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www.reachmd.com  
info@reachmd.com  
(866) 423-7849

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Environmentally Sustainable Building Initiatives in Health Care

### ENVIRONMENTAL RESPONSIBILITY IN HEALTH CARE

A cancer center built without toxic carcinogen. Such a simple idea and something that many in the healthcare industry believe could soon become a reality. In hospital architecture and building, what are the other promising examples of environmental responsibility that might apply to your clinical setting? You are listening to ReachMD, the Channel for Medical Professionals. Welcome to the Clinician's Roundtable. I am your host, Dr. Mark Nolan Hill, Professor of Surgery and practicing general surgery and our guest today is Mr. Gary Cohen, Co-Executive Director of Healthcare Without Harm, an international campaign in support of environmentally responsible healthcare.

#### DR. MARK NOLAN HILL:

Welcome, Mr. Cohen.

#### MR. GARY COHEN:

Thanks very much for having me.

#### DR. MARK NOLAN HILL:

We are discussing environmentally sustainable building initiatives in healthcare. Mr. Cohen, what are some of the building initiatives that are important in this whole scheme?

#### MR. GARY COHEN:

Well, Healthcare Without Harm developed a health-based framework for building, renovation, and construction called the Green Guide for Healthcare and it's a comprehensive framework that talks about everything from how you site the building and how you design it, the energy systems you use, providing the building materials that puts health at the center of building a construction. In the past, a lot of green building efforts that have happened in the country have been more focused on energy efficient issues and other things related to the larger environment. What's unique about the Green Guide for Healthcare that we created is that it really speaks to the healthcare profession and puts health promotion as a fundamental framework for green building.

**DR. MARK NOLAN HILL:**

Give us some specifics, please.

**MR. GARY COHEN:**

Oh, one specific example is that many hospitals are moving from vinyl flooring to safer alternatives, synthetic, rubber, and other alternatives. There are multiple benefits to this transformation. One is that vinyl is a toxic product with many problems, both in the production of vinyl, PVC, and then when you dispose of it, you create dioxin. When you use it, in order to make it soft, they use toxic chemicals that then off-gas from the flooring in this case and so when you use the safer alternative, you don't have this off-gassing. Also, we have determined with the number of hospitals that have made this transformation that it also has other positive benefits. So, it reduces noise levels, which is helpful to the workers and the patient. It also reduces trips, slips, and falls, which cuts down on worker compensation claims and staff injuries. So, you have multiple benefits from a switch from vinyl flooring to safer alternatives.

**DR. MARK NOLAN HILL:**

Are there any downsides to it?

**MR. GARY COHEN:**

We don't see the downsides. I don't think there are any downsides. I think the transition is around making all the alternatives cost competitive and even cheaper than vinyl. The other important factor is training the staff personnel to understand that you don't actually need the same kind of toxic cleaners to clean the floor as you did with the vinyl. So, it's staff training issue and it's working on the economies of scale.

**DR. MARK NOLAN HILL:**

And what about the ventilation systems?

**MR. GARY COHEN:**

Oh! That's an interesting story as well. We learnt that the average North American Hospital uses about twice as much energy as the average Northern European Hospital and there were a couple of factors that contribute to that. One is that the Northern European Hospitals typically don't use air-conditioning, but the other factor was that the way that they ventilate patient rooms is very different. In the United States, the ventilation is from the top of the patient room and the air is sort of pushed down and then moves around and then it leaves again from the top of the patient room. And in the European system, the ventilation starts from the intake part, it's from the sidewall near the floor and then it moves up with the natural ventilation so that the out take valve is at the top. So, you are requiring less air changes per hour and therefore, up to 30% less energy, but we are also researching the fact that because the air is moving from the bottom and then up through the top of the room, it may actually improve infection control rates because rather than having the air circulated all around and reinfect people, it's actually taking that air and then sending it up to the roof.

**DR. MARK NOLAN HILL:**

What was the impetus for them to do it that way and not follow the American way?

**MR. GARY COHEN:**

I don't know the history of that, but it's been an impediment in the United States for that transformation because there are various guidelines that the American Institute for Architects puts forward, that stipulates certain kinds of ventilation and now there is some really interesting innovation and research going on to try to validate why this is a good idea and then to change the room making around it.

**DR. MARK NOLAN HILL:**

Have these hospitals that do this different type of ventilation actually improved infection rates?

**MR. GARY COHEN:**

Well, that's what the researching, there hasn't been good enough data on that. So, there is work going on between Kaiser Permanente and Partners Healthcare and Providence Healthcare on a joint research project to document whether that in fact is true.

**DR. MARK NOLAN HILL:**

If you have just joined us, you are listening to the Clinician's Roundtable. I am your host, Dr. Mark Nolan Hill and our guest today is Mr. Gary Cohen, Co-Executive Director of Healthcare Without Harm, an international campaign in support of environmentally responsible healthcare. We are discussing environmentally responsible building initiatives in healthcare.

Mr. Cohen, are there any model green institutions in use or under construction today?

**MR. GARY COHEN:**

Well, there are many and now there are 150 different hospitals highlighted our Green Guide for Healthcare. There are a number of hospitals that are doing really exemplary work on a whole set of different factors by increasing the lighting in their hospital, by using safer building materials, by actually generating other energy on site. So, there is a number of good examples around the country now where a decade ago there was very few and when hospital executives were recently polled in a national poll about whether they would be adopting Green Building principles in their future construction, 85% said absolutely and one of the real drivers for that was (A) that patients and employees are expecting it and the other is enormous interesting thing on how to face on energy cost and make your buildings more energy efficient.

