MARCH 2020

WHITE BOOK

OF GASTROENTEROLOGY AND HEPATOLOGY IN FRANCE

HIGHLIGHTS

CNPHGE

EDITO

The objective of the White Book of Gastroenterology and Hepatology is to provide up-to-date data on the extent of digestive diseases in France and their impact on gastroenterologists' activity. This White Book is built as a public decision aid as well as a reference corpus for our profession. It gathers the information needed by healthcare professionals to identify themselves but also to help the reflexion on the trends in their practice. It has been initiated and entirely financed by the CNP-HGE ("*Conseil National Professionnel de l'Hépato Gastro-Entérologie*"), bringing together all the Societies, professional organisations, and the union of the speciality. It is not meant to be a static publication but an evolutive tool often updated in order to provide relevant information to the profession and to the Health Authorities.

Hepato-gastroenterology is a speciality which covers a very large spectrum of diseases and medical practices: oesophagus, stomach, intestine, pancreas, liver, bile duct, anus and rectum disorders. These diseases are of various types and multiple origins, possibly combining genetics and epigenetics: cancers, precancerous lesions, inflammatory diseases, infections (especially viral), functional disorders, complications of chronic alcoholic intoxication or of gallstones' complications, cirrhosis, emergencies (digestive haemorrhages, acute pancreatitis …). Hepato-gastroenterology is a medico-technical speciality dominated by endoscopy, both diagnostic and therapeutic, core specialty of most of the 3 900 French hepato-gastroenterologists. It also includes more specific activities such as digestive oncology, hepatology and liver transplantation, proctology, digestive functional explorations or more cross-disciplinary activities such as nutrition, addictology, onco-genetics often in deep connexion with clinical and/or basic research (immunotherapy, biotherapies, cellular therapies). This diversity is unquestionably a strength, but it sometimes makes the speciality hard to grasp for the general public, Health Authorities and Public Health actors.

Figures provided in this White Book show that, in France, physicians manage more than 5 million patients for a digestive disease or symptom every year. Hepato-gastroenterologists are essential to diagnose and treat severe and frequent pathologies (one million patients every year are suffering from cancer, inflammatory bowel disease, chronic liver disease …), but also benign diseases, that are even more frequent and significantly altering patients' quality of life (functional gastroIntestinal disorders, gastro-oesophageal reflux, anorectal disorders, …). In 2016, caring costs for these digestive pathologies exceeded 6 billion euros.

The recent epidemiological evolutions (increase of cancers' occurrence, diseases becoming more and more chronic, obesity prevalence with its hepato-biliary consequences, …), diagnosis and technical progress (including in endoscopy), therapeutic progress (biotherapy, hepatitis C treatment) and the new Health Policies, especially regarding prevention and screening (colorectal cancer, liver cancer on cirrhosis…) have widely modified patients' management, pathways but also medical practices in hepato-gastroenterology.

For instance, while digestive diseases represent one of the most frequent hospitalisation cause in France, the typology of the hospital stays has evolved, with a strong increase of outpatient activity, mainly dedicated to endoscopy and treatment administration (chemotherapy and biotherapy for inflammatory bowel disease whose prescription have steeply increased during the last few years).

Hepato-gastroenterology will have to face new challenges:

- Cancers: figures disclosed in the White Book demonstrate the increase in the number of digestive cancers. In 2018, mortality caused by digestive cancers exceeded 45,000 deaths. One should keep in mind that colorectal cancer kills 18,000 French every year, 6 times more than car accidents! Furthermore, a significant increase in mortality due to pancreas cancer is observed: almost 12,000 deaths per year. Hepato-gastroenterologists are essential for digestive cancer treatment (one third of them hold a qualifying degree and have the competencies to deal with these cancers). It is urgent, not only to allow them to keep treating these patients, but also to make the access to digestive oncology easier for future hepato-gastroenterologists. It is a major challenge for the whole profession.

- Chronic liver diseases with the progressive risk of cirrhosis and liver cancer: Hepatitis C whose quasi-eradication is forecasted, will make way for hepatic pathologies secondary to obesity and metabolic syndrome whose incidence keeps growing.

- Medical demography: hepato-gastro-enterology is no exception to the rule of aging in the medical population: 44% of gastroenterologists were more than 55 years old in 2018. "Gastroenterological deserts" already exist with harmful consequences on access to health care and jeopardize efforts by Health Authorities regarding colorectal cancer screening. These White Book data give solid arguments in favour of obtaining significant increase in the number of hepato-gastroenterologists in training as soon as possible.

- Hepato-gastroenterology is among the most dynamic medical specialities in the area of biomedical scientific research, at the cutting edge of technical evolutions which includes already numerous artificial intelligence programs (detection and characterisation aid for digestive mucosal lesions for instance). This scientific dynamism is an additional advantage to attract young doctors towards our discipline.

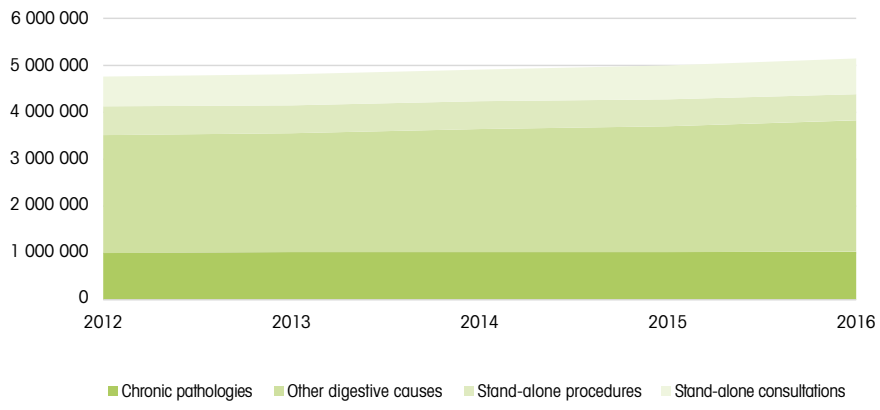
Thereby, hepato-gastroenterology, at the heart of Public Health issues, is a major discipline which meets and must keep meeting well-defined and important needs of the population in terms of care supply.

Enjoy your reading!

The National Council of Hepato-Gastroenterology
(*Conseil National d'Hépato-Gastroentérologie*)

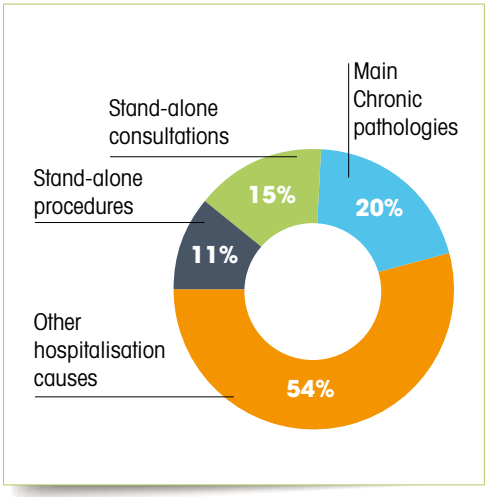
PATIENTS MANAGED FOR DIGESTIVE DISEASES IN 2016

As a whole, the analysis evaluates that around 5,1 million people have been taken care of in 2016 for a digestive pathology, including 1 million for chronic diseases, an increase of 8% compared to 2012 (or approximatively 2% per year).



