A Survey of Barriers to Treatment Access in Rheumatoid Arthritis

Country Annex Report: Brazil

August 2010

1 Interviews

Seven medical doctors, located in different States of Brazil participated in the study. All were members of the Brazilian Society of Rheumatology (SBR); three identified themselves as rheumatologists whilst the remaining four were identified as physicians.

2 Environment

Brazil is the largest country in Latin America and has the largest healthcare system in the region. Since the early 90's, Brazil has undergone significant restructuring resulting from market liberalization, and price stability. This trend has also affected the healthcare sector, which is gradually becoming more efficient and professional. The demand for healthcare services has been growing consistently over the past 5 years because of an increase in the purchasing power of the population as a consequence of low rate of inflation allied to economic growth.

2.1 Health care system

Brazil is a Federal Republic, divided into 26 States and 1 Federal District. These are divided into 5,500 municipalities. The healthcare network in Brazil is managed and operated at Federal, State and Municipal levels.

Brazil is going through a major modernization process in the healthcare sector. The healthcare sector in Brazil is a mix of public and private services with 7,000 hospitals, more than 12,000 diagnostic clinics and 250,000 registered doctors. It generates a turnover of US$ 55 billion per annum (public 60%: private 40%), which is equal to almost 7% of the country's gross domestic product. The hospital services segment alone is responsible for US$ 9 billion of sales every year [1].

In Brazil, the Ministry of Health is the coordinator of the country's overall health policy. "Sistema Único de Saúde" – SUS (Unified Health System) is the national public healthcare created in 1988. Before that, only those that contributed to the social security system were eligible to use the public system network. Today, Brazilians are entitled to free healthcare through SUS, which in theory covers 100% of the population. However, officially 78.9% of the population is covered within the public insurance whilst the remaining 21.1% are covered by private insurances. The private health network is large and wide, which complements the services provided by the Government. Currently 40 million Brazilians have access to private healthcare. Table 1 below shows a spread in the coverage of private health plans between different states, ranging from 2.1%-38.4%.

Table 1: Coverage rate by private health plans by state (2007)

State	%	State	%
Acre	5.4	Paraíba	8.2
Alagoas	8.3	Paraná	19
Amapá	7.7	Pernambuco	12.2
Amazonas	8.7	Piauí	4.7
Bahia	8.3	Rio de Janeiro	30.3
Ceará	9.4	Rio Grande do Norte	11.7
Distrito Federal	28.1	Rio Grande do Sul	16.3
Espírito Santo	23.2	Rondônia	6.3
Goiás	9.3	Roraima	2.1
Maranhão	3.9	Santa Catarina	19.8
Mato Grosso	8.3	São Paulo	38.4
Mato Grosso do Sul	13.7	Sergipe	9.4
Minas Gerais	19.4	Tocantis	3.7
Pará	7.6		

Since the mid-90's, the Ministry of Health has gradually de-centralized the operation and management of the public healthcare network, devolving public health services from the Federal and State to the Municipal level – including the administration of funds. It is important to note that although the Ministry of Health is responsible for Brazil's national 13 healthcare strategies, it is the States & Municipalities who decide how to implement and deliver services in their regions. This is because of Brazil's huge social, demographic, and economic differences. In addition, the population's ethnic and epidemiological profile is extremely heterogeneous. The planning and implementation of healthcare strategies therefore varies considerably across the country.

2.2 Market access and reimbursement

There is a specific legislation for the Brazilian public health care system. The Secretariat for Science, Technology and Strategic Inputs (SCTIE) approved the clinical protocol and therapeutic guidelines created in November 2006 and updated in July 2008. It's a national guideline to be followed by the State Secretariats and Municipalities in the dispensation of drugs for the treatment of RA. This entails a list of medicines which acquires public funds and can be distributed to qualifying patients free of charge. Three biologics are covered in this list, namely adalimumab, etanercept and infliximab (from November 2009 these are centralized purchased by the Ministry of Health). The update of the list in 2008 entailed an additional dosing of etanercept, most likely with minor effect on the treatment programs. All medical treatments for RA included in the public health care system are listed in Table 2. Abatacept and rituximab are also approved for the treatment of RA in Brazil but are not yet covered within this program. An update of the list is expected in the next two years.

