



AGE PROFILE MEDICAL DEVICES

Third Edition: "**The Need for Sustained Investment**"

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COCIR is the European trade association of manufacturers of radiological and electromedical equipment and medical IT systems. COCIR has been founded in 1959 and is actively involved in global regulatory issues, European and international standardization and economic issues concerning the sector.

COCIR promotes the improvement of efficiency of health care entities through sustained investment in innovative technologies. This includes hardware and equipment as well as software.

Introduction

COCIR, the European Coordination Committee of the Radiological, Electromedical and Medical IT Industries, and its members are concerned about the process of ageing of electromedical equipment that is taking place in Europe. This trend is aggravated by the strong cost containment policies in the health care sector in most European countries.

In this present brochure COCIR gives information about the current situation with regard to the age structure of electromedical equipment in a number of European countries.

This 3rd edition follows up on earlier studies¹, published in 1996 and 2000 and reporting on the installed basis by the end of 1995 and 1998 respectively. The results of the later studies have confirmed that the concerns about a lack of investment in medical technology in our initial study were justified.

COCIR will continue to monitor the development of the age profile of medical equipment in Europe. The current negative trend has to be corrected through investment in modern electromedical technology. This has to be supported by corresponding reimbursement measures. If this does not happen, the age structure will further deteriorate. Ultimately, this will negatively affect the current high level of diagnostic and therapeutic quality and efficiency all over Europe.

The results of our third study indicate that necessary new investment is still not being made in a sufficient and satisfying way. Based on the experience of now 3 studies into the age profile of medical equipment, COCIR therefore proposes a set of "Golden Rules" as a guideline for investment requirements in Europe.

Frankfurt, February 2003

¹ "Age Profile Medical Devices", November 1996 and "Age Profile Medical Devices 2nd Edition", February 2000. Copies can be obtained from the COCIR Office.

1) Why the age of medical equipment matters

Modern medical equipment offers a broad range of possibilities for the improvement of health care. The positive effects of the use of electromedical technology were first explained in detail in COCIR's brochure on the benefits and costs of electromedical technology².

Since then, innovation has multiplied the possible efficiency gains to be achieved by health care entities from the consequent use of medical technology as well as the potential benefits for patients. New procedures are less invasive and less risky for patients. Diagnosis and therapy are more effective and accurate. Modern electromedical technology improves the quality of health care services and offers many possibilities for rationalization.

For X-ray equipment, the very low levels of total radiation exposure that can be achieved by modern equipment (e.g. by the use of digital imaging technology) also play an important role. In the light of the transposition of Directive 97/43/EURATOM, this effect should receive special attention.

Older equipment does not represent the current state of technology and generally is less suited to deliver the benefits associated with modern electromedical technology as they are expected by patients and users. The possibilities for the updating of existing equipment, as is often demanded by users, are limited. Technical progress often leads to a variety of technical incompatibilities (e.g. in equipment control) that make a further updating of the equipment uneconomical, if not impossible.

In addition, technical progress also puts limits on the availability of spare parts. Parts and components which are provided by specialized external manufacturers may be taken out of production earlier than the product they are used for. This may arise from a redesign of such components but also from the non-availability of some of the highly integrated micro-electronic components that are of growing importance for modern electromedical technology. Electronic parts tend to have a comparatively short production cycle of typically 2 - 3 years.

Older equipment also involves a higher risk of failures or breakdowns. This may lead to considerable delays for essential medical interventions while the equipment is out of service. It can also endanger the health and safety of patients and medical staff. Although this situation can partially be avoided through timely and regular maintenance, the operating cost of such equipment tends to be higher than that of up-to-date electromedical equipment. Insufficient investment in the replacement of equipment will thus lead to higher costs for the provision of medical services.

For all these reasons, the age structure of electromedical equipment is an important factor for the quality of medical services. Older equipment increases the cost of the provision of health services, with the result that possible positive effects for patients will not be realized or will at least be reduced. Therefore, a sound mix in the age structure of installed equipment is important.

For the purpose of this study, the above statements can be turned into the following rules for the evaluation of medical equipment. Based on the evaluation, a set of "golden rules" is prepared as a guideline for investment policies.

² "Medical Device Technology - Benefits and Costs", January 1995. A copy can be obtained from the COCIR Office.

