancy and childbirth. The magnitude of the harmful consequences may exceed the health frame to others such as social statues and economic stability.

In the purpose of reaching a fair access to health care for all social fragments and categories, many politic systems adopted the strategy of generalization of health coverage, in a developing country such as Morocco, it rather focused on the social side of the issue by implementing the RAMED system which started back in 2012 as a principal social scheme to fulfill the increasing need for health coverage and medical security. Many social plans and projects were launched during the last decade especially in the field of medical protection, fights against poverty, exclusion, spatial and social marginalization, we may cite by way of example the health coverage code in 2002 which is the main source of principles and structural framework of RAMED, the signature of a national charter by the government and unions thereafter in January 2005 to apply the basics of the code, the effective start was in March 2012.

The medical aid system was assigned to three subsidiary committees:

- Subsidiary committee in charge of beneficiaries' identity, headed by Ministry of interior.
- Subsidiary committee in charge of health access system and processes, headed by Ministry of Health.
- Subsidiary committee in charge of management and finance, headed by the National Agency of Health Insurance. (Saad RAJRAJI, 2016, P 295)

The main goal of medical aid is to achieve equality in access to public medication services and treatment facilities by generalizing the health coverage especially for citizens with low income, relying on social segmentation to determine the targeted categories.

1-Methodology

1-1 Field of study

Located on a strategic spot on the geographic map, Berrechid is considered as a new emerging province in the region of Casablanca-Settat, several socio-economic and transportation infrastructure are available within the city, regarding its part as a crossroad between important regions and cities (Marrakesh-Agadir-Settat-Casablanca-Khouribga-Tanger), besides a significant industrial area, a train station, and the 2 Km away Mohamed V international airport.

Figure 1. Administrative division of the province of Berrechid.
Source: Department of town planning and environment-Province of Berrechid.

Besides natural population growth, province of Berrechid is an important industrial and economic hub on national level, offering direct and indirect job opportunities and financial stability, therefore the area knows a significant rate of rural population migration, those two factors are the main reason of the high urbanization percentage (population numbers went up from 362 751 in 2004 to 484 518 in 2014- according to results of population censuses).

The province is located in the center of the economic triangle (Mohammadia-Khouribga – Eljadida) including the economic capital Casablanca, it contains all production and socio-economic facilities; as Casablanca Port, industrial areas of Jorf Lasfer, phosphate mines, fishing harbors, petroleum refining plant "Samir", and many industrial factories, wholesale and retail businesses within an integrated and complete zones. In addition to fertile agricultural fields (Ech-chaouia plains) and various financial and service units as well.

All those characteristics combined had led to an impactful demographic transition especially in the urban communes as Berrechid which has the highest rate of population growth in the province.

Table 1. Population Growth of communes in the province of Berrechid Population censuses of 1994, 2004, 2014.

Communes	population (1994)	population (2004)	population (2014)
Berrechid	57 387	92 822	136 634
Ouled Abbou	10 019	10 748	11 299
Sidi Rahal Chatii	9 743	13 687	20 628
Had Soualem	10 311	18 626	36 765
EL Gara	16 805	19 099	20 855
Deroua	10 266	21 794	47 719
Lahssasna	8 358	9 495	9 315
Sidi El Mekki	7 904	8 959	8 920
Zaouiat Sidi Ben Hamdoun	10 294	10 039	9 521
Ben Maachou	8 931	8 680	8 458
Sidi Abdelkhaleq	5 534	5 933	6 122
Laghnimiyine	16 344	16 191	17 513
Sahel Ouled Hriz	29 721	32 769	38 156
Soualem Trifia	14 524	20 598	33 079
Ouled Ziyane	9 471	14 151	17 095
Kasbat Ben Mchich	11 680	13 351	14 905
Jaqma	8 852	10 582	10 306
Lambarkiyine	7 591	7 884	8 559
Riah	7 602	7 562	8 373
Lfakra Ouled Amrou	5 718	6 024	6 256
Ouled SBAH	7 936	7 635	7 606
Ouled Zidan	5 697	6 122	6 434
Total	**680 288**	**362 751**	**484 518**