EVOLUTION OF THE PATIENTS TAKEN CARE OF FOR A DIGESTIVE PATHOLOGY BETWEEN 2012 AND 2016

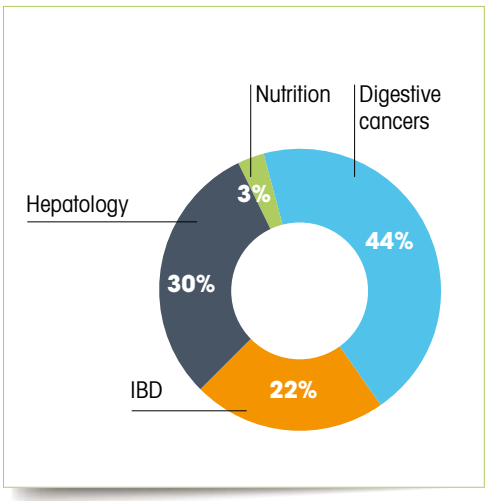
More than **2.9 million patients are identified,** In 2016, around 1.2 million individuals have had a consultation or a procedure without hospitalisation, for a digestive cause, during that year or the previous year, excluding long term illness care ("*Affections de Longue Durée, ALD*"). They are identified by an outpatient procedure or a consultation delivered by a gastrointestinal (GI) specialist. **764,000 patients are identified with a consultation** realised by a GI specialist (external consultations, in a hospital or a private practice) and about 443,000 individuals have had a stand-alone alone procedure in 2016 among which the majority were diagnostic procedures.



Distribution of the active file of patients in 2016

CHRONIC DISORDERS

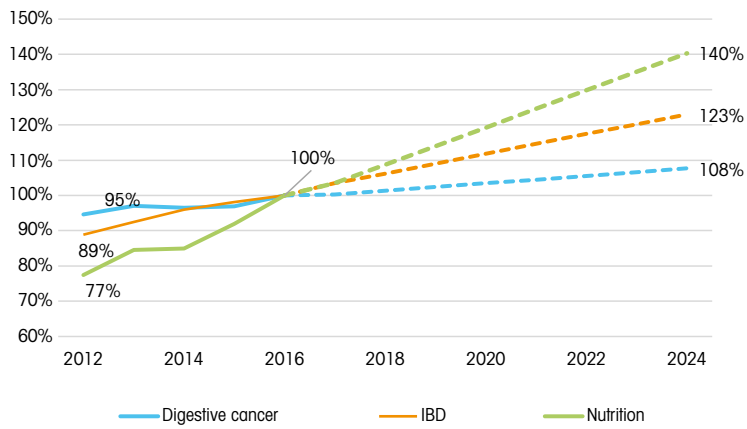
The number of patients with a chronic digestive pathology is estimated to be 1 million including **721,000 with an officially recognised long term illness ("*ALD*").** Digestive cancers account for nearly half (44% digestive cancers excluding hepatic cancers and 4% hepatic cancers). Inflammatory bowel diseases (IBD) represent 22% and hepatology 26% (excluding hepatic cancers).



Distribution of chronic pathologies – 1 million of patients taken care of

COMPARISON OF LONG-TERM ILLNESS ("*ALD*") PREVALENCE WITH OTHER SPECIALITIES (2017)

For non-hepatic chronic diseases, projections suggest an increase of 40%, 23% and 8% respectively for pathologies linked with nutrition, IBD and digestive cancers.

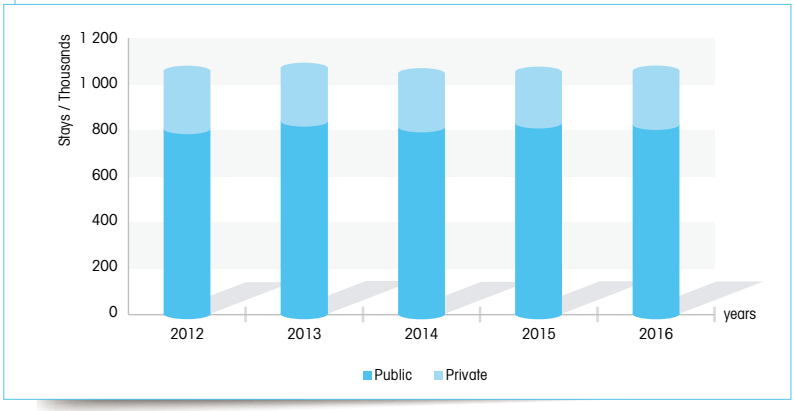


DIGESTIVE DISORDERS: ACTIVITY DATA

HOSPITALISATIONS

FULL HOSPITALISATION

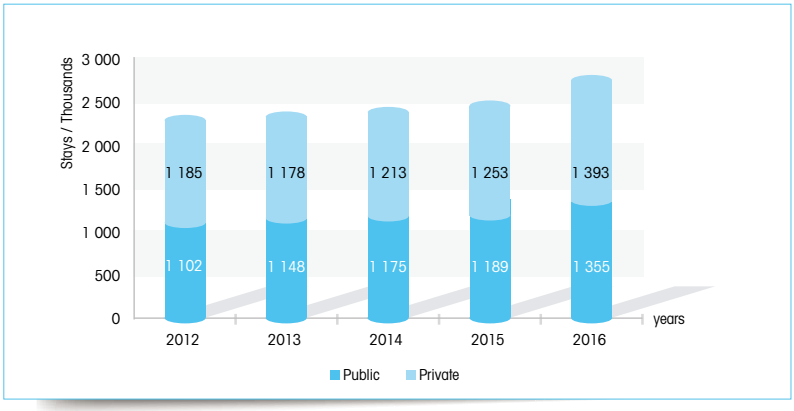
There have been **1.1 million "digestive" stays** in 2016, including 825,000 in public hospitals. The number of stays has been stable since 2012. The "gastroenteritis and digestive illnesses" group accounts for 26% of the full hospitalisation stays, followed by bile duct illnesses (9%) and abdominal pain (7%). These three causes represent 42% of full hospitalisation stays.



Evolution of the number of full hospitalisations, per sector

DAY-CARE HOSPITALISATION / OUTPATIENT HOSPITALISATION

There have been **2.7 million** "digestive" day-care hospitalisations in 2016, half of them in public hospitals. This activity is increasing since 2012, by about 4% per year. The "digestive endoscopy" diagnosis related groups ("*Groupe homogène de maladies, GHM*") represent most of the day-care hospitalisations (53%), mainly in the private sector. Stays for "chemotherapy for tumours" (22%) and for "chemotherapy for non-tumorous illnesses" (5%) represent the 2nd and 3rd most frequent GHM. In plain English, endoscopies, chemotherapies and biotherapies perfusions for IBD account for 80% of day-care hospitalisations for "digestive" causes.



Evolution of the number of day-care hospitalisations, per sector

- Full hospitalisation activity is mainly delivered in public hospitals. The care for patients with a digestive cancer is one of the main full hospitalisation causes (14% and 24% of hospitalisations in public and private sectors, respectively), after the general gastroenterology which represents 40% of the activity. Hepatology activity is mainly delivered in the public sector.
- Day-care hospitalisation activity is mainly focused on chemotherapy (22% of hospitalisations) and endoscopy (53%) with again the care for digestive cancer patients, mostly delivered in the public sector (41%) and to a lesser extent in the private sector (19%).
- Distribution of chemotherapies and endoscopies is different between public and private sectors. 75% of endoscopy are accomplished in the private sector while 75% of chemotherapies are accomplished in the public sector.
- The evolution of the hospitalisation activity is driven by the increase of day-care hospitalisation (about 4% per year), full hospitalisation being steady.