Rules for the evaluation of medical equipment

- Equipment that is up to 5 years old reflects the current state of technology and offers opportunities for economically reasonable upgrade measures.
- Equipment which is between 6 - 10 years is still fit for use, but already requires replacement strategies to be developed. In our opinion the group "6 to 10 years" should not be more than **30 percent** of the total installed base.
- Equipment older than 10 years is no longer state-of-the-art. It is outdated and should not be more than **10 percent** of the total installed base. Replacement is essential.

From these rules and the experience of now 3 studies into the age profile of medical equipment, we would like to propose a set of "Golden Rules" as a guideline for investment policies:

At least **60 percent** of the installed equipment base should be younger than 5 years

Not more than **30 percent** should be between 6 - 10 years old

Not more than **10 percent** of the installed base can be tolerated to be older than 10 years

2) Analysis of the current Age Profile

From the arguments presented in Chapter 1, some general rules with regard to the evaluation of the age of installed equipment can be generated. An analysis of the data on the basis of the proposed "Golden Rules" leads to the following results for the 9 modalities covered by the study:

- **CT** does not meet the "Golden Rule" since 44 percent of the total installed base is older than 5 years. Furthermore, comparison to 1995 shows a steady deterioration. The situation differs by country: 4 countries (see **Annex 5**) do fulfill the requirements but the majority do not.
- **MRI** fulfills the "Golden Rule" but only because 3 countries have an excellent age structure. The trend towards older age of equipment goes up steeply. Decisions for new investments are urgently required, even in this relatively new modality.
- **Nuclear Medicine** is far above the threshold, and the situation deteriorates from 1995 continuously.
- **Angiography** had shown improvements in 1998. However, in relation to the "Golden Rule" the situation overall is worse than 1995.
- **Mammography** lost the improvements made in 1998. A strong group in the age class "6 to 10 years" clearly outweighs improvement in the oldest group and the trend in age is up again.
- **R/F Systems** are the only modality to display a positive trend but they still miss the Golden Rule by far.
- **Mobile Units with Image Intensifiers** improved against 1998 but are worse off than 1995 and far above the line of "Golden Rule". The oldest group alone is already more than 40 percent.
- **Radiography** shows the same picture, even though the oldest group is slightly better than 1995 and 1998. A growing middle age class is almost leading back to the 1995 situation. There is no chance for the "Golden Rule" to be met. Already the oldest age class is above 40 percent, the two oldest age classes combined (older than 5 years) make up more than 70 percent of the total !

The graphical presentation (**Annex 2**) illustrates these findings. Most modalities are in a worse situation in 2001 compared to the first analysis in 1995.

It becomes quite clear that, with the one exception of MRI, no modality fulfils the requirements of our "Golden Rule of Age Structure". Equally important, the trends of the development of the Age Structure, with the exception of R/F Systems, show an increasing share of equipment aged over 5 years. This proves that there was not enough new investment during the last 5 years.

Comparing the share of equipment older than 10 years for individual countries and modalities with the European average, shows a wide variation (**Annex 3**). Variations of up to 51 percentage points can be noticed.

Only for CT and MRI do some countries manage to fulfill the most basic, third "Golden Rule".

Analyzing the situation for modalities (**Annex 4**) and individual countries (**Annex 5**) and following a combination of Golden Rule 2 and 3 ("60/40 rule") confirms and underlines previous findings.

MRI is the only modality to fulfill the "60/40 rule", but only due to the positive situation in some countries. All other modalities miss this requirement. The range varies from 33/44 (CT) to 28/72 (R/F and Radiography).

As a rule of thumb, electromedical equipment has a reasonable economic life expectancy of between 6 and 10 years, depending on the type of equipment and the technical progress in this field. In recent years, technological progress has continuously reduced the life cycle time of modern electromedical equipment.

For example, the British Royal College of Radiologists recommends replacement of equipment after 7 years of use. Consequently, a high share of equipment aged 6 years and older indicates a deteriorating age structure. The required replacement of such equipment will increase the benefit to patients and improve the quality and efficiency of the health care services.

Consistent investment strategies therefore have to be developed already at an early stage.

It is sometimes claimed that an isolated analysis of the age profile would not give the true picture. Software upgrades, especially for the more recent technologies like CT and MRI, and hardware upgrades are supposed to be able to bring this kind of equipment back to a more recent "state-of-the-art" status.

But even such upgrades cannot bridge real leaps in technology. Such developments require specific equipment specifications, which are difficult to achieve through upgrade measures.