Source: Provincial cell of medical aid. Outcome of launching operation and generalization of medical aid system, berreshid, December 2012, Page : 11 and population censuses of 2014

The unbalance between job opportunities and applications in the labor market that requires both academic degrees and professional training often induces the appearance of marginal and unstable jobs which have negative impact on both environmental and spatial sides, reflected by non-structured business practices and emergence of marginal belts characterized with frequent crime occurrences, poverty and vulnerability in urban and rural areas of the province. 2007's statistics show that poverty indicator is at 8.7%-higher than the regional indicator (7.6%)-, and the vulnerability rate is at 20.7% topping the national rate with 2.7 points and the regional rate with 3.3 points.

Table 2. 2007's Poverty and vulnerability averages of the province of Berrechid.

	Provincial Average	Regional Average	National Average
Poverty	8.7	7.6	9.5
Vulnerability	20.7	17.4	18

Source: high commission for planning –Region of Casablanca - Settat.

Concerning the health and medical aspect; main medical care facilities are the public provincial hospital, mental illnesses ward, in addition to 32 other basic treatment institutions, urban and rural dispensaries, birthing, and communal health care centers.

Table 3. Public Health facilities in the province of Berrechid, year 2015.

Health facility type	Urban	Rural	Total
Hospitals	2	-	2
Basic health center	7	25	32
Total	9	25	34

Source: Ministry of health, Department of planning and financial resources, "santé en chiffre-2014", P: 28.

Each public health facility provides an average of health coverage of 6388 person, a number higher than the national one, with a 90% concentration in distribution in the rural areas - as shown in the table above- knowing that the province is predominantly rural with a 43% of country habitants suffering from isolation and habitats dispersion with a limited water and energy supply together with the cultural characteristics and references that boosts the home and traditional treatments. Nature and quality of services in rural medical centers remains insufficient despite the important portion of the total health facilities.

While the basic and complementary therapies needs are met by the provincial hospitals represented by the local hospital of Al-Razi and mental illness ward, but their capacity is very limited (300 beds; 1.3 bed for 10 000 person versus 1 bed for 891 person on national level), not to mention the limited medical equipment which is a basic criteria of functional performance measuring (2 operating rooms, 2 diagnostic scanners and 10 hemodialysis devices for 30 patients). 79 doctors practicing within public health structures with an average of 6157 patients for each professional, and 1731 for each nurse, form the medical demography in the province.

Table 4: Typology of doctors by specialty in the public health structures.

Communal doctors	other specialties	traumatology/orthopedics	Public health	Radiology	pneumo-phtisiology	Pediatric	ORL	Ophthalmology	Neuro-Psychiatry	Neurology	Nephrology	occupational medicine	Gynecology	Dermatology	General Surgery	Cardiology	Anesthesia	General
2	2	1	1	1	1	2	1	1	1	1	2	2	3	2	1	1	1	48

Source: Ministry of health, P 35, 37,39

1-2 Data

This study is based on two types of data:

- **Official data**: Provincial cell of medical aid system provided numerous data, indicators and statistics over two years (2012 –launching year- to 2014), that served as vital and rich base for further analysis to identify the features of the province.
- **Field data**: in order to bridge the lack of some essential data; a field study was conducted during 21 months on a random population of 5% of the total health coverage beneficiaries files (15 360 file),

This study underlined the followed data:

- Beneficiaries' distribution by age.
- Familial status.
- Type of liquid sanitation.
- Water supply sources.

1-3 Methodology and study tool

Several methods were combined to overcome the holistic nature of the subject, composed by health, spatial, environmental and social approaches in order to get reliable and tangible results that helps in adopting a clear vision of the issue in the sake of a better analysis and conclusions.