Table 2: RA Medications available in the Brazilian Public Care System

Drug name	Recommended dosage
Adalimumab	40mg
Chloroquine	150mg
Cyclosporine	10, 25, 50, 100mg and 100mg/ml x 50ml
Etanercept	25 mg and 50 mg
Hydroxichloroquine	400mg
Infliximab	100mg
Leflunomide	20 mg
Methothrexate	25 mg/ml and 2.5mg
Sulphasalazine	500mg

The guideline states:

- There's no proven difference in efficacy among anti-TNFs available (infliximab, etanercept and adalimumab);
- It's up to the public state manager to decide which of the three anti-TNF drugs will be available in the public state health care services;
- There's no evidence that after failure of one of the three anti-TNFs, another one can be used with expected treatment success

3 Features specific to RA

A study by Senna et al [2] used the Community-Orientated Programme for Control of Rheumatic Diseases (COPCORD) approach in a cross-sectional study of 3038 people in Brazil which estimated a prevalence rate of 0.46% for RA patients older than 16 years [2] (0.09 for men and 0.68 for women). As this is a chronic and progressive disease leading to disabilities and fall in the quality of life, it represents an important economic challenge to the individuals and society as a whole [3]. Direct costs involved with a patient with RA are 2 to 3 times higher than those compared to a patient with the same age and sex, without the illness. Resource utilization and disease costs tend to increase with patient's age and duration of disease [1]. There are no available registries entailing RA patient in Brazil.

In the last years, with the introduction of new therapies for the management of RA, important changes in the standard of resources utilization have happened. In 2001, a literature review about RA direct costs estimated that hospitalization costs represented about 60% of total direct costs. In more recent studies, after the advent of the biological agents, the biggest ratio of the direct costs is attributed to the cost of medications (66%), with only 17% of the total being hospitalization costs. However, despite increasing costs, biological therapy presents great potential for disease control, reducing RA total costs in the long run.

4 Guidelines

Guidelines for the diagnosis and treatment of RA patients in Brazil were developed in 2007, in order to help medical decision and achieve better patient care. According to the update on the Brazilian Consensus for the Diagnosis and Treatment of RA, biological treatments are indicated for patients who maintain disease activity despite treatment with at least two DMARDs and glucocorticoids [4]. It is recommended that the use of biological agents be prescribed and monitored by a rheumatologist. However, the high cost and parenteral administration limit their utilization in most patients.

5 Provision of care

Brazil has approximately 127,299 GPs which represents 35 GPs per 50,000 inhabitants. This compares with 2,822 rheumatologists including other physicians who are involved in the diagnosis of RA patients (Ministério da Saúde). According to data from the Brazilian society of rheumatology, there are approximately 1,500 specialists. After receiving the initial training to become a physician, it takes a further 36 months of specialist training for a physician to become a rheumatologist. The three main biologics available within the public health care system were delivered to patients through an Authorisation for High Complexity Procedures (APACs) prior to November 2009. Each APAC represents one month treatment for one patient. Since November 2009, these biologics are reimbursed per vial instead.

Tables 3b and c represent analysis of data, comparing States or geographic regions of Brazil. Table 3a highlights some of the key findings, presented on a regional level. Note that the estimates of RA cases presented in the tables are probably overestimated as they are based on a prevalence of 0.46% applied to the total population instead of the adult population as these figures were not available by state.

The data suggest that there are large regional differences within Brazil. On a regional level, the South, Southeastern and Central-Western generally had better access to treatment in relation to their RA population than the Northern and Northeastern parts (Table 3a). The South and Central-Western parts of the country have a larger proportion of the APACs than their proportion of RA patients. The South and Southeastern regions had the highest relative number of MRIs (5.1 and 4.3 per million inhabitants, respectively) and specialists (4.3 and 3.8 per 1,000 RA cases) whereas the North and Northeastern had the lowest. As for specialist center, the Central-Western part had the highest relative number.

