



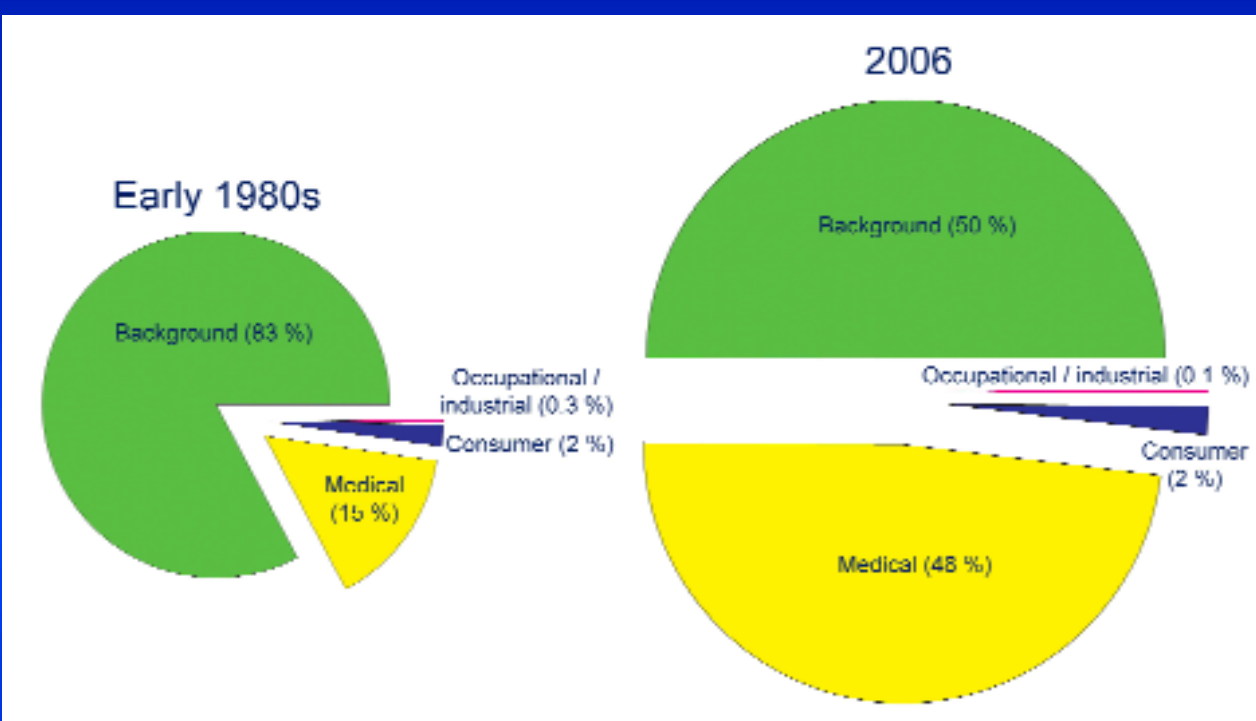
# Radiation Dose Reduction: Strategies at an Academic Medical Center

Ninni Jacob, MS, CHP

Dept. of Diagnostic Imaging, Rhode Island Hospital (RIH)  
Brown University Alpert Medical School, Providence, RI USA

## Background

Recent articles in the public media have raised awareness and concerns over medical radiation. Medical radiation exposure in the U.S. has increased from an average of 15% in the 1980's to 48% in 2006.



## I. CT Low Dose Protocols

Cat Scans (CT) are very useful diagnostic tools, however the dose from a CT is much higher than from an X-ray. The number of CTs performed in medical settings is rising exponentially. Low dose protocols must be used for adults and pediatric patients.

One size does not fit all.....

There's no question - CT helps us save kids' lives!

But, when we image, radiation matters.

- \* Children are more sensitive to radiation
- \* What we do now, lasts their lifetimes

So, when we image, let's image gently

- \* More is often not better
- \* When CT is the right thing to do:
  - \* Child size the kVp and mA
  - \* One scan (single phase) is often enough
  - \* Scan only the indicated area

Let's image gently....



## Objective

The role of the Radiation Dose Reduction Taskforce at RIH is to develop techniques that will minimize radiation exposure

## III. Fluoroscopy

Extended fluoroscopy times can lead to high skin dose and skin injury. Collimation, short taps of pedal, reduced frame rates - all lowers dosage. The dose is monitored and the patients are seen in follow-up for skin changes.