2- Results

2-1 Medical aid system characteristics in the province of Berrechid

Medical aid system beneficiaries will acquire a set of diagnosis and treatment services provided by public hospitals regardless of their ages, gender, malady or residential places. Those public facilities are a ministry of health organs financed by public budgets, the operation funding is as follows:

Table 5. Cost and Financial resources of the medical aid system.

State	Municipalities and rural communes	Symbolic annual contributions of beneficiaries
75 %	6% (40 dhs for each person)	19 % (120 dhs a person capped at 600 dhs for each household)

Source: Provincial cell of medical aid system.

Approximately, 2 billion Dh were mobilized to fund the system, plus the symbolic annual contributions of beneficiaries in vulnerability conditions and the financial participation of municipalities and rural communes that varies depending on their population poverty rate and their financial resources, with a budget of 149.908 dh; municipality of Berrechid topped the list of the contributions within the province, while other communes as Had Soualem and Sidi El Mekki granted lower amounts of 11.403 Dh and 16.650, respectively (Provincial cell of medical aid system, 2012. P 72)

Table 6. 2012 and 2013 communes contributions according to National agency of health insurance.

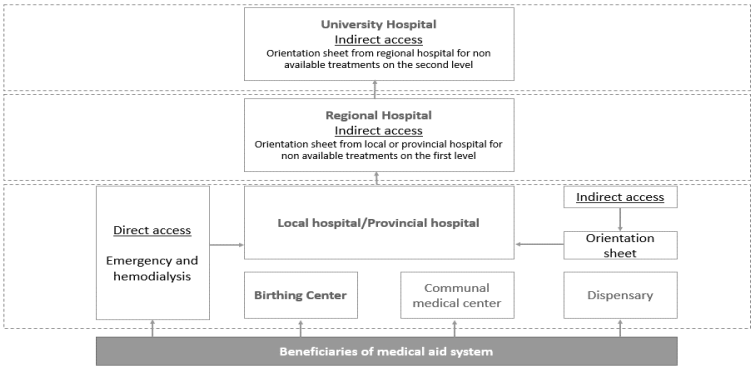
	Communes	2012 funding amount (Dirham)	estimated beneficiaries of 2013	estimated funding of 2013 (Dirham)
Urban communes	Berrechid	149.908	3.748	149.920
	Ouled Abbou	30.374	759	30.360
	Sidi Rahal Chatii	44.807	1.120	44.800
	Had Soualem	11.403	285	11.400
	El Gara	40.766	1.019	40.760

	Deroua	63.888	1.597	63.880
	Lahssansna	29.871	747	29.880
Rural communes	Sidi El Mekki	16.650	416	16.640
	Zaouiat Sidi Ben Hamdoun	33.691	842	33.680
	Ben Maachou	29.304	733	29.320
	Sidi Abdelkhaleq	18.036	451	18.040
	Laghnimiyine	46.662	1.167	46.680
	Sahel Ouled Hriz	90.936	2.273	90.920
	Soualem Trifia	26.606	665	26.600
	Ouled Ziane	39.040	976	39.040
	Kasbat Ben Mchich	25.057	626	25.040
	Jaqma	31.792	795	31.800
	Lambarkiyine	17.771	444	17.760
	Riah	46.007	1.150	46.000
	Fokra Ouled Amer	21.783	545	21.800
	Ouled Cebbah	19.805	495	19.800
	Ouled Zidan	14.081	352	14.080
Total		**848.239**	**21.205**	**848.200**

Source: national agency of health insurance.

Integrated and continuous process is the other facet of the medical aid system purpose, where the patient must respect a pre described path of treatment within a pyramidal health care structure that starts except for emergency cases, in the local health facility of the patient.

Figure 2. Care pathway of medical aid system.



Source: Provincial cell of medical aid system.

Except for plastic and reconstructive surgeries, the medical aid system provides a panoply of treatments and wide spectrum of health care services.

Table 7. Range of medical care services and interventions of the medical aid plan.