These discrepancies are further manifested on a state level. As shown in Table 3b, the state of São Paulo has 21.6% of Brazilian population and 16.6% of RA cases in the public health care system. This state represents 35.7% of rheumatology specialized services, and has 31.2% of rheumatologists available, 38% of outpatients visits and 46% of the APACs.

São Paulo is a great contrast to North States, like Pará, with 3.8% of Brazilian population and 4.4% of RA cases in the public health system, no Rheumatology specialized service, and only 0.7% of rheumatologists available, 1.7% of outpatients visits and 0.09% of APACs, in the year of 2007.

As indicated in Table 3c, half of the states (13) do not have rheumatology specialized centers, whereas the state with the highest density has 1.22/1,000,000 inhabitants (Distrito Federal). The highest density of APACs is also seen in those states with rheumatology centers although there is no linear relationship between the two variables. However, this indicates a relationship between the availability of specialist centers and access to RA treatment.

The density of rheumatologists and MRIs also differ between different states, ranging from 1.6-24.6/1,000,000 inhabitants and 0.8-11.8/1,000,000 inhabitants, respectively (data not shown). The relative availability of rheumatologists was rather evenly distributed across the country with the highest average density detected in the South and Southeastern regions. For MRIs, 18 states had 3/1,000,000 or less and only 9 (8 states and Distrito Federal) had more, indicting a somewhat skewed distribution of MRI availability. Generally states in the Northern and Northeastern part of Brazil had a lower density of MRIs (all fell below 3.4/1,000,000) than in the rest of the country. Large cities like Rio de Janeiro and São Paulo had relatively high density of both rheumatologists and MRIs.

The density of outpatients visits due to RA follow approximately the same pattern as the density of rheumatologists and in most cases, with large regional differences. To assess the relationship between the different data points measured, deeper statistical analysis is necessary, however, this does not fall within the scope of this study.

Table 3a: Data extracted from the public health care database and published studies – summary by region

	Population		RA patients (estimate)		MRIs per Million population	Specialists per 1000 RA cases	Rheumatologist specialized centers		APACs	
	Absolute	% total	Absolute*	% of total RA patients covered by public health care system			Absolute	per 10,000 RA cases	Absolute	% of total
North	14,623,316	8.0%	67,267	9.2%	2.2	0.9	2	0.30	403	1.2%
Northeast	51,534,406	28.0%	237,058	31.9%	1.5	2.4	6	0.25	3,833	11.2%
South	77,873,120	42.3%	358,216	36.2%	5.1	4.3	33	0.92	22,191	65.1%
Southeast	26,733,595	14.5%	122,975	14.9%	4.3	3.8	8	0.65	2,732	8.0%
Center-West	13,222,854	7.2%	60,825	7.8%	3.9	2.6	7	1.15	4,927	14.5%
Total	183,987,291	100%	846,342	100%	3.7	3.3	56	0.66	34,086	100%

* the proportion of total RA patients in each region will be equivalent to the proportion of the population as the same prevalence rate is applied to this population.

Source table 3a-c: Data on number rheumatologists and MRIs: Ministério da Saúde; APAC= Authorization for High Complexity Procedure; I: IBGE; II: Tabwin/Datasus; III: calculated from Senna, 2004 [2]; IV: Senna, 2004 [2]

Table 3b: Data extracted from the public health care database and published studies