Spiral CT for example has become a standard feature in almost all CT equipment since 1995. It is therefore probably unavailable in 45 percent of the installed base of CT devices.

A more recent example is the new multi-slice technology in CT, which has been widely commercially available since approximately the year 2000.

Another example is the use of MRI in angiography and cardiovascular examinations, which has reached maturity in the past few years.

To make use of these newly developed, efficient technologies, new investment is unavoidable.

3) Conclusions

Although the study covers a limited number of countries and relies on data that do not cover 100 percent of the installed equipment, we are convinced that our findings are representative of the whole installed base, since the companies involved in the study represent a very high share of the total installed base.

COCIR therefore urges the responsible institutions in the Member States of the European Union to put a greater emphasis on a sustainable age structure of electromedical equipment.

Given the high importance of electromedical equipment for effective and efficient health care, the influence of an unfavorable age structure on the cost of health care provision should not be underestimated.

Our study shows that for many types of equipment a major share of the installed base is already ten or more years old. In the majority of cases, these devices have to be replaced immediately. Except for CT and MRI, in all other cases far more than half the equipment is 6 years and older and the reasonable "Golden Rule of Age Structure" cannot be maintained.

COCIR recommends that hospitals and practitioners keep the technological progress in mind when the investment in electromedical equipment is planned and decided upon.

Timely replacement could considerably improve the efficiency of health care services, which is also in the interest of patients and Health Care authorities.

Based on the present study for 2001, some alarming final statements are justified:

- Europe, in total, is worse off than in 1995. COCIR's worries of that time have been confirmed.
- The urgent necessity for consistent investment strategies has increased considerably.
- Europe is in desperate need of a sustained investment strategy for all equipment modalities, with no exception !

COCIR urges all those responsible for the quality of health care and the well-being of patients to take immediate action to correct this situation. If the current trend is not reversed, European health care systems will be unable to fulfill the increasing demands of the next decade.

The Age Profile of Electromedical Equipment in COCIR Member Countries

Third Edition

Annexes

Note on Data and Description of the Data Collection

The present brochure follows up on two earlier studies assessing the age structure of electromedical equipment in European countries for 1995 and 1998. The data in this edition present the situation as of December 2001.

The studies are not directly comparable with each other as far as the absolute number of units is concerned due to a refinement in our procedures and considerable changes in market structures. Nevertheless, COCIR is convinced that the age structure of the installed base as a whole is correctly represented.

Distinction between "Hospital" and "Non-Hospital (out-patient)" points at the ownership of the equipment and is only a rough approach. For the United Kingdom this distinction is left out because it could be misleading. Because of the specific nature of the National Health Service (NHS) in the UK all figures are shown under "Hospital".

Results are presented in detail in a number of annexes:

Annex 1: 8 Tables with details per modality (8) and country (9) including a comparison, with the two earlier Studies.

Annex 2: Graphical presentation of the development of the age structure by modality from 1995 - 2001 in Europe.

Annex 3: Deviation from the European average by Countries for equipment older than 10 years.

Annex 4: "Golden Rule of Age Structure" for Europe, as covered by the study

Annex 5: "Golden Rule of Age Structure" for individual Countries

The data for this study have been collected by the following companies that are active in all the countries covered by this study:

- General Electric Medical Systems Europe, France
- Philips Medical Systems, The Netherlands
- Siemens Medical Solutions, Germany
- Toshiba Medical Systems, The Netherlands

The data represent the data available in these companies for the installed equipment in the countries covered by this study. All data present the state as of December 2001.

The study covers the installed units for the following types of equipment:

- Computed Tomography (CT) Equipment
- Magnetic Resonance Imaging (MRI) Equipment
- Nuclear Medicine Equipment
- X-ray Angiography Equipment
- X-ray Mammography Equipment
- X-ray Radiography/Fluoroscopy (R/F) Systems
- X-ray Mobile Units with Image Intensifiers / Surgery
- X-ray Radiographic Equipment

The absolute number of installed units may differ from the data possibly available from other sources, because the study only covers the installed equipment of the participating companies. However, the data have been carefully evaluated by a Working Group of experts from the companies. In addition, the 4 companies involved represent a high share of the total installed base in the 9 countries. We are therefore sure that the trend expressed by the figures is correct.