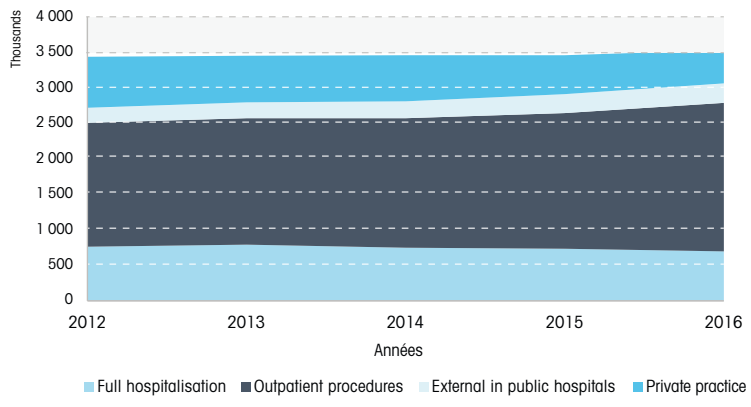
CONSULTATIONS AND MEDICAL PROCEDURES

CONSULTATIONS

As a whole, GI specialists performed **4.2 million consultation**s, including 3.1 in private practice and 1.1 in external consultations within a public hospital. Extrapolation of the consultations number's evolution between 2012 and 2016 shows a **tendency of consultations' increase of 10% between 2016 and 2024, by about 1.3% per year.** Consultations by GI specialists represent 1% of private practice consultations and 3% of external consultations in France, within the average of specialities.

PROCEDURES

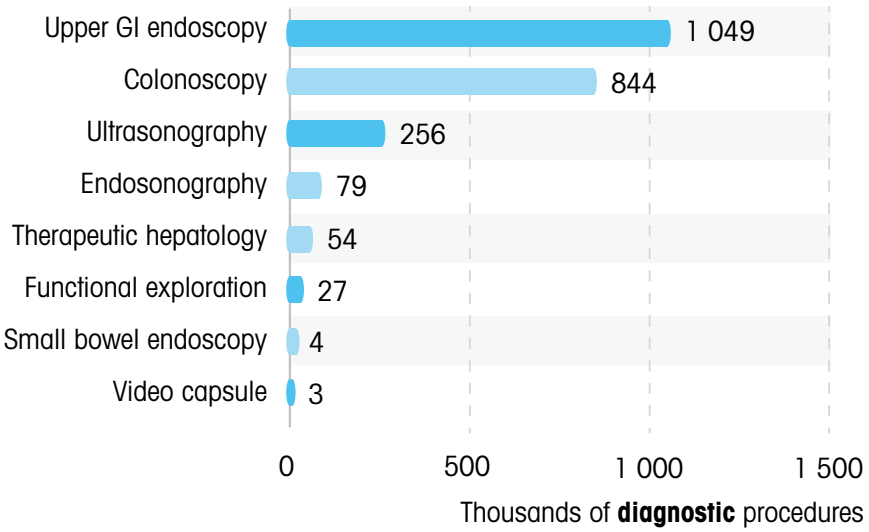
In 2016, HGE realised 3.5 million procedures, most of them being coloscopies and upper GI endoscopies, ¾ during a hospitalisation (outpatient or full). The evolution since 2012 shows an increase of the procedures performed in outpatient care.

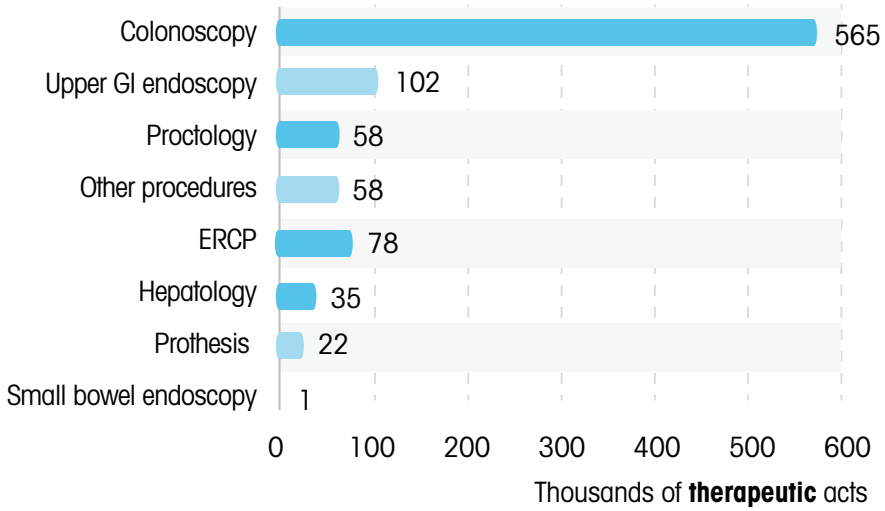


Evolution of the procedures realised by HGE in 2016, per sector

DIGESTIVE DISORDERS: ACTIVITY DATA

The distribution between diagnostic and therapeutic procedures is as follows:



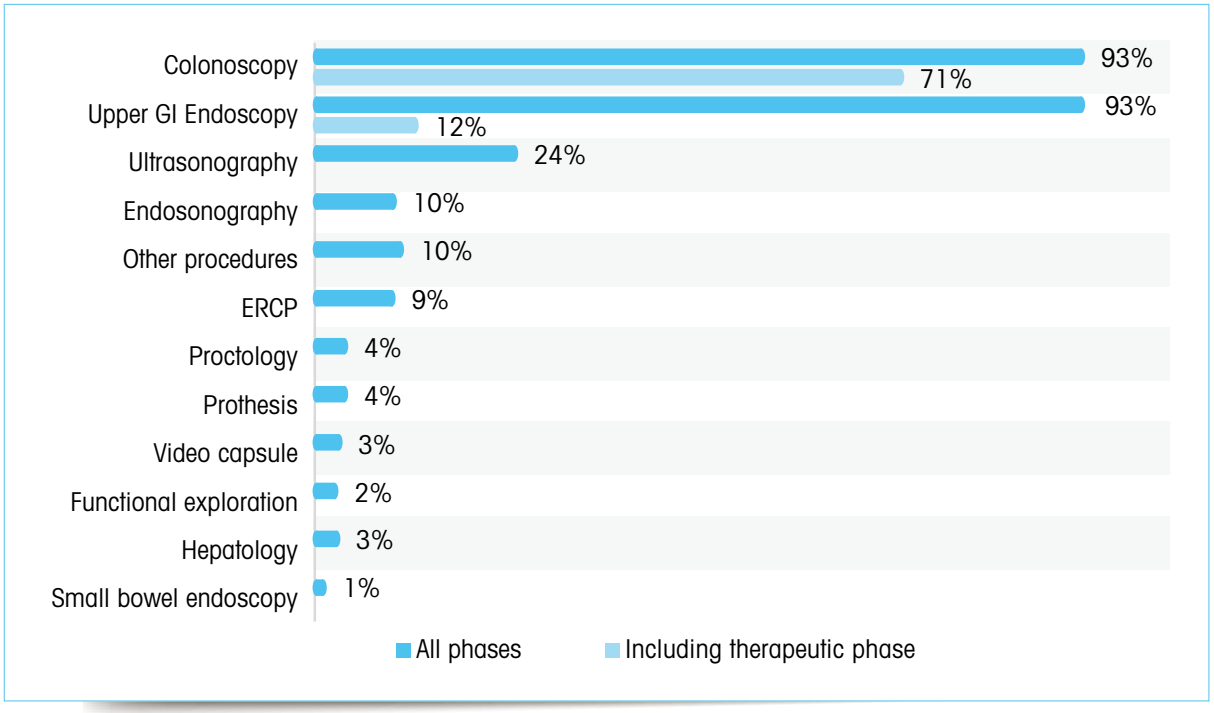


SUMMARY

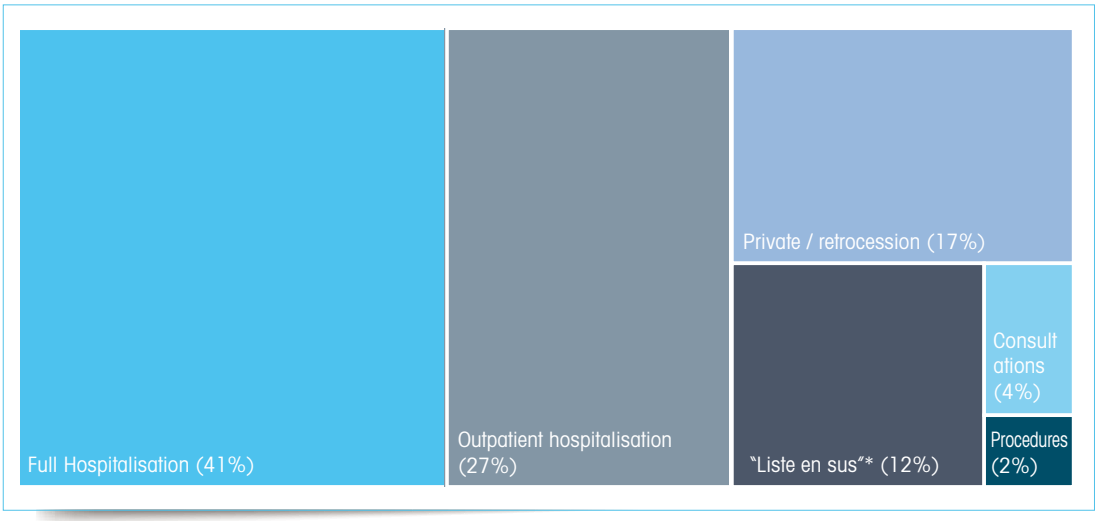
As a whole, there were **1.4 million of coloscopies,** including **565,000 therapeutic (40%)**. Colonoscopies are performed **under general anaesthesia, for 97% of them,** through outpatient hospitalisation in 8% of the cases. They are performed among **50-74-year-old people in 66% of the cases,** over 75 years old in 14% of cases and under 50 years old in 19% of the cases.

For **upper gastrointestinal (GI) endoscopies**, there are **1.1 million of procedures** performed through hospitalization, including **100,000 therapeutic ones,** and an additional number of **350,000 external procedures,** accounting for a **total of 1.45 million of exams.**

Data specific to private practitioners show that **93% of HGE perform GI endoscopy,** 24% ultrasonography, 10% endoscopic retrograde cholangiopancreatography (ERCP) and endosonography, and 4% surgical proctology.



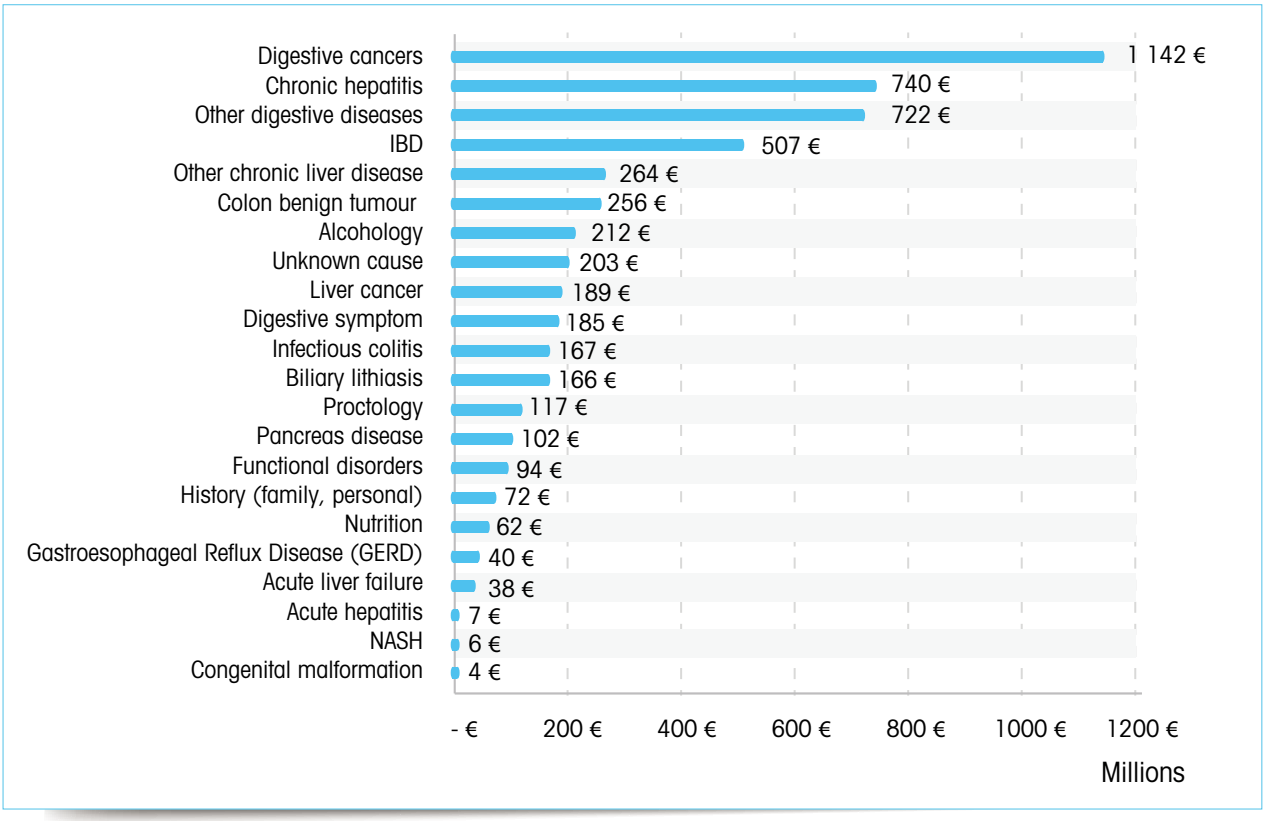
The chart below shows the distribution of reimbursement expenses related to digestive pathologies. Hospitalization is the largest item, followed by medication. External consultations and external medical procedures only account for 6% of expenses related to GI. The financial impact of digestive diseases is estimated at almost 6 billion of euros for the year 2016, an increase of 1.2 billion compared with 2012. This increase is mostly related to the costs of Hepatitis C treatments (950 million in 2015, 650 million in 2016).



* "Liste en sus" is a list of high-cost drugs reimbursed outside the hospital budget.

DIGESTIVE DISORDERS: ACTIVITY DATA

The chart below shows the details of the expenses by pathology. Digestive cancers are the largest expenditure item, followed by chronic hepatitis and other digestive diseases.