Administrative Region	State	Abbreviation	Estimated population[i]	Rheumatology specialized centers linked to SUS	Rheum. Centers / 1.000.000 inhabitant	APACs/State[ii]				
						Infliximab	Etanercept	Adalimumab	Total Frequency	Total Value - R$
NORTH	Rondônia	RO	1,453,756	0	0.00000	0	0	5	5	R$16,300.00
	Acre	AC	655,385	0	0.00000	46	0	0	46	R$149,960.00
	Amazonas	AM	3,221,939	2	0.62074	175	0	0	175	R$ 570,500.00
	Roraima	RR	395,725	0	0.00000	0	0	0	0	R$-
	Pará	PA	7,065,573	0	0.00000	0	0	22	22	R$ 71,720.00
	Amapá	AP	587,311	0	0.00000	0	0	0	0	R$-
	Tocantins	TO	1,243,627	0	0.00000	67	0	4	71	R$ 231,460.00
NORTHEAST	Maranhão	MA	6,118,995	0	0.00000	151	28	164	343	R$1,118,180.00
	Piauí	PI	3,032,421	0	0.00000	2	24	0	26	R$ 84,760.00
	Ceará	CE	8,185,286	2	0.24434	669	1	0	670	R$ 2,184,200.00
	Rio Grande do Norte	RN	3,013,740	1	0.33181	288	63	6	357	R$1,163,820.00
	Paraíba	PB	3,641,395	0	0.00000	164	8	1	173	R$ 563,980.00
	Pernambuco	PE	8,485,386	1	0.11785	429	195	202	826	R$ 2,692,760.00
	Alagoas	AL	3,037,103	0	0.00000	3	0	29	32	R$ 104,320.00
	Sergipe	SE	1,939,426	0	0.00000	77	8	6	91	R$ 296,660.00
	Bahia	BA	14,080,654	2	0.14204	507	21	58	586	R$1,910,360.00
SOUTHEAST	Minas Gerais	MG	19,273,506	5	0.25942	1,082	3	0	1,085	R$3,537,100.00
	Espírito Santo	ES	3,351,669	1	0.29836	795	50	34	879	R$2,865,540.00
	Rio de Janeiro	RJ	15,420,375	7	0.45394	143	1,197	707	2,047	R$ 6,673,220.00
	São Paulo	SP	39,827,570	20	0.50216	7,367	1,428	3,130	11,925	R$ 38,875,500.00
SOUTH	Paraná	PR	10,284,503	5	0.48617	853	47	41	941	R$3,067,660.00
	Santa Catarina	SC	5,866,252	0	0.00000	732	27	403	1,162	R$ 3,788,120.00
	Rio Grande do Sul	RS	10,582,840	3	0.28348	24	20	50	94	R$306,440.00
CENTER-WEST	Mato Grosso do Sul	MS	2,265,274	1	0.44145	331	87	341	759	R$ 2,474,340.00
	Mato Grosso	MT	2,854,642	0	0.00000	41	0	27	68	R$ 221,680.00
	Goiás	GO	5,647,035	3	0.53125	1,438	173	278	1,889	R$ 6,158,140.00
	Distrito Federal	DF	2,455,903	3	1.22155	777	369	411	1,557	R$ 5,075,820.00
	Total	**-**	**183,987,291**	**56**		**16,161**	**3,749**	**5,919**	**25,829**	**R$ 84,202,540.00**

Table 3c: Data extracted from the public health care database and published studies