• Preventive treatments. • General medicine and surgery specialties. • Birthing follow-up, treatments and post-control • Treatments and surgeries including: ✓ Prosthetic surgeries ✓ Biological diagnosis ✓ Radiology and imaging ✓ Functional diagnosis ✓ Recovery medication And pharmaceutical drugs.	• Human blood for transfusion Purposes and its derivatives. • Medical equipment and prosthetic Devices. • Eyeglasses • Oral and dental treatments. • Interceptive orthodontics. • Physiotherapy • Paramedicine • Medical care transportation

Source: Provincial cell of medical aid system.

On the ground 28 available medical facilities for the beneficiaries, distributed between urban and rural areas (9 Urban and 19 rural) comprising the regional hospital of Berrechid and Al-Razi mental ward.

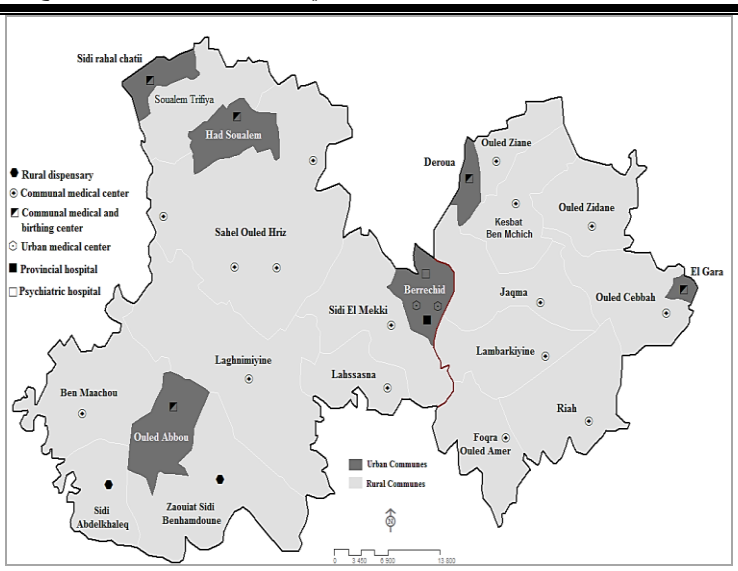


Figure 3. Medical aid system health care facilities.

Source: Provincial cell of medical aid system.

For the rest of medical structures, as shown in the table below, there is 2 medical centers, communal centers with birthing services and other rural and communal dispensaries.

Table 8. Typology of Medical health facilities.

Communal medical and birthing center	Urban medical center	Communal medical center	Rural dispensary	Provincial hospital	Psychiatric Hospital
5	2	16	3	1	1

Source: Provincial cell of medical aid system.

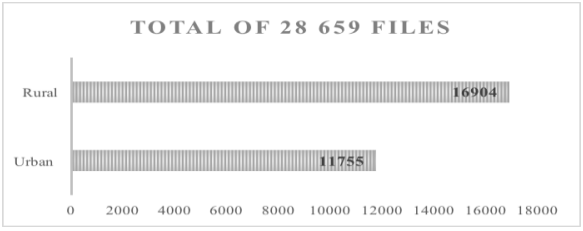
2-2 the operation launching and high turnout

Until February 2014, 28 659 files were filled and deposited in the province of Berrechid alone, this high turnout in the local offices is a result of many advertising campaigns before and during the launching operation which caused a panic and organizational difficulties in dealing with such huge number of enrollment requests for the administrations and coordination staff.

Those advertising campaigns had spread a preconceived idea among its audience that the operation is selective and limited in time, this fact could explain the overcrowding in local enrollment offices.

The comparison between rural and urban participation shows a significant positive gap with 16 904 files in urban areas versus 11 755 files in rural regions, owing primarily to the fact that urban population is more open to media and administration offices, besides their spatial proximity and health care awareness factors.

Figure 4. Number of deposited files by areas.



