

The Environmental Management Programme at the University Hospitals of Geneva 2008-2012

From conception to a reproducible model

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We report the motives and the initial steps of the Environmental Management Programme implemented in our hospital since 2008. In the past 4 years important work has been made, among others, in the fields of sustainable mobility, energies, food and purchases. Acceptability and internal as well as external visibility of the programme have been high. The group helped other firms to mount similar programmes and other hospitals are encouraged to reproduce it.

Since the mid 1980s, humanity is eroding the capital, rather the interests, of Natureⁱ. Health care professionals can easily understand environmental issues, as they are knowledgeable in the mechanisms that support life in biological systems, and are trained to seek homeostasis in their patients. Yet the obvious parallel between the everyday sustainable management of a patient's health capital and the management of a society's natural capital is seldom drawnⁱⁱ. In addition, there has been little debate on the ecological impact of (specialized) medicine, and whether -and by whom- a form of ecological compensation should be provided for it.

In 2007, mixed group of employees of the University Hospitals of Geneva (HUG) formed to address these concerns, aiming to understand and minimize the environmental impact of our work. Besides a symbolic direct effect on the ecological impact of the hospital, and the easing of a personal dilemma in many of us, the effort seemed worthwhile for four additional reasons:

- 1) Medical professionals are seen as reliable guards against health threats: society will take as a signal to follow our choice between environmental action or disregard.
- 2) While attention on environmental issues is rising in the community, lack of concern would weaken the feeling of belonging of several employees.
- 3) As the largest employer of the region (14'000 people), information and responsible behaviour could spread and impact on many households (an estimated potential of 40'000 people).
- 4) If an environmental management programme could be successfully created and run, other public and private firms could be expected to imitate it, starting a virtuous cycle.

The beginnings

Environmental sensitivities in the group ranged across different degrees of radicalism, but a common working ground was easy to find. An a-political approach was privileged, from the principle that environmental issues can be seen as scientific problems, and that the usual right-left political dichotomy is obviously incapable of solving them. We also decided that a consensual approach including the Direction of the Hospital in a structured programme would be more effective than piecemeal militant claims.

The Direction of the hospital quickly understood the importance of the project (respect of ecological sustainability was already part of the strategic plan of the HUG, and a requirement of public administrations in Geneva), officialised the pilot group into an Environmental Management Programme (EMP) with a specific a mandateⁱⁱⁱ, made available 1.5 full time positions for it, and requested the Department of Communication to help. Funding for

the programme was argued on the basis that, at least at the beginning, the EMP could legitimately promote the suppression of futile expenses (such as the liberal distribution of bottled mineral water to all employees, an ecological and economical nonsense, given the exceptional quality of tap water in Geneva). Alternative options for funding would have been available in the form of charity donations to the hospital and of personal contributions from motivated consultants (e.g. a proportion of private revenue). The programme was naturally affiliated to the logistics department, as the one handling all the energies, food, buildings, purchase of goods etc.

Main fields of action

At the beginning, the group selected a few items likely to have a high material or symbolic impact, summarised below. In parallel, an environmental audit of HUG activities was carried out. Among the main results, two important graphs summarising the ecological footprint and GHG emissions are shown in figure 1.

The interested reader will find a detailed list of further actions and comments on the annual report of the EMP^{iv}, and only a few important items will be illustrated below.

Mobility

Mobility was identified from the beginning as an important field of action. Professional and private transportation was confirmed by the audit as one of the most relevant areas (approximately 25% of the footprint). A mobility coordinator position was created (50% part-time), with the intent to promote alternatives to individual motorized transportation, a multiple win on the basis of health, environmental and logistical reasons (the hospital, located in the centre of Geneva, suffers from chronic shortage of parking space, with a waiting list of 8 years). Exemplary measures were the change of allocation criteria for parking slots in favour of need rather than hierarchy, priority offered to car poolers (attribution within one month), funding of 50% of the cost of the public transportation subscription, acceptance of four carsharing (Mobility®) vehicles in the premises, to be used in the day for meal distribution and at the disposal of the employees otherwise. Zero-interest loans were granted for employees willing to invest in a good quality electric or traditional bike. A fleet of push, folding and electric bicycles was made available to the employees; secure cycle-parking facilities with a free maintenance workshop were provided. In five years, the number of bicycles stationed at the hospital increased from approximately 400 to 1800 and more. The HUG won the bicycle-friendly company of the year Swiss contest in 2011.