Administrative Region	Abbreviation	Outpatient visits in Rheumatology	Outpatient visits in Rheumatology due to RA[III]	RA Prevalence[IV]	Estimated number of RA cases (public and private systems)	Public system coverage	Estimated number of RA patients covered by the public system	Specialized centers/10.000 RA cases estimated in the public system	Rheumatologists	MRIs
NORTH	RO	2,236	143	0.46%	6,687	93.70%	6,267	0.00	3	5
	AC	2,652	169	0.46%	3,015	94.60%	2,852	0.00	2	2
	AM	14,665	937	0.46%	14,821	91.30%	13,532	1.48	19	6
	RR	0	0	0.46%	1,820	97.90%	1,783	0.00	2	1
	PA	17,749	1.134	0.46%	32,502	92.40%	30,032	0.00	21	16
	AP	2,877	184	0.46%	2,702	92.30%	2,494	0.00	9	1
	TO	932	60	0.46%	5,721	96.30%	5,509	0.00	2	1
NORTHEAST	MA	25,435	1.625	0.46%	28,147	96.10%	27,050	0.00	39	6
	PI	6,895	441	0.46%	13,949	95.30%	13,294	0.00	22	4
	CE	21,244	1.358	0.46%	37,652	90.60%	34,114	0.59	44	11
	RN	30,865	1.972	0.46%	13,863	88.30%	12,242	0.82	74	4
	PB	37,912	2.423	0.46%	16,750	91.80%	15,377	0.00	88	6
	PE	68,050	4.349	0.46%	39,033	87.80%	34,271	0.29	135	19
	AL	18,075	1.155	0.46%	13,971	91.70%	12,811	0.00	51	2
	SE	10,910	697	0.46%	8,921	90.60%	8,083	0.00	32	4
	BA	14,521	928	0.46%	64,771	91.70%	59,396	0.34	92	22
SOUTHEAST	MG	76,579	4.894	0.46%	88,658	80.60%	71,459	0.70	301	52
	ES	26,689	1.706	0.46%	15,418	76.80%	11,841	0.84	60	20
	RJ	88,014	5.625	0.46%	70,934	69.70%	49,441	1.42	315	131
	SP	389,912	24.918	0.46%	183,207	61.60%	112,856	1.77	880	197
SOUTH	PR	48,297	3.086	0.46%	47,309	81.00%	38,320	1.30	209	39
	SC	23,728	1.516	0.46%	26,985	80.20%	21,642	0.00	112	25
	RS	45,960	2.937	0.46%	48,681	83.70%	40,747	0.74	151	50
CENTER-WEST	MS	6,902	441	0.46%	10,420	86.30%	8,993	1.11	28	5
	MT	2,468	158	0.46%	13,131	91.70%	12,042	0.00	28	7
	GO	15,241	974	0.46%	25,976	90.70%	23,561	1.27	75	11
	DF	26,574	1.698	0.46%	11,297	71.90%	8,123	3.69	28	29
	Total	**1,025,382.00**	**65529**	**-**	**846,342**	**-**	**678,133**		**2,822**	**676**

6 Diagnosis

There is no formal role of GPs to act as gatekeepers to specialist treatment. However, due to the low availability of specialists in some regions, many patients are attended by their GP at the first instance. Still, information obtained from the interviews showed that in 90% to 100% cases, rheumatologists are responsible for diagnosing RA. GPs and other physicians such as orthopedics are responsible for diagnosing the rest. The majority of the rheumatologists are located in large centers in big cities. According to information from interviews, smaller cities do not have enough rheumatologists to meet local needs. It takes approximately 52 to 208 weeks for patients in the public health system to be diagnosed. This compared to a diagnosis time of 12 to 52 weeks in the private care system.

The main methods used for diagnosis are physical examinations, laboratory tests and x-rays. Laboratory tests include blood cell count, rheumatoid factor, urinalysis, antinuclear antibodies and in a few cases anti-CCP. Budget restrictions and insufficient imaging facilities were cited as restricting the use of recommended diagnostic tests.

After diagnostic tests, patients with a poor prognosis are identified separately from other RA patients. Characteristics that determined patients with a poor prognosis varied between the different respondents in Brazil. The following were some of the characteristics sought for to determine whether a RA patient had poor prognosis or not:

- High plasma of rheumatoid factor, number of swollen joints, and high levels of ESR and CRP
- More than 20 affected joints, rheumatoid factor or anti-CCP positive, erosion, systematic disease
- Young patients, swelling and pain in lots of joints, high scores in HAQ (Health Assessment Questionnaire), RF or anti-CCP antibodies positive, high level of CRP, extra-articular manifestations of disease, radiographic erosion of bodies
- Duration of disease, smoking, poliarticular disease, rheumatoid nodule, systematic manifestations, high plasma level RF, vasculities and social-economic conditions
- Early onset of poliarticular disease, high titer of RF, early radiographic modifications, high scores in disease activity (e.g. DAS28 > 5.2), poor response to Methothrexate

Once diagnostic tests have confirmed RA in patients, treatment initiation will be started as soon as possible in most cases, other patients may be referred to a specialist (rheumatologist). Some of the respondents stated that the next step after diagnosis might be to watch and wait whilst others stated that this was dependent on other factors. However, there were no further details given by the respondents about factors or circumstances which would direct the next step of treatment.