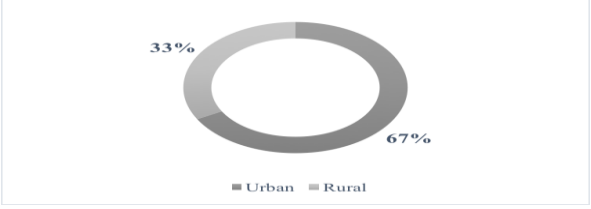
Source: Provincial cell of medical aid system.

2-3 Spatial contrast of beneficiaries' distribution

Large segments of vulnerable population in both rural and urban areas were attracted by the RAMED system of medical aid that offers several medical services, in the province of Berrechid; number of beneficiaries until February 2014 was 23 573 case (82% of files deposited).

As seen in the graph bellow, an uneven distribution of the beneficiaries across the province areas marked this operation.

Figure 5. Beneficiaries distribution by area.



Source: Provincial cell of medical aid system.

The city of Berrechid includes the largest portion of beneficiaries with a percentage of 32%, then the cities of El-Gara, Ouled Abbou, and Deroua with 21%, 20% and 17%, respectively. While the lowest rate was registered in Sidi Rahal Chatii and Had

Soualem with 10% and 9%.

Regarding the rural communes; the highest percentage of beneficiaries was in Soualem Trifia with 18%, whereas the rate was ranging from 5% to 15% in the other communes. As for the rest (Laghnimiyine, Zaouiat Sidi Ben Hamdoune, Ben Maachou, Sidi Abdelkhaleq, Lambarkiyine, Ouled Ziane…), the percentage of beneficiaries didn't exceed 4%.

2-4 Distribution of beneficiaries by segments and offered service

Poor segment represent 70% of the total of beneficiaries (16 501 case), while vulnerable segment covered the other 30%.medical aid system enables an access to an important set of treatments and medical care processes especially; biological diagnosis, general medicine, surgery and medical specialties besides radiology and imaging examinations (most required services among beneficiaries).

Table 9. Distribution of beneficiaries by provided services (2013).

Offered services	Number of beneficiaries	%
general medicine examinations, surgery and medical specialties	10 853	16.5
Treatments and surgeries including Prosthetic surgeries	11 578	17.6
Biological diagnosis	10 820	16.4
Radiology and imaging	3 236	4.9
Eyeglasses	46	0.1
Functional diagnosis and physiotherapy	80	0.1
Emergencies	29 200	44.4
Total	**65 813**	**100**

Source: provincial delegation of health.

2-5 Overview of demographic and socio-economic characteristics of beneficiaries

Beneficiaries over 38 years old, represent 66% of total population (sample of 768 beneficiaries), this point may be explained by the fact that they are usually householders providing health care and bearing all medical expenses of their families.

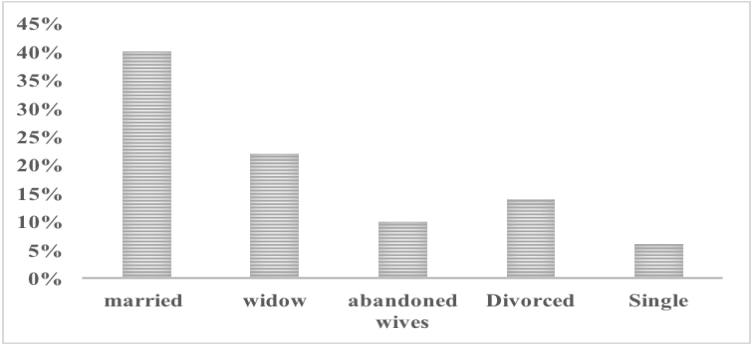
Table 10. Distribution of beneficiaries by Age.

Age group	Number of beneficiaries	%
Under 18	54	7
18-28	69	9
28-38	138	18
38-48	169	22
48-58	246	32
Over 58	92	12
Total	**768**	**100**

Source: field study (from May 2012 to December 2013).