The enclosed tables present the data collected for the eight product groups in nine countries, separated according to the three age groups and the installations in hospitals or non-hospitals (out-patient) in comparison to the status of 1995 and 1998 shown in the first columns.

Our data differentiate between three age groups:

- Older than 10 years,
- 6 to 10 years old and
- Up to 5 years old.

Details can be found by looking at the charts for the 8 modalities covered by this study, giving information by country, also distinguishing between hospitals and non-hospital (out-patient).

With the help of all details contained in the tables, all analysis done for the European level in this study can be repeated for individual countries.

- Annex 1: Age Profile in the Hospital and Non-Hospital (out-patient),
by modality, 8 pages**
- Annex 2: Graph Total Hospital and Non-Hospital (out-patient) "Golden Rule"
and Trend Lines**
- Annex 3: Deviation by Country from European average for the age profile**
- Annex 4: "Golden Rule" for Europe**
- Annex 5: "Golden Rule" by individual Countries**

COCIR "Age Profile of Electromedical Equipment"

Reference Date: December 31, 2001

Confidential

Product: CT (units)

Country	Hospital			Non-Hospital (out-patient)			Total		
	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)
Belgium	244	102	18	50	19	3	294	121	21
Finland	46	11	8	2	0	0	48	11	8
France	420	125	11	199	55	2	619	180	13
Germany	1409	523	107	945	326	55	2354	849	162
Italy	726	185	163	681	188	160	1407	373	323
The Netherlands	168	52	31	2	0	0	170	52	31
Spain	368	131	60	295	126	48	663	257	108
Sweden	118	32	15	14	1	1	132	33	16
United Kingdom	425	133	29	*)	*)	*)	425	133	29
TOTAL 2001	3924	1294	442	2188	715	269	6112	2009	711
%		33%	11%		32%	12%		33%	12%
1998		34%	10%		32%	12%		33%	9%
1995		36%	7%		30%	8%		26%	8%

Note: Older than 10 years = installed before December 31, 1991
 6 - 10 years old = installed between December 31, 1996 and December 31, 1991
 Total installed base = includes all units in operation at December 31, 2001

*) Due to the specific nature of the National Health Service in the UK (NHS) only total figures for the UK are provided.

COCIR "Age Profile of Electromedical Equipment"

Reference Date: December 31, 2001

Confidential

Product: MRI (units)

Country	Hospital			Non-Hospital (out-patient)			Total		
	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)
Belgium	92	23	0	5	0	0	97	23	0
Finland	30	11	1	7	4	0	37	15	1
France	148	56	14	76	23	1	224	79	15
Germany	535	223	19	663	181	15	1198	404	34
Italy	220	71	18	253	74	33	473	145	51
The Netherlands	131	58	6	5	0	0	136	58	6
Spain	102	38	6	252	76	34	354	114	40
Sweden	67	33	1	10	3	0	77	36	1
United Kingdom	331	122	8	*)	*)	*)	331	122	8
TOTAL 2001	1656	635	73	1271	361	83	2927	996	156
%		39%	4%		28%	7%		34%	5%
1998		24%	3%		24%	4%		24%	4%
1995		12%	2%		14%	3%		13%	2%

Note: Older than 10 years = installed before December 31, 1991
 6 - 10 years old = installed between December 31, 1996 and December 31, 1991
 Total installed base = includes all units in operation at December 31, 2001

*) Due to the specific nature of the National Health Service in the UK (NHS) only total figures for the UK are provided.

COCIR "Age Profile of Electromedical Equipment"

Reference Date: December 31, 2001

Confidential

Product: Nuclear Medicine (units)

Country	Hospital			Non-Hospital (out-patient)			Total		
	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)
Belgium	141	18	72	151	35	32	292	53	104
Finland	28	3	16	2	1	3	30	4	19
France	259	98	94	129	39	4	388	137	98
Germany	358	177	81	745	358	162	1103	535	243
Italy	368	105	137	206	47	89	574	152	226
The Netherlands	166	49	38	0	0	0	166	49	38
Spain	153	39	72	92	27	37	245	66	109
Sweden	77	19	18	2	0	0	79	19	18
United Kingdom	365	95	102	*)	*)	*)	365	95	102
TOTAL 2001	1915	603	630	1327	507	327	3242	1110	957
%		32%	33%		38%	25%		34%	30%
1998		34%	25%		31%	26%		33%	25%
1995		29%	23%		28%	23%		29%	23%

Note: Older than 10 years = installed before December 31, 1991
 6 - 10 years old = installed between December 31, 1996 and December 31, 1991
 Total installed base = includes all units in operation at December 31, 2001

*) Due to the specific nature of the National Health Service in the UK (NHS) only total figures for the UK are provided.