7 Treatment

7.1 DMARDs

A study carried out by Abreu et al [5] showed that therapeutic strategies have changed for treatment of RA over time, with an increasing use of DMARDs since the beginning of the 1990s in Brazil. In Brazil, a rheumatologist will initiate commencement of treatment and make recommendations about which DMARD is to be prescribed to the patient. All respondents identified methotrexate as the first line treatment and four of the respondents also stated that anti-malarias such as hydroxychloroquine and chloroquine sulphate also were used as first line treatments. A majority of the patients (respondents stating 60% to 100%) are prescribed methotrexate as first line treatment, as monotherapy or as an adjunct to anti-malarias.

Cortisone is also used as a treatment for RA. One interviewee stated that Cortisone is used in 50% of patients for symptom control before the beginning of DMARDs' action when inflammation is highly present. In 10% to 20% cases, it is also used as an intra-articular injection for pain control. In 80% of cases, Cortisone is used for a short duration to avoid adverse events until control is obtained by DMARDs.

The number of weeks for DMARDs to be given before switching to another DMARD varies from 4 weeks to 24 weeks for the different respondents. Low efficacy, safety or tolerability were the main reasons for switching.

7.2 Biologics

There was no indication during the interviews that biologics were ever used as first line treatment for RA patients. The use of biologics as second, third or fourth line treatment differed between the public health system and private health system. It also differed between different respondents. In general, it was most common for all patients to receive a biological treatment after failing at least two DMARDs. A few respondents stated that patients received a biological treatment after just failing one DMARD, the maximum value given within public health care and private were 5% of patients and 20%, respectively. All respondents suggested higher percentages of patients receiving biological treatment earlier in the treatment line for patients in the private health care compared to the public. The data hence suggest that patients may have a higher probability of receiving a biological earlier in the treatment pathway when in private health care than in public.

The table below shows biologics which are likely to be used for different lines of treatment. Note that the choice of therapies may be dependent on the insurance scheme the patient is covered by (private or public). The main reasons the respondents gave for treatment switches were attempts to achieve better efficacy, better safety or tolerability, personal experience and availability in the public health system.

Table 4: Biologics used for treatment of RA

Treatment line of biological treatment	Biologic	Reasons for change
1st Line	Infliximab , Adalimumab, Etanercept	Safety, efficacy, tolerability & cost
2nd Line	Adalimumab, Rituximab, Abatacept, Etanercept	Safety, efficacy, tolerability & cost
3rd Line	Etanercept ,Abatacept , Rituximab	Safety, efficacy, tolerability & cost

Although three of the biologics are reimbursed by the public health care system, they pose a significant challenge to the health care budgets which may limit their use. Also within the private health plan there may be difficulties in receiving coverage for the biological treatments.

The use of infusion biologics may be dependent on the availability of infusion chairs. There were variable numbers of infusion chairs in different locations reported by the respondents during interviews. For example, in the state of Rio Grande do Sul, there are 10 infusion chairs in the public sector whereas for the private sector it was unknown. In the state of Rio de Janeiro there are 40 infusion chairs in the public system and 75 in the private system, the corresponding amount in the state of Sao Paulo being 50-60 and 40-50, respectively. The respondents were of different views whether the available infusion chairs in the regions were sufficient or not, so no clear conclusion on a national level could be draw. It was, however, highlighted during interviews that insufficient numbers of infusion chairs could result in up to 2 weeks waiting times.

7.3 Treatment consistency with EULAR recommendations

According to EULAR recommendations, a patient presenting with RA should be referred to a rheumatologist within 6 weeks after symptoms have been identified. Results of this study found a lack of adherence to this recommendation (Table 5). In the state of Rio Grande do Sul, it took 52 weeks for patients in the public system to be referred to and seen by a rheumatologist. In comparison, a patient in the private system has a waiting time of 17 weeks. In the state of Paraná, RA patients are under the treatment of a GP or orthopedics for 1 to 2 years before being referred to a rheumatologist. Other states reported referral period of 130 weeks for public health system compared to 52 weeks in private system. Others reported 26 weeks in the public system compared to 2 – 4 weeks in the private health system. The state of Mato Grosso reported that there are 8 rheumatologists for a population of 3 million inhabitants. Three of the rheumatologists work in the public system. The lack of rheumatologists translated into long referral periods during which time, RA patient are treated by a GP. One respondent was of the view that the lack of knowledge about rheumatology in the public health system had also contributed to long referral period for patients.