### Pause and Pulse



Step Lightly



## V. Credentialing

Physicians who administer fluoroscopy are required to be credentialed by passing an on-line course

## VI. Decision Support and IT Solutions

When a CT scan is ordered electronically the entire Lifespan network (RIH, Miriam, & Newport) is searched to prevent duplicate orders, thereby decreasing radiation exposure. An alert pops up with the number of CTs performed for the individual patient.

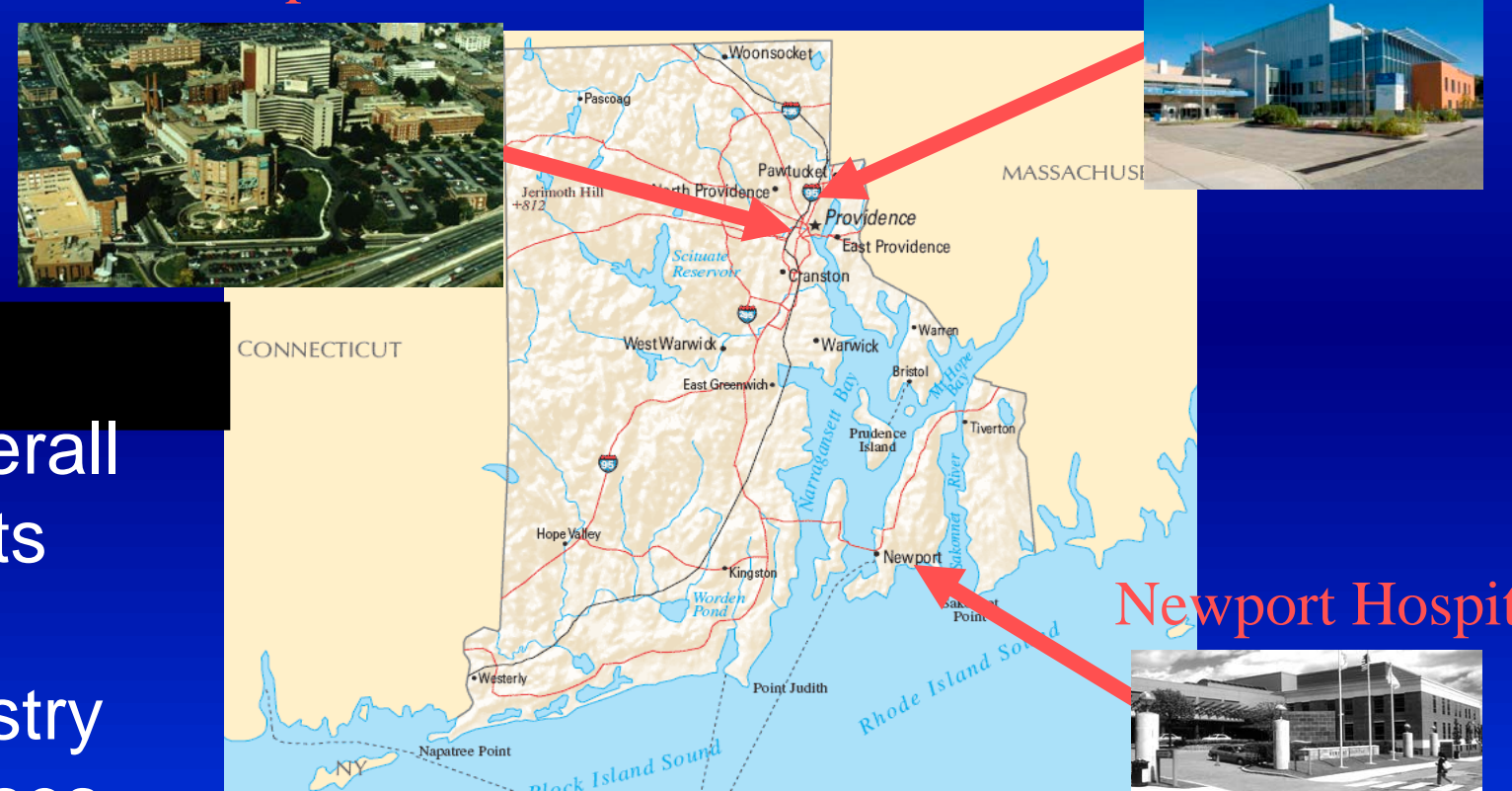
## II. Right Exam, Right Patient, Right Dose

## Conclusion

RIH has reduced the overall dose delivered to patients with lower than average values in the Dose Registry Index, lower PET-CT doses, and lower fluoroscopy doses

RI Hospital

Miriam Hospital



Newport Hospital