**DR. MARK NOLAN HILL:**

Do you think that this movement towards Green initiatives will be a factor in accreditation of the institution?

**MR. GARY COHEN:**

Well, it's an interesting question. Just recently, Medicare and Medicaid decided that they are no longer going to be reimbursing hospitals for certain kinds of medical errors for which there was plenty of evidences to suggest that if you do these interventions, you won't have these medical errors. So, they are already starting down this road, and I can imagine in a few years that the joint commission will start mandating certain kinds of environmental health interventions, both in design and operations that will become standard in the industry.

**DR. MARK NOLAN HILL:**

Do you think that the insurance companies will also get involved in terms of giving better remuneration towards those institutions that have greater green initiatives?

**MR. GARY COHEN:**

Yeah, I think we are starting to see the insurance companies waking up in a broad way to environmental issues. Insurance companies have certainly realized the enormous implications and cost to them related to global warming and so I think that environmental health issues are coming right behind that.

**DR. MARK NOLAN HILL:**

It seems that overseas, the hospitals and the communities are more receptive to green building initiatives. Is this the case and if it is, why?

**MR. GARY COHEN:**

Well, certain countries are way ahead of the United States in certain areas.

**DR. MARK NOLAN HILL:**

Like what?

**MR. GARY COHEN:**

Germany and Sweden are very advanced on issues around energy efficiency and green building design. There's been lots of validation for the idea that when you have more light in patient rooms and natural light in general, people feel better. There is greater productivity. Patients heal faster and they are happy to leave the hospital sooner. So, it actually cuts down on costs and those practices have become more generalized in the society and in Sweden also there is a national commitment toward environmental health in the society, and so the hospitals follow suit, they are part of the larger society. In the United States, there hasn't been a national commitment to support the health of our people. Therefore, the hospitals have also been slow to come to this realization.

**DR. MARK NOLAN HILL:**

Why do you think that is? I always like to think about the United States as having the highest quality of healthcare in the world.

**MR. GARY COHEN:**

Ironically, United States has the highest cost for healthcare in the world and under a whole bunch of indicators it shows up around 12 among the best-realized nations for the health of our people. So, we spend more than everybody else, but we don't have healthcare people as a result of it. Lot of the priorities have been misaligned in healthcare due to the financing structure. The other area is that there has been a complete lack of leadership at this federal level around issues around energy and climate protection and safer chemicals.

**DR. MARK NOLAN HILL:**

Why is this?

**MR. GARY COHEN:**

I think that the government has been focused on fighting the war in Iraq than fighting the war on cancer and doing everything that it can to get off its reliance on Mideast oil and to help the economy move towards to a safer energy economy, safer chemical economy, and environmental economy, there has been this false distinction that's been perpetrated for the last 20 or 30 years that there is a conflict between the healthy environment and the healthy economy. It turns out to be completely wrong. In fact, the economy of the twenty-first century is an environmental economy. It is a healthy economy.

**DR. MARK NOLAN HILL:**

Oh! That's a very interesting thought. I think that's the first time that I have actually been approached with it. Well, what could we do to change that?

**MR. GARY COHEN:**

Well, we need to stop subsidizing the oil industry and then industrial agricultural industry and the coal industry and start investing as a society in sustainable agriculture, in green chemistry, in renewal of energy sources, and have America become a leader again in a kind of healthy global economy that we all want to see. It's going to be good for the economy, it's going to be good for the environment, and it's going to be good for the health of everybody on the planet.

**DR. MARK NOLAN HILL:**

Well, if I am a CEO of a hospital or a healthcare institution, is it worth it to retrofit an old building or should I really just build a new structure?

**MR. GARY COHEN:**

There is a lot of room to retrofit old buildings and to install more energy efficient heating systems and air-conditioning systems and there are opportunities to install a solar technology on the roofs of the buildings and do on-site generation. There is a whole set of renovations that can make hospitals far more efficient and healthier places to work and operate.

**DR. MARK NOLAN HILL:**

And, finally Mr. Cohen, look in your crystal ball please and tell me what you see five, ten, fifteen years down the line?

**MR. GARY COHEN:**

I think, in the years to come, we are going to see safer chemicals all over the hospital systems. We are going to see green energy. We are going to see solar roofs and other on-site renewable generation in all the hospitals in America. We are going to see green roofs. We are going to see hospitals being major buyers and supporters of sustainable agriculture in our society and I think we are going to see a greater shift toward prevention as a core strategy for healthcare and not just chronic disease management. Imagine for a moment the rates for prevention rather than the rates for the cure. That's where we need to go. We need to move upstream and start preventing diseases and supporting healthy people on healthy planet.

**DR. MARK NOLAN HILL:**

I want to thank our guest, Mr. Gary Cohen. We have been discussing environmentally responsible building initiatives in healthcare. I am Dr. Mark Nolan Hill and you have been listening to the Clinician's Roundtable on ReachMD, The Channel for Medical Professionals. Be sure to visit our web site at [reachmd.com](http://reachmd.com) featuring on-demand podcasts of our entire library. For comments and questions, please call us toll free at (888 MD-XM157) and thank you for listening.

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