Table 5: Comparison of EULAR guidelines with practice

EULAR Guidelines	Adherence to Guidelines
Reference to specialists within 6 weeks of disease onset	Patients in the public health system have a waiting time of between 52 weeks to 2 years. During this time, they will be cared by GP.
Ultrasound, Doppler & MRI for disease diagnosis	These are not normally performed due to lack of trained staff and financial restrictions.
Lab tests required for diagnosis	All tests done except anti nuclear which is performed when other arthritis diseases are suspected
Recommended measurement factors for patients with early arthritis	All except CCP
Patients receiving DMARDs within recommended timeframe	Patients in public health system will take about 52 weeks to start drugs. Those in the private system will have quicker access.
Methotrexate considered as first line	Evidence of adherence to this guideline
Disease monitoring and events guides decision for switching of DMARDs	In some cases, guideline adhered to but in other cases socio-economic status of patients determines switch.
Non-pharmaceutical intervention recommended to complement pharmaceutical intervention	Physiotherapy, Occupational therapy and Psychotherapy recommended

All the recommended diagnostic equipment is available in Brazil. However, it has not been made explicit whether all the equipment is available in both the public health system and the private system. X-rays are the most commonly used, with one rheumatologist reporting this as the only diagnostic equipment used in his hospital. Ultra sound and MRI were also reported as being in use in some of the locations. One respondent stated that Ultra sound, Doppler and MRI were only used for patients covered by the private system. Another respondent stated the lack of professional trained staff to perform or evaluate examinations in the early phases of RA restricted the use of diagnostic equipment. For this reason, clinical evaluations, lab tests and x-rays are used more frequently. There was further evidence that recommended laboratory tests except the antinuclear antibodies and anti-CCP are less frequently used for diagnosis. Antinuclear antibodies are used when other rheumatoid diseases are suspected.

There was a general consensus that patients developing persistent or erosive RA should be started with DMARDs as early as possible. However, this was not always the case as this was dependant on how accessible the drugs were in the patient's locality. A patient in the public system was likely to have an access period of between 52 - 208 weeks compared to 13 – 104 weeks for patients in the private system. One respondent noted that difficulties in diagnosis of RA in the early stages as well as difficulties in identifying erosions contributed to delays in prescribing DMARDs.

In accordance with EULAR recommendations, the general consensus was that NSAIDs should be considered in symptomatic patients. However, these should be used for a short period to avoid adverse events. Systematic glucocorticoids are used as an adjunct to DMARDs to reduce pain and swelling. This is used in small dosages and for a short period until DMARDs become effective. Methotrexate is considered as the anchor drug and used

first in patients as recommended by EULAR guidelines. In some cases, anti-malarias are also used in association with methotrexate.

The objective of DMARD treatment is to achieve remission. This should be supported by frequent monitoring of disease activity so that any adverse events may direct choice and treatment changes. The study found evidence of adherence to this guideline. Monitoring tools such as DAS28 are used at least every three months. Other recommended monitoring activities include counting of tender and swollen joints, ESR and CRP assessment. Even though there is adherence to this guideline, there are difficulties in the public system to monitor every three months as recommended. This is due to the insufficient number of outpatient visits. Only RA patients under the private system are likely to be monitored every three months. EULAR recommends assessment of structural damage by x-ray every 6 – 12 months. Results from the interviews found that this realistically takes place between 12 – 24 months. It was not clear whether there were any variations between the public system and private system.

In addition to pharmaceutical treatment, non-pharmaceutical interventions such as physiotherapy, occupational therapy and hydrotherapy are included in the treatment program.

The SBR has set up programs for RA patients, which provide education programs designed to assist with coping with pain, disability and continuity of work activities. However, it appears that there is either a lack of awareness or availability of these programs in all localities. Some locations such as Rio Grande do Sul, the programs are only available in the Universities. One respondent was of the view that some of the information, such as ‘incapacity to work’ is better recognized in a European or American culture than the Brazilian culture.