Energies

With 50 GWh in the form of electricity and 85 GWh as thermal energy, the HUG consumption is equivalent to a village of 15'000 people. Electricity is 100% from renewable sources. Fuel consumption in 2011 decreased by 11%, and electricity by 1% despite an increase in equipment. A partnership was established with the local energy provider (Sociétés Industrielles de Genève - SIG) that sponsored 5000 multi-socket switches to allow complete turning-off of computer stations. Apprentice electricians employed as civil servants installed them offering personalized advice in addition. Cleaning

personnel were instructed to turn off all lights in the evening (the façade of HUG is emblematically dark at night). Lighting posts were equipped with 9'000 low energy fluorescent tubes. A photovoltaic plant has now been installed on the roofs of one of the hospital buildings, with a long-term contract allowing a full return of investment by 2020.

Food, goods and medications

With approximately 14'000 meals per day, the hospital is the second largest food consumer of the region. Similarly to energies and water, the catering department had already made substantial efforts towards environmental and social sustainability before the EMP was implemented. This work, mainly based on in-house cooking of local products (instead of imported frozen supplies) was publicized. Vegetarian meals were made available at the hospital main restaurant, along with the low fat, balanced traditional and gourmet daily menus.

A programme of drug-sparing is now implemented at the HUG, motivated by the fact that the life cycle of medications, from their manufacturing to their elimination has a large ecological footprint (figure 1b). In addition, a policy taking sustainability into account was agreed for all purchases by the hospitals of HUG and CHUV.

Waste disposal

Waste exemplifies the topic in which a sensible logistics department will have done most of what is possible already, and significant improvements by the EMP were not to be expected. Yet, emblematic actions included enforcing specific measures in suppliers (e.g. recyclable padding chips in parcels) and, more in the line of personal efforts, installing several waste containers for differentiated collections. Also, the cleaning personnel actively participate to the task by accepting to dispose of some specific items (e.g. Nespresso capsules in a plastic bag deposited in a paper recycling bin will be processed separately).

Future aims

After the first years of implementation, the programme has reached a cruising speed with 20 ongoing projects, each with specific milestones and measurable targets (3). The main aims for 2012-2016 are to decrease by 10% green house gas emissions, to increase by 8% energy efficiency, to evaluate the risks of drug contamination in all water effluents, to reach a recycling ratio

of 50%, to provide alternatives to bottled waters to the majority of patients, and to increase by 20% the proportion of sustainable mobility commuting.

Conclusions

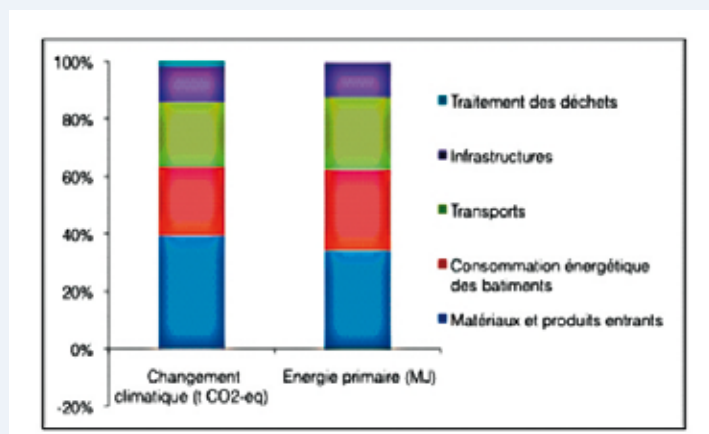
One of the spinoffs of the EMP was the enthusiasm and cohesion of the people involved. Patronizing was avoided by the association of a network of volunteers that can diffuse and explain the proposals as well as feed back from the different working environments (environmental ambassadors). Overall, a lot owing to the contribution of the communication department, proposals and actions were accepted well, even potentially unpopular measures such as the suppression of bottled water to the employees, the increase of the parking fees, the longer lifespan and sharing of electronic equipment, because they belong to a common effort and a worthwhile cause. We hope that this and similar EMPs will work as tools and examples for a transition to a more sustainable and resilient future.