COCIR "Age Profile of Electromedical Equipment"

Reference Date: December 31, 2001

Confidential

Product: X-ray - Angiography (units)

Country	Hospital			Non-Hospital (out-patient)			Total		
	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)
Belgium	131	19	23	0	0	0	131	19	23
Finland	41	11	9	3	2	1	44	13	10
France	429	149	109	230	71	84	659	220	193
Germany	944	369	167	332	144	44	1276	513	211
Italy	385	100	148	121	30	39	506	130	187
The Netherlands	176	73	27	0	0	0	176	73	27
Spain	227	77	53	33	15	2	260	92	55
Sweden	159	75	26	4	3	1	163	78	27
United Kingdom	612	221	95	*)	*)	*)	612	221	95
TOTAL 2001	3104	1094	657	723	265	171	3827	1359	828
		35%	21%		36%	24%		36%	22%
1998		28%	23%		27%	29%		28%	24%
1995		29%	28%		24%	29%		28%	24%

Note: Older than 10 years = installed before December 31, 1991
 6 - 10 years old = installed between December 31, 1996 and December 31, 1991
 Total installed base = includes all units in operation at December 31, 2001

*) Due to the specific nature of the National Health Service in the UK (NHS) only total figures for the UK are provided.

COCIR "Age Profile of Electromedical Equipment"

Reference Date: December 31, 2001

Confidential

Product: X-ray - Mammography (units)

Country	Hospital			Non-Hospital (out-patient)			Total		
	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)
Belgium	286	77	79	140	47	35	426	124	114
Finland	13	0	7	11	1	7	24	1	14
France	520	125	151	1977	424	559	2497	549	710
Germany	754	383	103	1409	845	212	2163	1228	315
Italy	671	143	291	380	110	111	1051	253	402
The Netherlands	172	42	72	9	1	6	181	43	78
Spain	334	116	95	387	153	82	721	269	177
Sweden	108	33	17	17	5	9	125	38	26
United Kingdom	746	147	180	*)	*)	*)	746	147	180
TOTAL 2001	3604	1066	995	4330	1586	1021	7934	2652	2016
		30%	28%		36%	23%		33%	25%
1998		34%	32%		33%	28%		33%	29%
1995		24%	22%		27%	18%		25%	20%

Note: Older than 10 years = installed before December 31, 1991
 6 - 10 years old = installed between December 31, 1996 and December 31, 1991
 Total installed base = includes all units in operation at December 31, 2001

*) Due to the specific nature of the National Health Service in the UK (NHS) only total figures for the UK are provided.

COCIR "Age Profile of Electromedical Equipment"

Reference Date: December 31, 2001

Confidential

Product: X-ray - Mobile Units with Intensifiers (units)

Country	Hospital			Non-Hospital (out-patient)			Total		
	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)
Belgium	598	153	330	0	0	0	598	153	330
Finland	106	20	53	1	0	1	107	20	54
France	3376	689	1185	1545	305	630	4921	994	1815
Germany	4188	1730	1071	1586	713	524	5774	2443	1595
Italy	1483	269	682	311	68	97	1794	337	779
The Netherlands	408	137	162	0	0	0	408	137	162
Spain	1305	282	642	283	54	136	1588	336	778
Sweden	241	74	105	47	16	16	288	90	121
United Kingdom	3059	703	1489	*)	*)	*)	3059	703	1489
TOTAL 2001	14764	4057	5719	3773	1156	1404	18537	5213	7123
		28%	39%		30%	37%		28%	38%
1998		28%	45%		24%	49%		27%	45%
1995		24%	35%		22%	44%		24%	36%

Note: Older than 10 years = installed before December 31, 1991
 6 - 10 years old = installed between December 31, 1996 and December 31, 1991
 Total installed base = includes all units in operation at December 31, 2001

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COCIR "Age Profile of Electromedical Equipment"

Reference Date: December 31, 2001

Confidential

Product: X-ray - R/F Units (units)