DEMOGRAPHY OF GI SPECIALISTS

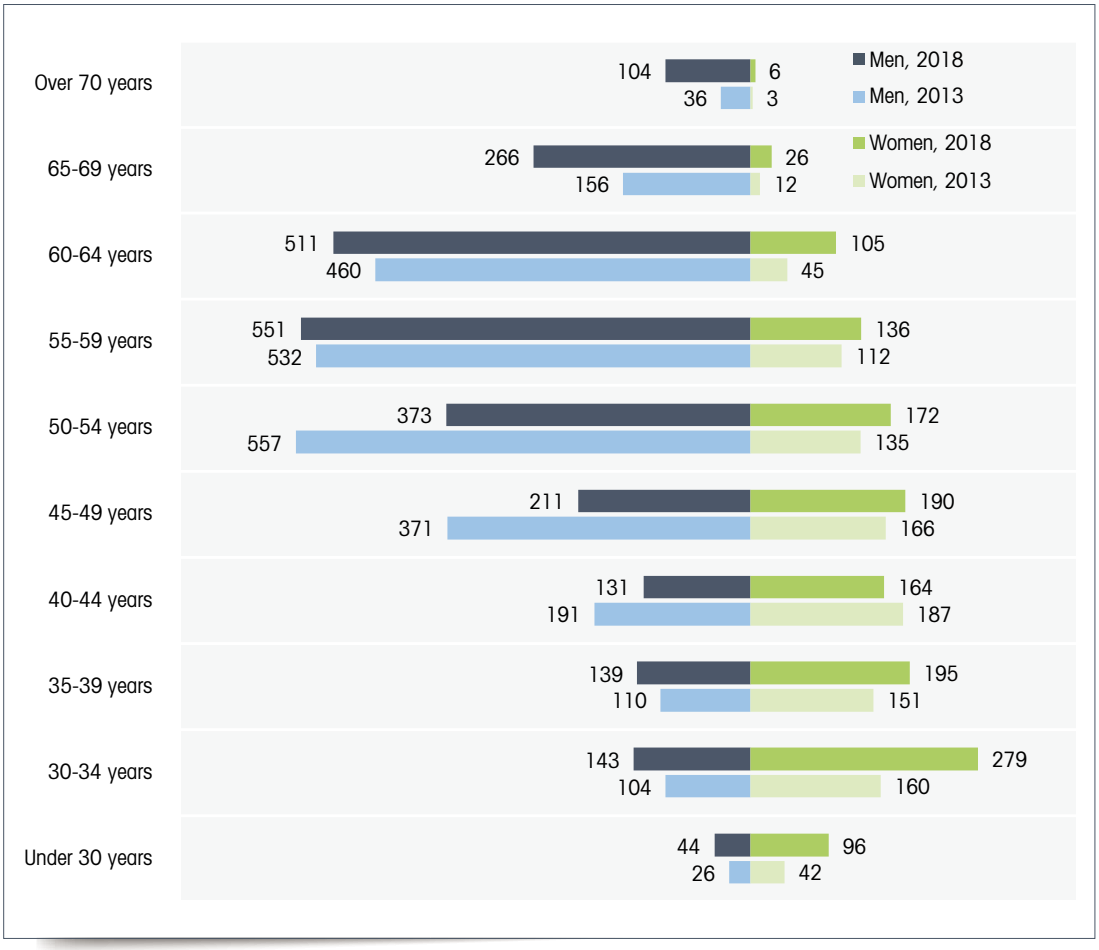
DEMOGRAPHY

The data are from 2018 and were obtained from the Directorate for Research, Studies, Evaluation and Statistics (DRSES), a department of the central administration of the Ministry of Solidarity and Health.

The following chart shows the age pyramid of GI specialists in 2013 and 2018.

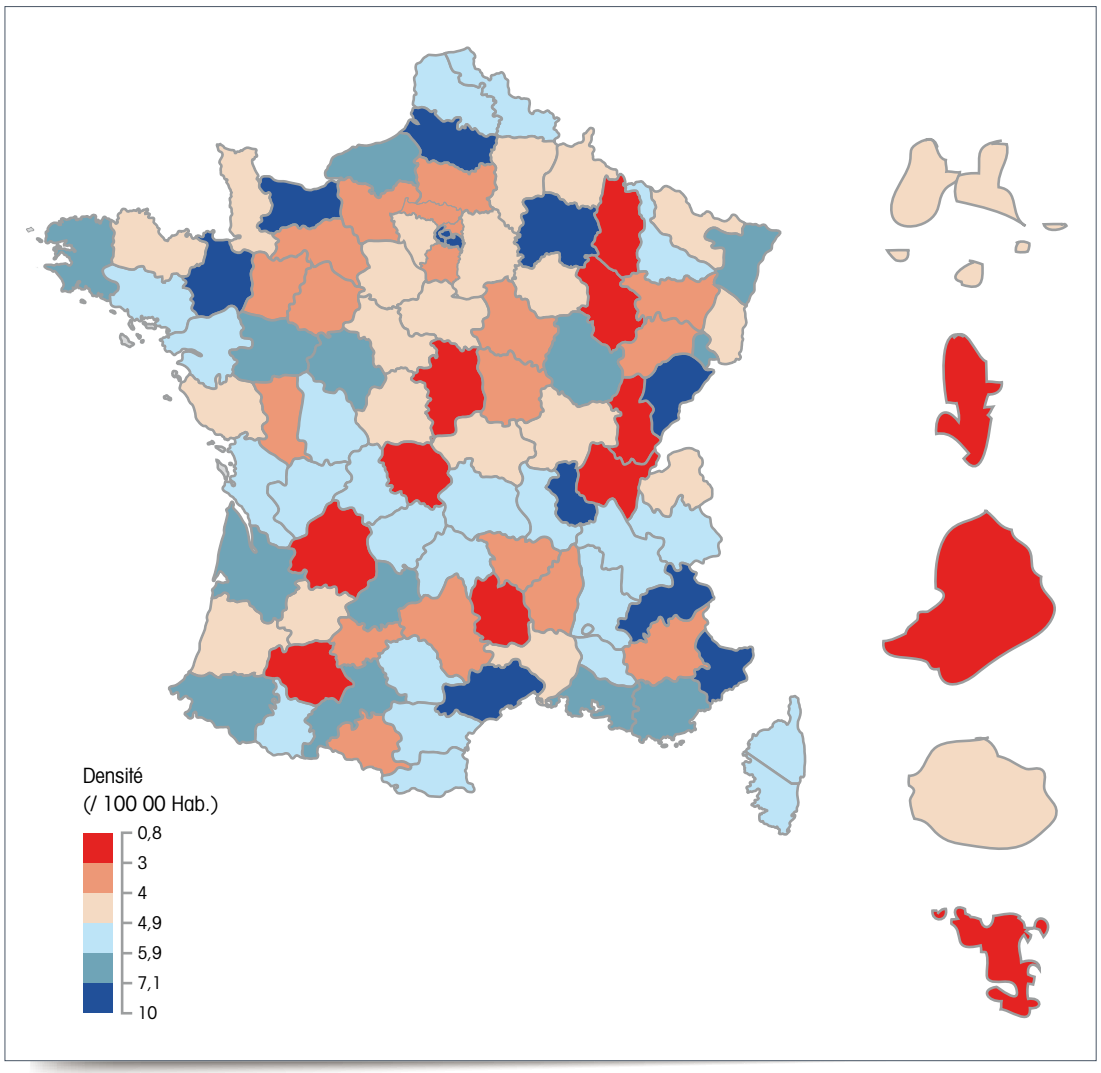
3,900 physicians have been identified by the DRSES, with an average age of 50.5 years.