Acknowledgements

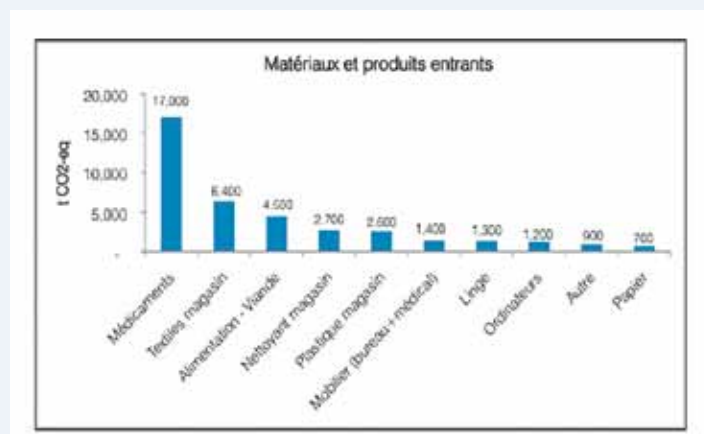
We thank Mr Dominique Peyraud, past director of the Logistics Department of the HUG for his help and pragmatic vision in the creation of the programme, and Professor Philippe Morel for allowing environmental concerns be at the forefront of the 2012 meeting of the Swiss Surgical Society (and of the interests of his co-worker).

References and links

- i Data from the Global Footprint network (www.footprintnetwork.org/en/index.php/GFN/). This year, august 22nd was Earth Overshoot Day: the date by which humanity had exhausted nature's budget for the year.
- ii Diamond Jared, *Collapase: How Societies Choose to Fail or Succeed: London Penguin 2004 (ISBN 9780670033379)*. French translation: *Effondrement. Comment les sociétés décident de leur disparition ou de leur survie*, Paris, Gallimard, Collection « NRF Essais » 2006. Jared Diamod has a medical background himself.
- iii A summary of the mandate, of the programme and the different actions are accessible through the webpage of the General Direction of the Hospital (http://dg-gouvernance.hug-ge.ch/strategie_politique/developpement_durable.html).
- iv Environmental Management Programme. 2011 Annual report. dg-gouvernance.hug-ge.ch/_library/pdf/environnement_2011.pdf



Repartition of greenhouse gases emissions for a total of approximately 100,000 t CO₂-eq and an of a total energy consumption of 1,600,000 GJ (Footprint audit estimates for 2008)



Repartition of the impact on greenhouse gas emissions of the different materials and goods.