Country	Hospital			Non-Hospital (out-patient)			Total		
	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)
Belgium	830	169	378	166	33	108	996	202	486
Finland	73	9	59	17	1	15	90	10	74
France	2255	447	1039	3512	601	1554	5767	1048	2593
Germany	2653	1002	1028	2298	781	1031	4951	1783	2059
Italy	1333	209	866	441	87	256	1774	296	1122
The Netherlands	352	116	157	0	0	0	352	116	157
Spain	726	133	453	275	61	172	1001	194	625
Sweden	248	89	76	29	11	11	277	100	87
United Kingdom	918	293	360	*)	*)	*)	918	293	360
TOTAL 2001	9388	2467	4416	6738	1575	3147	16126	4042	7563
		26%	47%		23%	47%		25%	47%
1998		19%	58%		16%	67%		18%	62%
1995		20%	53%		19%	58%		19%	55%

Note: Older than 10 years = installed before December 31, 1991
 6 - 10 years old = installed between December 31, 1996 and December 31, 1991
 Total installed base = includes all units in operation at December 31, 2001

*) Due to the specific nature of the National Health Service in the UK (NHS) only total figures for the UK are provided.

COCIR "Age Profile of Electromedical Equipment"

Reference Date: December 31, 2001

Confidential

Product: X-ray - Radiography (units)

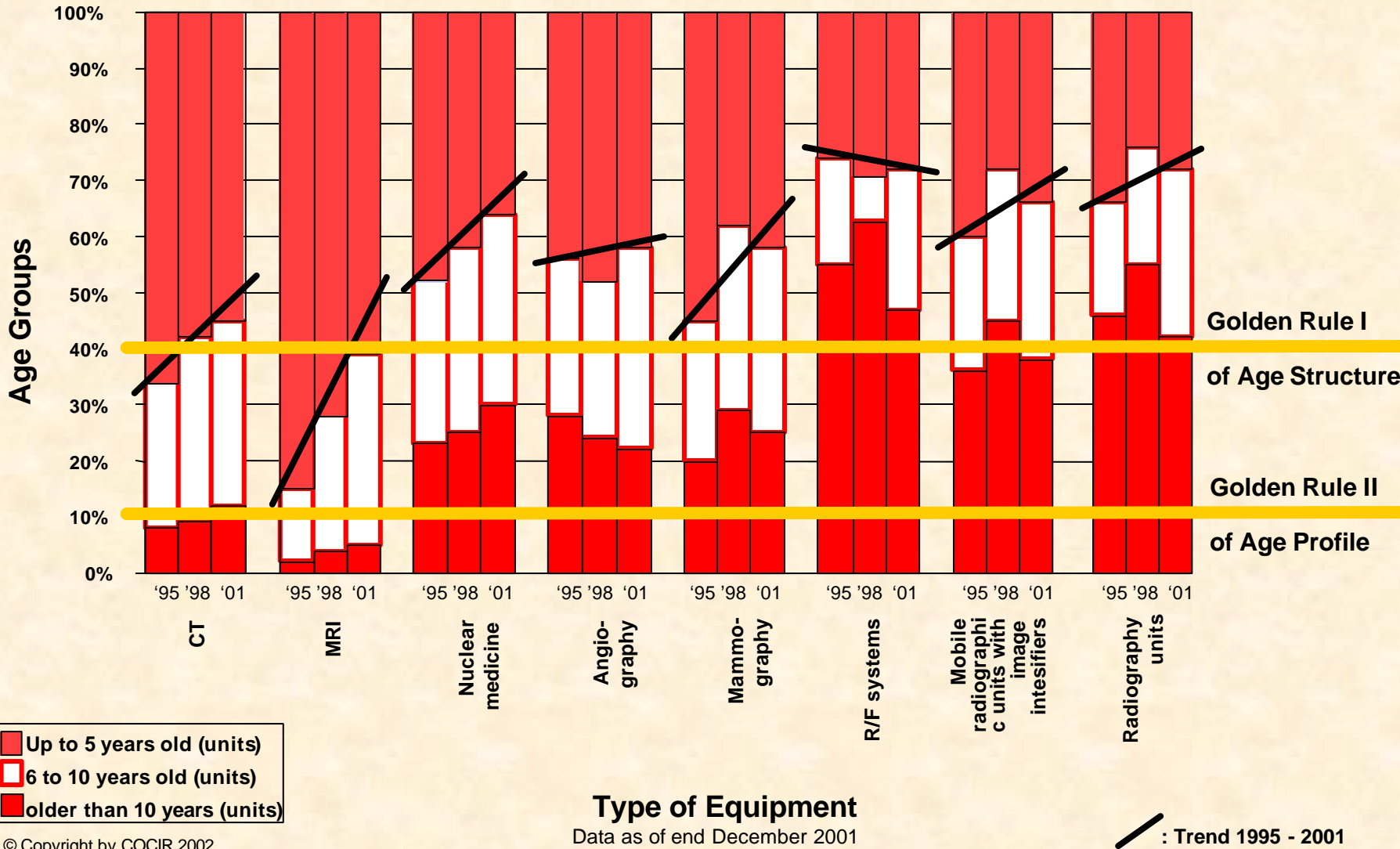
Country	Hospital			Non-Hospital (out-patient)			Total		
	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)	Total installed basis (units)	6 - 10 years old (units)	older than 10 years (units)
Belgium	397	52	243	52	7	32	449	59	275
Finland	177	12	151	50	1	43	227	13	194
France	3008	520	1028	1419	254	534	4427	774	1562
Germany	4907	2451	1472	5245	1917	1933	10152	4368	3405
Italy	2191	339	1360	292	54	161	2483	393	1521
The Netherlands	1152	381	501	44	12	22	1196	393	523
Spain	2123	486	1090	1069	240	527	3192	726	1617
Sweden	779	191	426	112	22	55	891	213	481
United Kingdom	2982	752	1430	*)	*)	*)	2982	752	1430
TOTAL 2001	17716	5184	7701	8283	2507	3307	25999	7691	11008
		29%	43%		30%	40%		30%	42%
1998		21%	52%		21%	59%		21%	55%
1995		20%	47%		21%	46%		20%	46%

