

## What are the consequences of rising antibiotic resistance for Sweden?

**Prof. Otto Cars**

Chairman

The Swedish Strategic programme  
against antibiotic resistance (Strama)

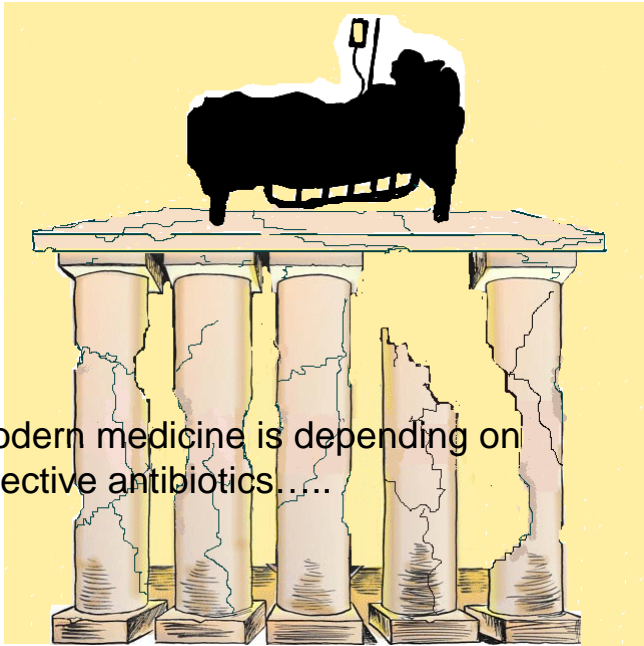
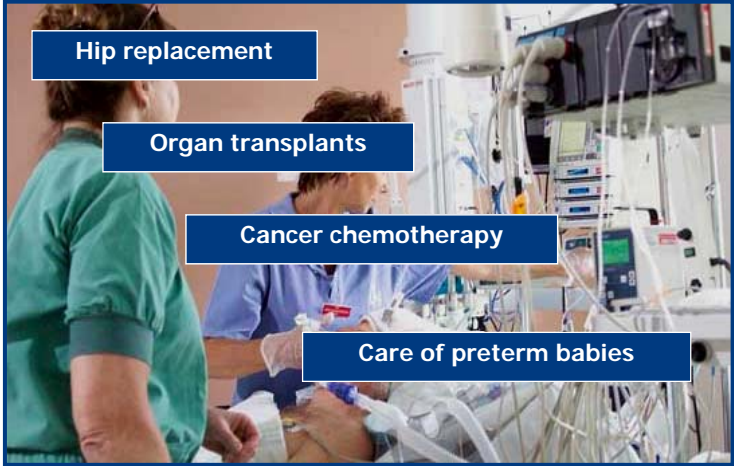