Steps for creating an environmental management programme

Steps	Details	Comments
Identify motivated colleagues from all professions		A few consensual senior figures to endorse the group are important: they help to depoliticise the issue and to give the example.
Create a pilot group		Include a wide range of professional bodies
Identify what is being done already		Voluntary and technical solutions will be already in place, people responsible for them will be happy to participate.
Identify the most likely fields of action	Mobility	Fertile field for the development of an environmental conscience. Details of mobility actions at HUG (car sharing, active mobility coaching, public transport etc.) are available plan-mobilite.hug-ge.ch
Decrease congress travel.		
	Food and beverages	Food choices are powerful communication vehicles. As for mobility, try to make environmentally friendly behaviour possible and to encourage it rather than to force it.
	Energies	Individual habit-forming is easier than big savings. Later, enrol and trust sub-projects to in-house energy, maintenance and building engineers, and to IT specialists. Ideally use renewable energies.
	Goods/equipment	Draw attention to, and later introduce, sustainability and social criteria in purchasing policies. Increase the life span and sharing of equipment. Decrease drug waste.
	Waste	Strong pedagogic potential. Enrol cleaning personnel for switching off lights and differential waste collection.
Ask the direction of the hospital for official support and help (i.e. funding, communication work)		Obtain an official mandate and affiliation to a department (Logistics or Human Resources).
Enrol the communication department	A website/blog/newsletter	
Articles in the hospital journal on what is done already	Many sensible things will already be happening in your hospital. This work deserves support and recognition.	
	Consider an environmental audit	Useful to quantify the impact and eventual improvements. In fact the main entries in the footprint were similar to what was imagined by the pilot group.
Recruit motivated and experienced persons to follow the projects.	1.5 full time post equivalents in Geneva	Ideally will be allocated by the Hospital Direction. But be ready to cash in yourself for somebody doing the work. Solutions could be affecting the resources of savings, parking fees, private practice and donations.
Identify and prioritise the projects, delegate their implementation	20 projects at HUG	Examples of and comments available on the 2011 report of Q-8 Environmental Management Programme (2)

Schiffbruch im Dienste des Erfolgs

Versuch einer „Life Review“. Peter Stulz im Gespräch mit Jürg Metzger.

J.M.: Vor drei Jahren habe ich Dich als frischgebackenen Rentner gebeten, für unsere Zeitschrift *swiss knife* eine Kolumne über den „Pensionschock“ zu schreiben. Wie schlägst Du nun Deine in reichem Masse vorhandene und verfügbare freie Zeit tot, nachdem Du damals das Joch der Fremdbestimmung abgeschüttelt hast? Ich vermute, Du wirst nicht Däumchen drehen, sondern eine Biographie schreiben!

P.S.: Dies ist eine geradezu stereotype Frage, wenn mir Bekannte bei sporadischen Begegnungen – in liebenswürdiger Art und Weise, nehme ich mal an – auf den Zahn fühlen wollen. Meistens quittiere ich diese wahrscheinlich ernst gemeinte Frage mit einer ebenso stereotypen Reaktion: einem verlegenen Lachen oder einem höflichen Lächeln. In meiner Erinnerung ist mein Leben nicht derart bedeutungsvoll und spektakulär verlaufen, um es in Textgestalt auszuarbeiten und zwischen zwei Buchdeckel zu pressen. Zudem empfinde ich eine genuine Abneigung gegen die inflationär zunehmenden „Ego-Dokumente“ auf dem heutigen Büchermarkt.

Es gehört allerdings zur Signatur des modernen Selbstbewusstseins (entschuldige diese philosophisch anrühige Redewendung), dass ein Mensch sich über die absonderlichen Spurlinien Gedanken macht, die er am Gängelband der eigenen Vita absolviert hat. „Life Review“ nennt R.N. Butler diese Tätigkeit, einer der führenden Geronto-Psychologen in der zweiten Hälfte des letzten Jahrhunderts. „Lebensrückblick“ gibt nicht die volle Bedeutung dieser „dekonstruktiven“ Beschäftigung mit der eigenen Vergangenheit wider. Dabei denke ich über eine spezielle Episode nach, welche ich als tiefen Einschnitt in meiner „Biographie“ wahrnehme: Fahnenflucht nach einem Schiffbruch!

J.M.: Ich spiele den Anwalt des Konkreten: Was meinst Du damit?

P.S.: Im Alter von 48 Jahren schien ich am Zenit meiner chirurgischen Karriere angelangt zu sein, als ich zum Chefarzt der Klinik für Herz- und Thoraxchirurgie an der Universitätsklinik Basel gewählt und zum ordentlichen Professor ernannt wurde. Dienstleistung, Lehre und Forschung gehören seit jeher zu den klassischen drei Kernaufgaben eines Ordinarius, die er in einem ausgewogenen Verhältnis zu erfüllen hat.