According to our field study of beneficiaries distribution by family situation; the segments of widows, divorced, abandoned wives and singles represent 22%, 14%, 10% and 6%, respectively, those categories in general suffer from financial instability and absence or limited access to health care systems.

Figure 6. Beneficiaries distribution by family situation.



Source: field study (from May 2012 to December 2013).

the environmental aspects of beneficiaries is marked by many health threats issues and constraints such as; the low coverage of drinking water supply network, taking into account the fact that 59% have wells and public standpipes as the main source of potable water, and only 38% have access to sewerage network. Those factors among others, negatively affect the health and social status of our population, not to

mention illnesses related to socio-economic transformations, life style changes especially within urban areas and the industrialization of the province (tuberculosis, cancers, skin diseases, diabetes, cardiovascular diseases, disabilities...).

Table 11. Water supply source and sewerage system of a sample of beneficiaries.

Water supply source	%	Type of Sewerage system	%
Potable water network	41	Sewerage conduits	43
Standpipes	37	Septic tank	42
Well	22	Other	15

Source: field study (from May 2012 to December 2013).

3- Discussion

Official and field study data were collected and harnessed as base in order to illustrate and respond to our problematic, relying on geographical methodology and a combination of several approaches and tools.

Since its establishing, the medical aid system still faces numerous obstacles and challenges especially on its organizational and communication part, that manifests in the lack of central entities in charge of data consolidation, analysis and coordination with heads of provincial cells, furthermore, the insufficient human resources and local offices, which caused-mainly during the operation launching- a state of confusion, overcrowding and pressure on communes and appointed sections, all those said points have engendered appointment delays, and files handling deferment. Usually the potential beneficiary don't get his affiliation card within the three month period (determined time between the file deposit and affiliation), as a result of the complicated process and multitude of actors such as local committees, provincial cells and the National Agency of Health Insurance that also suffers from technical and human resources deficiency.

Many expensive and centralized medical services as MRI, know a high rate of dissatisfied requests, mostly among vulnerable segment that must endure the long waiting periods with its psychological repercussions, not to mention the mandatory medical service re-application at the end of its duration validity.

Some beneficiaries in vulnerable conditions didn't withdraw their cards as a result of their inability to pay the annual contribution (120 DH capped at 600 DH for each household), which prompts us to question the usefulness of this classification among beneficiaries (poor and vulnerable segment), and its relevance to the principle of equity and fairness in access to health care services.

As regards the operation funding; it also faces several constraints that threatens the long-term continuity of the "RAMED" system, caused essentially by the low financial contributions of some poor communes for instance; Lambarkiyine, Sidi Abdelkhaleq, besides the accumulated debt of the government of more than 10 billion dirhams during the last 4 years, which has resulted in its failure to release the operation budget and affiliated hospitals inability to sustain the RAMED card holders healthcare requests. In addition to legal and organizational problems concerning the actors' remuneration. Furthermore, the lack of specified funding clause in the budget of social solidarity fund.

It turned out that on the one hand hospitals and medical institutions are not sufficient to contain the overcrowding especially during the operation launching because of their limited number and unbalanced geographical distribution (main medical institution are centralized in Berrechid despite the significant population of some rural communes as Laghnimiyine, Riah and Ben Maachou). On the other hand the shortage in medical equipment has engendered a low quality of services as many medical facilities provides only consultations and orientation.

Adequate performance and availability of medical services is also marked by several handicaps that manifests in the serious lack of doctors and paramedics, except for Berrechid that contains about 38 doctors and 149 nurses followed by commune of El Gara with 6 doctors and 16 nurses, The other communes within the province suffer from either the total absence of medical staff or its insufficiency, the question then arises; how to ensure a proper implementation of a medical aid system and an efficient health coverage for poor and fragile categories with all those constraints especially in public medical structures?

For all these reasons combined, the medical aid system is confronted by overwhelming challenges, in terms of the efficient applications of its regulations and directives, as it needs a structuration review and more initiatives in order to put it on the right track.