Table 6 below lists the adherence of national practice to the EULAR guidelines by source of information (desk review or interviews).

Table 6: Consistency of Brazilian RA practice with EULAR recommendations

		National practice consistent with EULAR recommendations		
	EULAR recommendation	**Desk research**	**Interviews**	**Comments**
Diagnosis	Patient presenting with arthritis is referred to and seen by a rheumatologist ideally within 6 weeks of symptomatic onset	Yes	No	Can take up to two years in public market
	Clinical examination for detecting arthritis includes ultrasound, power Doppler and MRI	No	No	Ultrasound, MRI & Doppler not used
	Diagnosis requires at least the following laboratory tests: complete blood cell count, urinary analysis, transaminases, and antinuclear antibodies	Yes	Yes	
	Measurement of the following factors for patients presenting with early arthritis: number of swollen and tender joints, ESR or CRP, level of RF and anti-CCP antibodies, and radiographic erosions bodies	Yes	Yes	Anti-CCP rarely performed
Treatment	Patients developing persistent/erosive arthritis should initiate DMARDs as early as possible	Yes	Yes	As soon as diagnosis is confirmed
	Use of patient information and education programmes about coping with pain and disability and maintaining work	Yes	No	SBR has programmes but not accessible to everyone
	NSAIDs are considered in symptomatic patients	Yes	Yes	
	Among DMARDs, MTX is considered the anchor drug and should be used first in patients at risk of developing persistent disease	Yes	Yes	In moderate to severe RA
	Systematic glucocorticoids to reduce pain and swelling are considered as a (mainly temporary) adjunct to DMARD treatment	Yes	Yes	Used for short duration and in low doses
	The main goal of DMARD treatment is to achieve remission. Regular monitoring of disease activity and adverse events guide decisions on the choice or change of DMARDs and/or biologics used	Yes	Yes	
	Non-pharmaceutical interventions, such as dynamic exercises, occupational therapy and hydrotherapy, are applied as treatment adjuncts	Yes	Yes	Physiotherapy, Occupational therapy and hydrotherapy
Monitoring	Disease monitoring includes tender and swollen joint counts, ESR and CRP assessment at 1 to 3 months	No	No	Patients in private sector more likely to be monitored every 3 months. Public sector usually more than 3 month
	Structural damage is assessed by X-ray every 6 to 12 months. Functional assessment is used to complement disease activity and structural damage	No	No	Between 12-24 months

8 Conclusions

The results of the Brazilian study indicate that there are several barriers to universal access to RA treatment. There are large differences between regions and between patients covered by the public or private health care. The barriers to treatment access are summarized below in two main points.

- Insurance scheme

  Access to timely treatment is highly dependent on the insurance scheme the patient is covered by. Approximately 25% of the inhabitants are covered by a private insurance and thereby have better access to RA treatment compared to patients covered only by the public health insurance. The results from this study indicate that the private system have shorter time to referral to specialist, partly explained by a higher number of available specialists. Still the time to referral within the private system is also in most cases above the recommended time set by the EULAR guidelines. Private systems were also more likely to prescribe biologics earlier in the course of RA treatment. These patients are also more likely to be monitored in accordance to guidelines and have access to diagnostic tools other than x-rays.

- Regional differences

  Brazil has a de-centralized health care system, where the decision on how to implement and deliver services is on the state level, with municipalities administrating the funds. The consequence of this is that the planning and implementation of strategies varies considerably across the country. The data presented in this report suggested that there are specifically large differences in the density of rheumatologists and MRIs between the regions, generally with a higher density in large cities and the South and South eastern regions. Although RA treatments are reimbursed, they impose a large burden on the health care budget which limits their use and regional differences of their use have been noticed. Biological drugs have recently been covered by a law, implying that they are centrally purchased by the federal government and not by each state, but the effect of this change as to whether this diminishes the regional differences has not yet been mapped. For other RA drugs, there may be regional differences dependent on the willingness to pay for treatment of each respective region.

9 References

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