Mit grossem Schwung und jugendlichem Elan richtete ich als frisch gehisster „academic surgeon“ mit hochgezogener Flagge meine volle Aufmerksamkeit auf die Optimierung der Dienstleistung, denn Fehlleistungen in diesem Aufgabenbereich sind vor allem in der Anfangsphase eines neuen Chefs für das Renommee „seiner“ Klinik zumindest nicht förderlich, wenn nicht sogar tödlich. In der Lehre wurde ich mit Vorlesungen, Vorträgen und vor allem „bedside teaching“ sehr aktiv. Ich mass mir auch ein gewisses didaktisches Geschick zu. Die Lehre war mir nie nur Pflicht, sondern Kür und erfüllte mich

als bereichernde Aufgabe. Am Universitätsleben nahm ich soviel Anteil, wie es die verbleibende Zeit erlaubte. Dieser Anteil wurde immer grösser und zeitraubender – auf Kosten wirklich „vital“ wichtiger Aufgaben in der Klinik. Die zunehmend spürbare Verdrängung weg vom Patientenbett und vom Operationsaal nahm bedrohliche Ausmasse an.

Kommt hinzu: „Versuche doch, mehr Impact Factors zu produzieren, als Koronarien und Lungen zu operieren“ war eine erste, noch in einem freundschaftlichen Ton applizierte Aufforderung von vorgesetzter Stelle. Ich nahm sie wahr, aber nicht ernst. Einige Monate später änderte sich die Tonlage des Tonangebers: Dieselbe Botschaft wurde in antiquierter Top-down-Manier mit hochrotem Kopf und gestauten Halsvenen (im Helm) als unmissverständlicher Imperativ hinterlassen. Dieser klare Befehl wirkte wie ein „Tipping Point“, jener magische Moment, der erste echte Zweifel an meiner Wissenschaftskompetenz auslöste. Damit wurde eine Wunde in mir aufgekratzt, die bereits seit Jahren wie eine Amfortas-Wunde, ohne Heilungstendenz, chronisch eiternd, wucherte: mein gestörtes Verhältnis zur „Forschung“ im eigenen Mikrokosmos.

J.M.: Für diese Selbsteinschätzung fehlt mir jedes rationale Verständnis. Du hast Dich doch einem Habilitationsverfahren gestellt und mehrere Arbeiten publiziert. Schliesslich wurde im Wahlprozedere Deine Forschungskompetenz mit harten Zahlen nachgewiesen.

P.S.: Bereits als Novize hatte ich in dilettierender Art und Weise, als Einzelkämpfer und Autodidakt, „Forschung“ betrieben und praktisch ausschliesslich klinische Arbeiten zur Publikation gebracht. Bis zu den letzten Oberarztjahren verfügte ich über eine wohl nicht opulent bestückte, aber ausreichende Publikationsliste. Einzelne wenige Arbeiten wurden erstaunlicherweise in der Literatur sogar rezensiert. Schliesslich verfasste ich in einem beinahe menschenunwürdigen Kraftakt von mehreren Monaten eine Habilitationsschrift von 284 Schreibmaschinenseiten (nur Text), vorwiegend in der späten Nacht ab 03.00 Uhr – bei vollem klinischem Pensum tagsüber – und an Wochenenden. Diese Zeit der „Selbstvergewaltigung“ habe ich in sehr schlechter Erinnerung. Sozial vereinsamt, gefährdete ich zusätzlich meine Familie. In dieser Phase wog am schwersten die beklemmende Erkenntnis und bittere Erfahrung, dass mir die Leidenschaft und eine angeborene „Musikalität“ eines echt intrinsisch motivierten Forschers fehlten, der von wissenschaftlicher Neugierde und einem unbändigen Forscherdrang besessen ist, ausgestattet mit produktiver und schöpferischer Phantasie, überzeugt von seinen eigenen Ideen und eigenständigen Leistungen. Ich sah mich als Vertreter einer grossen Schar extrinsisch motivierter Forscher, die zweckorientiert Wissenschaft betrieben, um Impact Factors zu produzieren und damit die eigene Karriere aufzupolieren.

Peter Stulz



Jürg Metzger