References

1. Anthony C. Gatrell and Susan J. Elliott, (2015), Geographies of health an introduction, third edition, Wiley Blackwell, UK;
2. BENALI Nadia, (2013), Financement public de santé au Maroc entre les contraintes et opportunités, 2ème conférence nationale de la sante, 1-2-3 Juil 2013 à Marrakech, Maroc;
3. BONNET Pascal (2002), Le concept d'accessibilité et d'accès, Etude bibliographique sur l'accessibilité et le problème de l'accès aux soins, aux services de santé. Place particulière des concepts en géographie et en économie de la santé. Dossier de DEA GEOS Université Paul Valéry Montpellier 3, France;
4. CHKILI Taieb (1987), Les déterminants du coût de la santé, Rapport du sixième congrès médical de la santé, Tanger, 25 – 27 Décembre 1987, Maroc;
5. TIBOUTI Abdelmadjid (1987), Approche méthodologique pour l'évaluation des dépenses de santé, Rapport du sixième congrès médical de la santé, Tanger, 25 – 27 Décembre 1987, Maroc.
6. الخلية الإقليمية لنظام المساعدة الطبية (2012)، تقرير حول حصيلة انطلاق عملية تعميم نظام المساعدة الطبية على صعيد إقليم برشيد. دجنبر 2012.

7. أنفلوس محمد (1999)، تحولات البيئة الحضرية المغربية: مدخل لمستقبل جغرافية الصحة"، المدينة المغربية في أفق القرن الواحد والعشرين بين الهوية الوطنية والبعد المتوسطي، منشورات كلية الآداب والعلوم الإنسانية بالمحمدية، سلسلة الندوات رقم 12، المغرب.
8. أنفلوس محمد (2006 – 2007)، تحولات المجال المغربي والمجتمع: دراسة في جغرافية الصحة بالوسط الحضري، أطروحة لنيل دكتوراه الدولة في الآداب تخصص: الجغرافيا، قسم الجغرافيا، كلية الآداب، والعلوم الإنسانية – المحمدية، جامعة الحسن الثاني بالدار البيضاء.
9. أنفلوس محمد (2011) معجم تفسير المصطلحات في جغرافية الصحة، مختبر الأبحاث حول المجال وإعداد التراب، دفاتر البحث العلمي، عدد خاص رقم 2 . كلية الآداب والعلوم الإنسانية – المحمدية، جامعة الحسن الثاني بالدار البيضاء.
10. القانون 00-65 المتعلق بالتغطية الصحية.
11. بدر الدين آيت لعسري (2013 – 2014)، التباينات الجغرافية للوضعية الصحية: حالة الدار البيضاء الكبرى، أطروحة لنيل الدكتوراه في الآداب تخصص: الجغرافيا، قسم الجغرافيا، كلية الآداب، والعلوم الإنسانية – المحمدية، جامعة الحسن الثاني بالدار البيضاء.
12. بيللاري نافانيثم، (2010)، المفوض السامي لحقوق الإنسان في الأمم المتحدة منظمة الصحة العالمية، حقوق الإنسان والصحة، واستراتيجيات الحد من الفقر، سلسلة منشورات الصحة وحقوق الإنسان – العدد رقم 5 سبتمبر 2010.
13. حافضي يوسف(2015 – 2016) ولوجية العلاجات الصحية بجهة الشاوية ورديغة، أطروحة لنيل الدكتوراه في الآداب تخصص: الجغرافيا، قسم الجغرافيا، كلية الآداب، والعلوم الإنسانية – المحمدية، جامعة الحسن الثاني بالدار البيضاء.
14. سعد الرجراجي: 2016، الحق في الصحة: الواقع والآفاق – دراسة مقارنة، المجلة المغربية للإدارة المحلية والتنمية، سلسلة مؤلفات وأعمال جامعية، العدد 112، المغرب.