About 10% of HGE are over 65 years, 26% are over 60 years and 44% are over 55 years

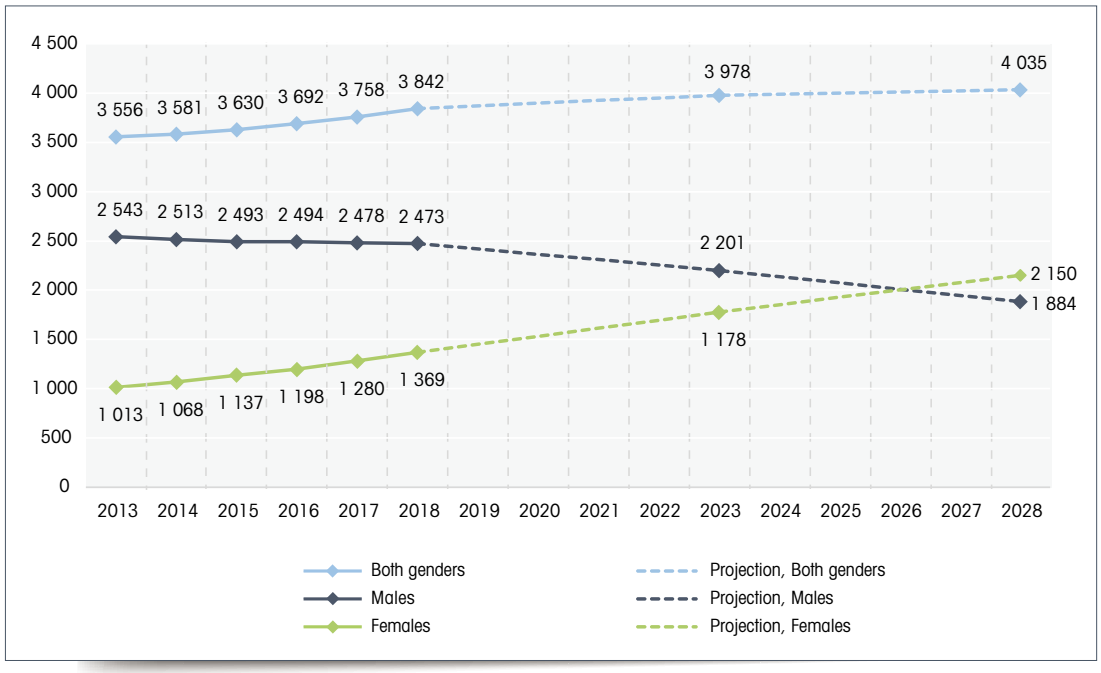


DEMOGRAPHY OF GI SPECIALISTS

The following chart shows a high variability of the density of HGE: between 1 and 10 from one department to another. 56% of male and 65% of female GI specialists work in Paris or in cities with over 200,000 inhabitants.



The following charts shows the expected evolution of the number of HGE, assuming a stable number of new entrants over the period. This extrapolation allows for an estimation of a 5%-increase of HGE between 2018 and 2028, or 0.5% per year. A revision of this estimation can be expected in the future, due to the end of the numerus clausus and the reforms of the Medicine Internship; but this estimation should remain valid for the next 6 years given the length of HGE training. However, given the age pyramid, if the renewal rate was to remain unchanged, the number of HGE is likely to be decreasing after 2028.

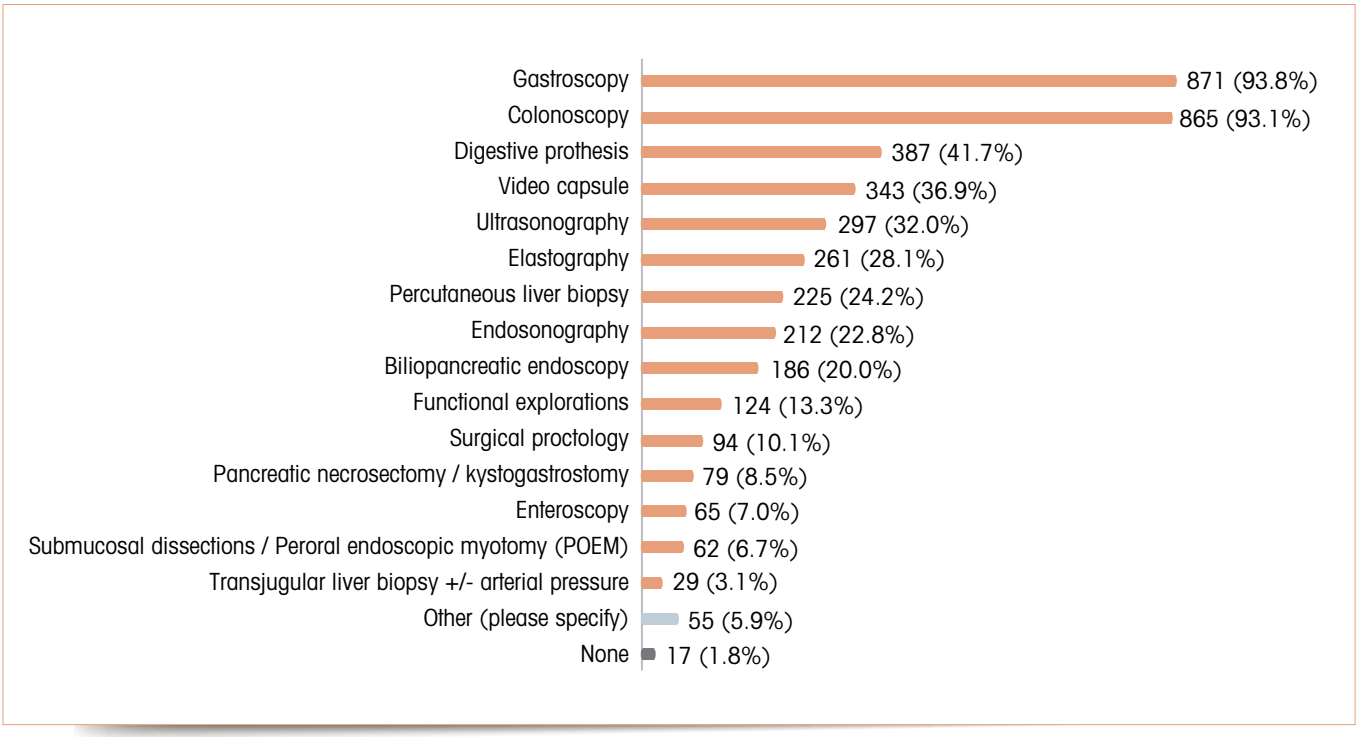


RESULTS OF THE SURVEY CONDUCTED AMONG 1,065 HEPATO-GASTRO-ENTEROLOGISTS

An online survey was performed among HE between February and May 2019. Reported results are declarative.

Regarding the medical procedures, 93.5% of practitioners perform endoscopy, and they do it around 3.5 days per week on average.

95% of practitioners perform gastroscopy and 94% colonoscopy, accounting for, on average, 42 and 49 procedures per month respectively (these numbers are consistent with the numbers obtained from the "*Echantillon Généraliste des Bénéficiaires", EGB* data). It is to be noted that 13% of GI specialists perform functional exploration, 10% surgical proctology, 32% ultrasonography and 6% endoscopic submucosal dissections.



32%
of **GI specialists hold an oncology Complementary Specialized Studies Diploma**
(*"Diplôme d'Etudes Spécialisées Complémentaires, DESC"*)
or a **special competency in digestive cancerology**

Nearly 90% of GI specialists participate in 3 or 4 Multidisciplinary Concertation Meetings
(*"Réunion de Concertation Pluridisciplinaire, RCP"*) **every month:**

82% for **oncology RCP** and almost
30% **for IBD** Multidisciplinary Concertation Meetings

CHALLENGES

Chronic digestive disorders: some concerning trends

This piece of work highlights the weight of digestive diseases which impact more than 5 million people in France, including 1 million who are affected by serious chronic diseases, mostly digestive cancers (44%), hepatic diseases (26%), inflammatory bowel disease (22%) which all together cause more than 700,00 long term illness ("*ALD*"). Projections suggest an increase of 40%, 23% and 8% for diseases related to, respectively, nutrition, IBD and digestive cancers.