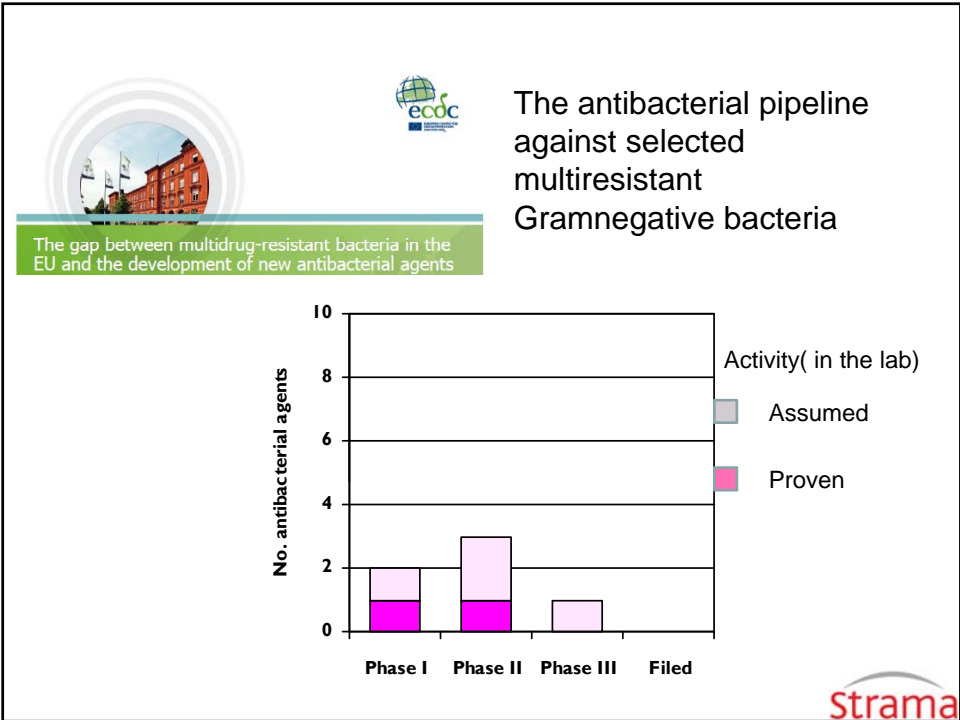
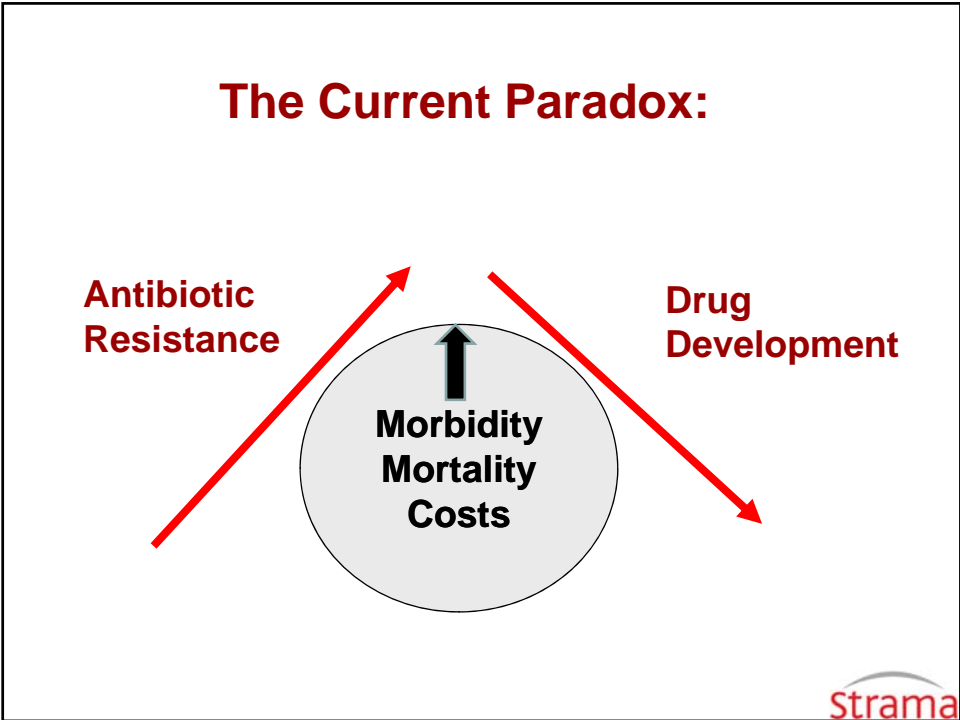
We are **overconsuming** a global resource

It is a **collective responsibility** by  
governments, supranational organisations  
and individuals so save this resource for  
future generations