Note: Older than 10 years = installed before December 31, 1991
 6 - 10 years old = installed between December 31, 1996 and December 31, 1991
 Total installed base = includes all units in operation at December 31, 2001

*) Due to the specific nature of the National Health Service in the UK (NHS) only total figures for the UK are provided.

The Age Profile of Electromedical Equipment in COCIR Member Countries

Hospital and Non-Hospital (out-patient)



Annex 3: Deviation by Country from European average for the age profile

Total: Hospital and Non-Hospital (out-patient)

	Modality	Older 10 years average 9 Countries	Variation
1.	CT	12 %	7 % — 23 %
2.	MRI	5 %	0 % — 11 %
3.	Nuclear Medicine	30 %	22 % — 63 %
4.	Angiography	22 %	15 % — 37 %
5.	Mammography	25 %	15 % — 58 %
6.	Mobile / Surgery	38 %	28 % — 55 %
7.	R/F	47 %	31 % — 82 %
8.	Radiography	42 %	34 % — 61 %

**Annex 4: "Golden Rule of Age Structure" *)
Europe, as covered by the Study**

	Modality	YES	NO
1.	CT		X 45%
2.	MRI	X 39%	
3.	Nuclear Medicine		X 64%
4.	Angiography		X 57%
5.	Mammography		X 59%
6.	Mobile / Surgery		X 66%
7.	R/F		X 72%
8.	Radiography		X 72%

*) "Golden Rule of Age Profile" defined as:
no more than 40 percent of Total installed
base older than 5 years.

Annex 5: "Golden Rule of Age Structure" *)

by individual countries

	Modality	YES	NO
1.	CT	F; S; UK; SF	B; D; I; NL; E
2.	MRI	B; D; UK	SF; F; I; NL; E; S
3.	Nuclear Medicine	B	SF; F; D; I; NL; E; S; UK
4.	Angiography	--	B; SF; F; D; I; NL; E; S; UK
5.	Mammography	--	B; SF; F; D; I; NL; E; S; UK
6.	Mobile / Surgery	--	B; SF; F; D; I; NL; E; S; UK
7.	R/F	--	B; SF; F; D; I; NL; E; S; UK
8.	Radiography	--	B; SF; F; D; I; NL; E; S; UK

*) "Golden Rule of Age Profile" defined as:
no more than 40 percent of Total installed
base older than 5 years.

Countries:
 B = Belgium
 SF = Finland
 F = France
 D = Germany
 I = Italy
 NL = Netherlands
 E = Spain
 S = Sweden
 UK = United Kingdom