Digestive cancers were, in 2018, responsible for more than 45,000 deaths. Colorectal cancer, alone, kills 18,000 people every year in France. A rise of the frequency of colorectal cancers among people under 50 years (in particular among people under 30 years) has been established in many countries, without knowing exactly the epidemiologic factors causing this increase, a genetic cause being identified in only 20% of the cases. Moreover, a major increase of the mortality of pancreas cancer has been noticed, with almost 12,000 victims per year (the 2nd digestive cancer in terms of mortality). This number is very concerning given our limited curative options and the complete absence of an efficient screening method.

Regarding liver diseases, if in the future, the issue of Hepatitis C will be mostly resolved, the problem of metabolic hepatopathies will become a major challenge for GI specialists given the epidemiology data for obesity and metabolic syndrome in France. These hepatic diseases do not appear yet in the 2016 data because they are rarely identified as such.

The financial impact of these serious chronic diseases is huge: out of the 6 billion euros spent by the Health Insurance to cover the cost associated with these pathologies, digestive cancers account for 1.1 billion, liver diseases (including Hepatitis C) for 1 billion and IBD for 500 million.

"General" gastroenterology: the most important in volume

"General gastroenterology" affects the remaining 4 million patients, identified through a hospitalisation, a medical procedure or a specialist consultation. It was not possible to precisely define the responsible pathology for specialists' consultation due to methodological reasons (lack of precision in the coding, or "isolated" medical procedure, or external consultations by HGE for which identification of the motive is impossible). These patients include those with diverse digestive symptoms, digestive functional explorations, gastro-oesophageal reflux, unexplained hepatic anomalies, etc. Of course, the weight of digestive pathologies carried by non-HGE practitioners (GPs, other specialties) cannot be witnessed in this work and is most likely very heavy in volume.

Digestive diseases: one of the most common causes of hospital admissions

With 1.1 million of full hospitalisations (9% of all hospital stays) and 2.7 million of "0 overnight" stays (day-care hospitalisation / outpatient care) (16% of all stays), digestive diseases account for one of the most common causes of hospital admissions. If full hospitalisations have remained stable between 2012 and 2016, the increase of day-care hospitalisations has been high (4% every year) carried by ambulatory endoscopy (mostly in the private sector), and chemotherapies / biotherapies (mostly in the public sector). This trend, increase of day-care hospitalisation associated with a steady rate of full hospitalisations, actually reflects a relative increase of heavy digestive disorders, and this shift towards outpatient care must not lead to a decrease in bed capacities dedicated to full hospitalisation, like in some other specialities.

Moreover, digestive diseases account for the 1st reason leading to Emergency Department visits followed by a hospitalisation. These evolutions clearly reveal changes in medical care, especially in cancer and IBD, which most likely play a main role in the 14% increase of hospital stays associated with prescription of *"Liste en sus"* treatments between 2012 and 2016. The development of new therapies (cancer immunotherapies, subcutaneous and oral biotherapies in IBD) may lead to other evolutions in the coming years. These structures are major consumers of medical human resources and given the projected demography of medical resources, teams should develop new alternatives to the medical-only care of these pathologies; for instance, by leveraging the new nursing regulations in advanced practice. In hepato-gastroenterology, these provisions currently only apply to oncology, but it is key that the profession advocates for the extension of these measures to other digestive pathologies such as IBD or hepatology, or even endoscopy.

Scheduled or emergency endoscopy: the core activity of hepato-gastroenterologists

The 93% percent of GI specialists who perform endoscopy have practiced 1.4 million gastroscopies and 1.4 million colonoscopies with 40% of them being therapeutic, mostly polypectomies. These colonoscopies play a major role in the prevention and screening of colorectal cancers, the 2nd cause of cancer, regardless of the gender. The emergency endoscopy is also a major challenge, since the digestive pathology represents the 1st cause for Emergency Department visits, often requiring an endoscopic procedure. Digestive haemorrhages are the 1st digestive emergency. There about 7,000 cases per year with a mortality rate of about 10%, close to the myocardial infarction. The activity scope of interventional endoscopy - either bilio-pancreatic, or of the digestive tract- has tremendously grown, often replacing more invasive surgical procedures that are often a cause of morbidity, if not mortality.

Given the demography of medical resources and the desertification of some departments, it is crucial to maintain an acceptable level of healthcare access throughout the whole territory to meet the needs of the population and the imperatives of public healthcare (colorectal cancer screening campaign). Meeting these needs demands quality requirements. Endoscopy training is a major issue that drags massive investment from the specialty at all levels: initial training (medicine internship), postgraduate training (Continuous medical education, continuous professional development, team accreditation process) publication of guidelines (Societies and CNP-HGE) and innovation. Only hepato-gastroenterology trainings can properly meet the quality requirements.

CHALLENGES

Digestive cancers: GI specialists are essential

Digestive cancers (esophagus, stomach, liver, pancreas, bile duct, small bowel, rectum, colon and anus) account for more than 20% of incident cancers in France. The colorectal cancer is the 3rd most common cancer in France (excluding prostate cancer), the incidence of liver and pancreas cancers are rising. GI specialists are involved in the care of digestive cancers, at every stage of the disease and in all steps of the patient pathway.

- Prevention, through the treatment of pre-cancerous lesions (colorectal adenoma, endobrachy-esophagus, Helicobacter pylori gastritis, viral hepatitis, anal dysplasia), the nutritional management of patients and the fight against alcoholism.
- Screening, through the organization of colorectal cancer screening and follow-up of high-risk patients.
- Diagnosis, through digestive endoscopy performed for digestive symptoms (which also means communicating the diagnosis to the patient).
- Treatment after therapeutic decision in Multidisciplinary Concertation Meetings (*"Réunion de Concertation Pluridisciplinaire", RCP*) in which hepato-gastroenterologist can participate in collaboration with oncologists, surgeons, pathologists, radiologists and biologists. The hepato-gastroenterologist owns a central role in the treatment implementation which often requires multimodal means based on the following elements: surgical intervention, interventional endoscopy, systemic and local chemotherapy, radiotherapy and interventional radiology. Currently, around one third of hepato-gastroenterologists are involved in chemotherapy prescription.
- Patient follow-up, especially through endoscopy after the treatment, the management of relapses.
- Expertise, for some rare tumors, especially neuroendocrine tumors, GIST, digestive lymphoma, ampulla of Vater carcinoma, small bowel adenocarcinoma.

The hepato-gastroenterologist is thus involved from the diagnosis to the cure of the patient or the implementation of palliative care. He is often the most reliable source of information regarding the care pathway, for a patient. This global management of digestive cancers allows patients to have a clear identification of their referring physician and to shorten patient care timelines at all levels, including to start a chemotherapy.

Hepato-gastroenterologists are heavily involved in teaching and research in digestive oncology, at the highest national and international levels. The involvement of hepato-gastroenterologists in clinical research has led France to become one of the leading countries in digestive cancerology and French trials to be regularly presented in main international oncology meetings as well as to be published in the most prestigious international journals.

Cancerology occupies a key part of the initial training of hepato-gastroenterologists and about 30% of GI specialists follow a complementary training in cancerology. The cancerology training of GI specialists is recognized in the European model of HGE course.