Research for the **development of alternatives**  
must be strengthened

**Modern Medicine Is Depending on Effective Antibiotics**





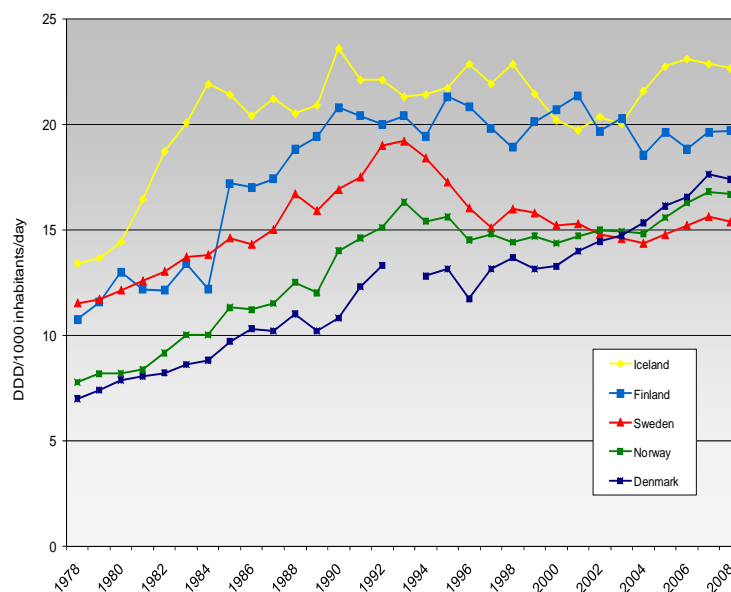
## Increasing antibiotic resistance -the consequences for Sweden

### 1. The problem

- Despite low and still decreasing antibiotic use antibiotic resistance is increasing in Sweden
- Costly outbreaks in hospitals
- Several deaths, preterm babies
- The tip of the iceberg

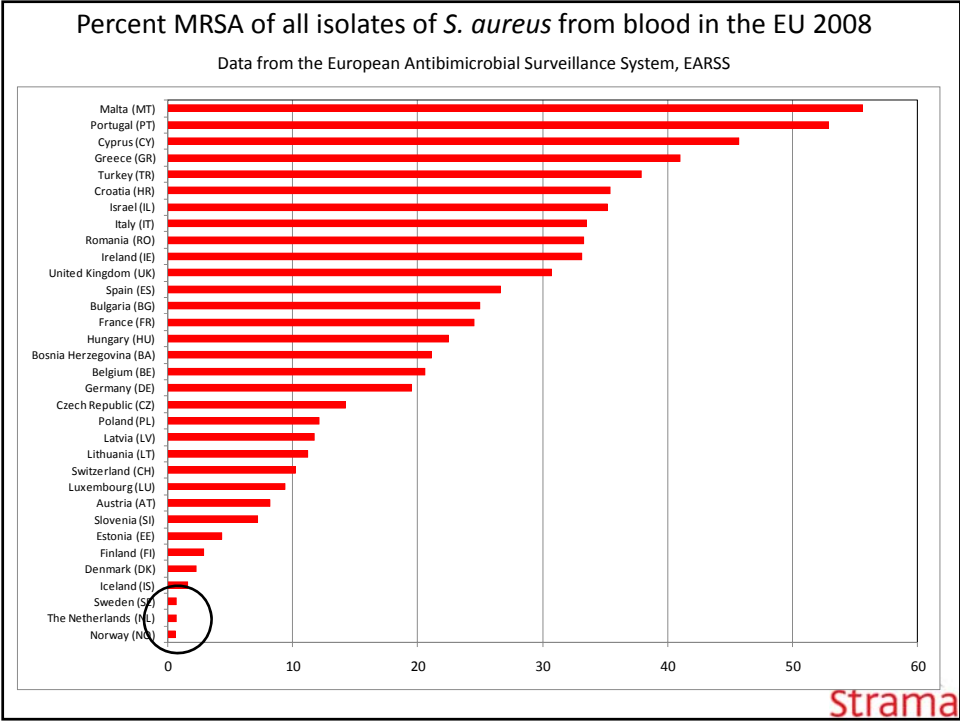
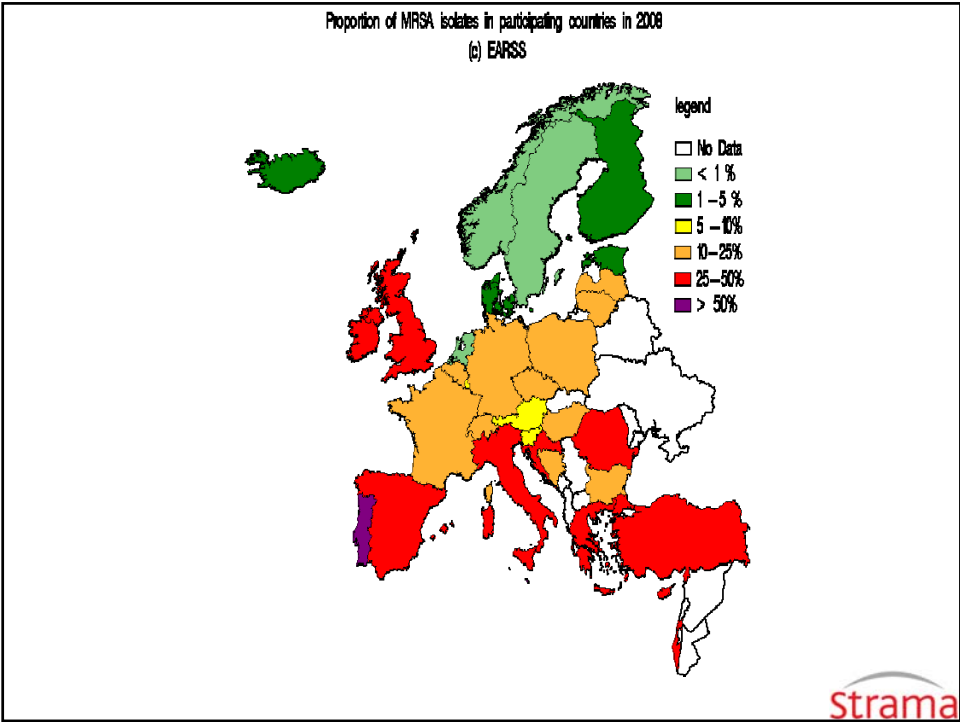
Strama