Colorectal cancer: a strong increase in the number of hospitalisations

Colorectal cancer is a major public health challenge. The data obtained for the Withe Book show that the number of patients with colorectal cancer in 2016 is estimated at about 318,000, including 120,000 with active cancer. The recent INCa report (July 2019) shows a decrease in incidence and mortality of colorectal cancer among women in France (decrease of -1.6%/year in mortality since 1990, -0.6%/year in incidence among men, stable among women), first for rectum cancer from 1995, then for colon cancer from 2005, credited to the implementation of organised testing with resection of pre-cancerous lesions and detection of cancers in early phase, demonstrating thus the essential role of hepato-gastroenterologists and endoscopy (colonoscopy). In our study, the incidence is estimated at 49,000 cases in 2016. Projections allow for an estimated progression of 1% and 17% for respectively the prevalence and the incidence between 2016 and 2024. These numbers need to be confirmed. The data show that hospitalisations have doubled between 2014 and 2016, both full hospitalisations and day-care hospitalisations (mostly chemotherapy sessions), revealing major evolutions in the management of this cancer. These figures show that hepato-gastroenterology and digestive oncology need to be supported (especially in terms of human resources) to meet the needs of the population, and to implement effective programs for prevention, screening, diagnosis and treatment of this cancer.

Pancreas cancer: a worrisome rise

Pancreas adenocarcinomas represent a major health public challenge and epidemiologic projections forecast for the coming years only a stabilisation of the incidence in the best case. Their incidence is on a steady rise for years and pancreas adenocarcinomas are expected to become the 2nd cause of mortality among cancers by 2030 in Western countries. In 2018, the number of estimated cases was over 14.000 in metropolitan France, with a slight majority of men (7,300 men and 6,900 females). Regardless of the stage, the 5-year survival rate is about 7%.

The hepato-gastroenterologists and digestive oncologists are on the first line, at every step of the patient management. It requires a high level of expertise from all involved actors, to perform either highly specialised endoscopic procedures, or imaging examinations, or therapeutic decisions, or to implement supportive care. The research efforts currently performed push towards a care management always more personalized through the development of screening in high-risk populations, neoadjuvant treatments for unresectable tumours, definition of molecular markers prognostic and / or predictive of targeted therapies for the advanced stages.

CHALLENGES

Chronic liver diseases: the central role of hepato-gastroenterologists

Cirrhosis and its complications, including primitive liver cancer, are the most common causes for hepatic damages with a mortality estimated at about 15,000 deaths per year, and 10,000 deaths for liver cancers. The number of cirrhosis is expected to triple by 2030 which represents a major challenge in hepatology. The 3 main causes for hepatic fibrosis are alcohol, non-alcoholic steatohepatitis (NASH) due to metabolic syndrome, obesity and diabetes, and chronic viral hepatitis. In the future, the main causes will be alcohol and steatohepatitis, both being possibly associated leading to a faster progression rate of hepatic fibrosis, which exposes patients to an increased risk of cirrhosis and complications. The latest available numbers state that metabolic hepatopathies affect 18.2% of French adults, 8.5 million people in total, including 2.6% with an advanced hepatic fibrosis or a cirrhosis, a total of 220,000 patients (source: 2020 date from CONSTANCE cohort data). The screening of hepatic fibrosis is therefore essential to adapt the follow-up and the management of patients. Hepato-gastroenterologists have a major role to play in defining and organising the screening strategies for hepatic fibrosis, in the general population (easy-to-use test for GPs) as well as in targeted population, the ones with a metabolic syndrome (simple or complex tests, to be used by specialists involved in the management of patients, like diabetologists, cardiologists, nephrologists, etc.). The screening strategies are currently being designed and will need to be shortly implemented to identify patients with significative fibrosis who will have to be addressed to hepato-gastroenterologists. They are based on an academic and clinical research pioneer in indirect evaluation of hepatic fibrosis. While the diagnosis of the fibrosis and cirrhosis severity, and the implementation of primary prevention, such as oesophageal varices, are satisfying; the screening of primary liver cancer or hepatocellular carcinoma (HCC) at an early stage for a curative treatment needs to be improved (<30% of cases). The involvement of "generalist" GI specialist needs to be strong to reduce the mortality associated with cirrhosis and with liver cancer. Hepatologists will need to benefit from a joint training in cancerology through cross-functional specialised training (*"Formation Spécialisées Transversales", FST*) or post-graduate training in order to manager primary liver cancers. Lastly, it is essential to make liver transplantation an option for decompensated cirrhosis patients (alcohol, 25% of cases) and for HCC patients (one third of transplantations), with equal access throughout the territory. To achieve this goal, highly specialised hepatologists are required, working conjointly with "generalist" GI specialists with a good knowledge in transplantation, to make sure that they do not miss indications and offer a proper follow-up. Since the projections show a major increase in chronic liver diseases, it is required, like in other fields of hepato-gastroenterology, to develop new types of care management; for instance through advanced practice nurses, or nurses specialized in therapeutic education, or through the development of telemedicine.

While not catastrophic in the short-term, demographics are very concerning in the mid-*term

Demographic data show that hepato-gastroenterology follows the same trend as the general medical profession. If there is a rising feminisation of the workforce, especially in the youngest age class (under 46 years) in which women are now predominant, there is also a concerning ageing of the HGE profession. Indeed, 44% of HGE were over 55 years in 2018, and will probably be retired or close to retire in the next 10 years. If the mid-term projections (6 years) are rather reassuring, with a rise of 1.5% of HGE in 2024, it is difficult not to envision that this number will heavily drop in the following years, due to the restricted number of positions offered by the supervisory authorities; a number that is probably not large enough to ensure an appropriate renewing of the HGE population. There are major challenges, not only when looking at the "raw" numbers, but also in terms of HGE distribution throughout the national territory to meet both the medical needs of the population and public health care challenges, like the colorectal cancer screening campaign. Already today, there are some "gastroenterologists deserts", and they may multiply in the coming years. The removal of numerus clausus, the reforms of both the national ranking exams ("É*preuves Classantes Nationales", ECN*) and the Medicine Internship are all opportunities that need to be seized by the profession -using all its arguments based on the data collected in its White Book- to obtain a very significant rise of the number of trained hepato-gastroenterologists. The delegation of tasks is indispensable and a better distribution of HGE is necessary to ensure equal access to health care and guarantee that future needs of the population are met.

Make the specialty more attractive

Hepato-gastroenterology is not among the top choices of post-"ECN" students (13th choice out of 44 options in 2019). There are multiple reasons, not always rational, but the following ones can be noted (in no particular order): the diversity of diseases (that can be worrisome), the workload considered as heavy by young hospital practitioners, lower incomes than in other disciplines, etc. The specialty probably needs to engage with young medical students (prior to the "ECN") to promote the profession. This approach was initiated by the French National Board of Universities ("*Conseil National des Universités", CNU*) several years ago, with some success by highlighting the diversity of pathologies, the medico-technical aspects, and the dynamics in the research field. Incomes should not be a taboo: 40% of HGE earn more than 7,500 euros per month, although not necessarily at the beginning of their career. Women and young practitioners, in the hospital setting (3 criteria that are often associated) have unquestionably incomes that are too low. HGE is probably less profitable than many highly popular specialities, but it might not be the first reason for students' choice: if the top choice is plastic surgery, medical imaging is only ranked as the 10th choice. The specialty (and its union) is rallying anyway to maintain a level of income that ensure its attractiveness.

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