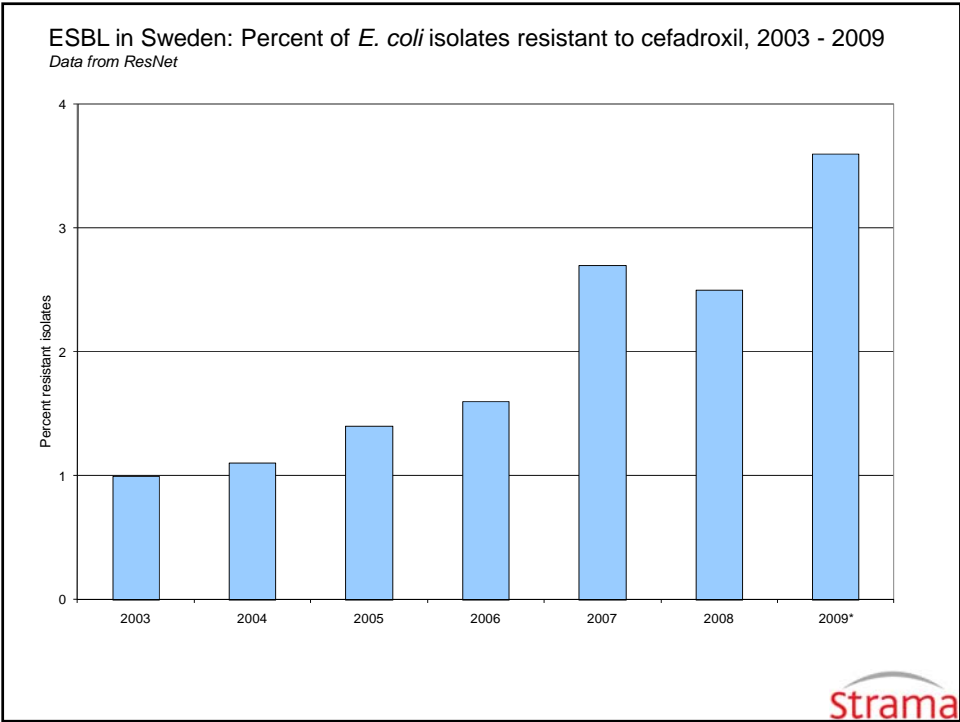
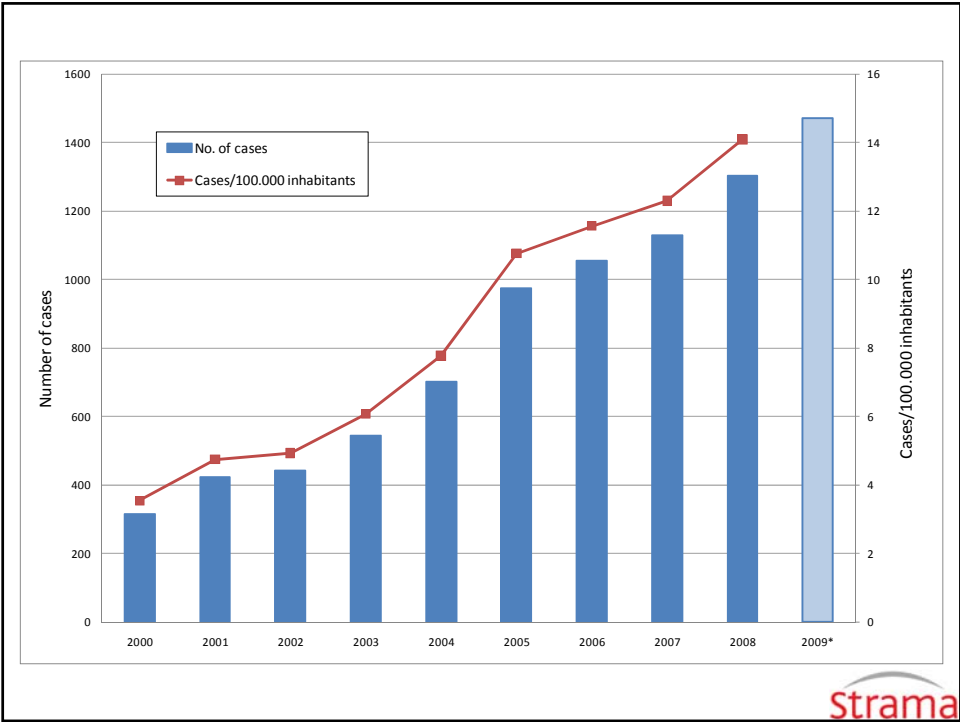
Total sales of Antibiotics in the Nordic Countries 1978-2008\*



\*Excluding Metenamine. Before 1998 figures from Denmark do not include hospital use.

Strama





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# EXPRESSEN

## Två dödade av superbakterie



Foto: Ahlin Samuel

Minst 163 patienter drabbade i Uppsala  
En ny superbakterie härjar på svenska sjukhus.

I Uppsala har minst 163 patienter drabbats. Två har dött.  
— Nu måste vi till varje pris stoppa vidare spridning, säger chefsläkare Torbjörn Söderström.

Nya hårdare hygienregler har införts på Akademiska sjukhuset och smittskyddsläkaren i Uppsala har utfärdat allmän anmälningsplikt.  
— Det innebär att vi ska utföra

## Nyfödda dog av resistent bakterie

En mystisk sjukdom har dödat spädbarn på Karo universitetssjukhuset i Solna. Sex barn smittade resistent bakterier i slutet av november och två dog senare.  
Var smittan kommer från är okänt.  
Nu har sjukhuset anmält sig själv till socialstyrelsen

## — Pappa dog av superbakterien

Tiotusentals svenskar tros ha fått smittan

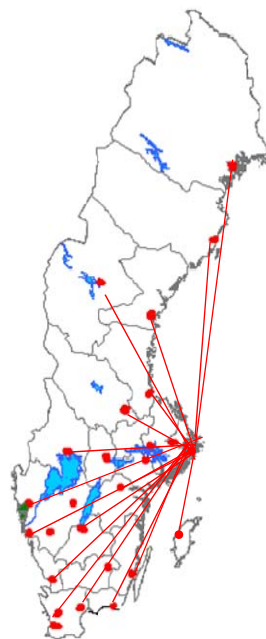
**Detta är ESBL**  
ESBL är en typ av antibiotikaresistens som gör att många vanliga antibiotika inte fungerar mot bakterier som bär på den. Det är en vanlig smittbildning som kan överföras från djur till människor och vice versa. I Sverige har ESBL blivit vanligare de senaste åren, särskilt i sjukhusmiljöer. Det är en stor utmaning för sjukvården eftersom många infektioner som tidigare kunde behandlas nu är svårare att bota. Sjukhusen i Uppsala har varit särskilt drabbade av denna typ av bakterier.



## Increasing antibiotic resistance -the consequences for Sweden

### 2. Need to increase preventive measures

- Coordinated actions/campaigns targeting decision-makers, prescribers, patients and media
- Financial support and mandate for local Strama groups
- Intensified hygiene and infection control
- Strengthen the capacity in hospitals to meet the increased prevalence of resistant infections
- Increasing international collaboration

The logo for Strama, featuring the word "Strama" in a red, sans-serif font with a thin grey arc above the letters "a" and "m".

**The Strama network:  
National coordinating group  
with a remit from the  
government & local groups in  
counties**

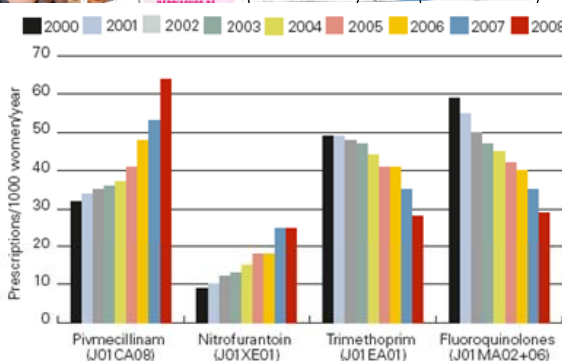
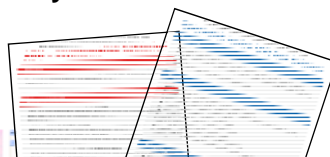
13 of the 28 local Strama groups in Sweden have a remit and/or financial support from the county council.

The logo for Strama, featuring the word "Strama" in a red, sans-serif font with a thin grey arc above the letters "a" and "m".



**Example of one Strama campaign:  
Antibiotic treatment of Urinary Tract Infections**

**AFTONBLADET**



**Information**  
an Läkemedelsverket



**gstitiderna  
nfektion hos  
inte kinoloner!**



**Strama**

## **European Antibiotic Awareness Day 2009**

**Strama proposes a national  
goal for outpatient antibiotic use**

**Should not exceed 250  
prescriptions/1000 inhabitants  
in 5 years**



## **Increasing antibiotic resistance -the consequences for Sweden**

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Antibiotic use is totally uncontrolled in many parts of the world



**Orphanage in Bamako, Mali**  
ESBL colonized 100% of the children and 63%, of the adult staff studied.

*Tandé et al. Emerg Infect Dis. 2009 Mar;15(3):472-4.*



**Mumhibili hospital, Tanzania**  
The mortality rate from Gram-negative bloodstream infection was 43 %, more than double that of malaria..

*Blomberg et al. BMC Infect Dis. 2007 May 22;7:43.*



René Dubos: A Harbinger of Microbial Resistance  
to Antibiotics

By CAROL L. MOBERG



1941

*We cannot see them, we cannot see them.*

We should seek a more **peaceful coexistence** with pathogens.....

Antibiotics that are used as prophylaxis or as **“growth factors”** would allow antibiotic resistance and new diseases to breed.....

**Hospitals** are bacteriologically **dirty places....**

The relative protection from disease afforded by antibiotics is bought at the cost of a **huge ransom.....**

Strama

**The global self-deception**

**We will always have antibiotics**

Strama

