



AMR: Collective action required in the agri-food sector to address this global societal problem



Department of
**Agriculture,
Food and the Marine**

An Roinn
**Talmhaíochta,
Bia agus Mara**

www.agriculture.gov.ie

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Propose to talk about....

- Why is there a need for action?
- What has been done so far?
- What is the future?
 - actions, initiatives, challenges?

AMR



Much Debate

Bigger than us??



Where in the world to start - Where is the greatest problem – who needs to do something?



Who is responsible?



Let's look at the need for global action in the agri area!!

- Human health
- Animal health and welfare
- Environmental health
- Economic impact

Human Health



- 75% new human pathogens last 25 years are zoonoses
- We share the same pool of pathogens
- Same antibiotics used
- Increasing development of resistance

Animal Health & Welfare



- Goal = Healthy animals
- However, just like humans, animals get sick
- Essential to be able to treat
- Already problems with the availability of veterinary medicines

Environmental Health



- Excretion into environment
- Risk increasing levels of resistance in environmental bacteria
- Transfer to human and animal pathogens



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Some specifics of concerns and responses

- Evidence of transfer of resistant bacteria/genes
 - Food – (ESBL E. coli in poultry)
 - Direct contact – (MRSA CC398 in pigs)
 - Environment
- Response actions
 - Growth promotion ban
 - Restriction on CIAs
 - Restriction on prophylaxis

Economic Impacts



- Risk paying for medicines that have no effect
- Increased input costs
- Poor animal health – sub-optimal production –
 - Quantity
 - Quality (real and/or perceived)

Why more actions in Ireland?

- Significant global issue – every country needs to contribute
- Momentum building internationally – particular need for leadership in ‘developed ‘ countries
- Societal self interest
 - The health of ourselves and our children
 - Health and welfare of animals – increasing societal interests and concern
 - Environmental sustainability
- Economic self interest
 - Inefficiencies on farm and at processing
 - Sustainability of farming
 - Competitor countries forging ahead

Momentum building internationally

- Global Strategies v Local Actions
 - WHO
 - FAO
 - OIE
 - EU
 - Specific countries



‘Tripartite Agreement’



EU Action Plan



The 12 actions

Human

Veterinary

1. Appropriate use

4. Prevention of infections

6. New antibiotics

9. Surveillance

8. International cooperation

11. Research & Innovation

12. Communication, education

2 & 3. Appropriate use

5. Prevention of infections

7. Need for new antibiotics

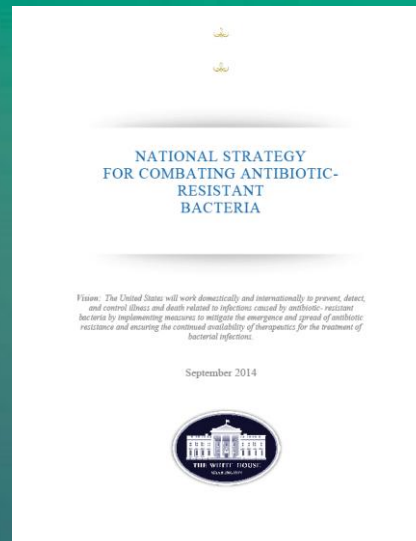
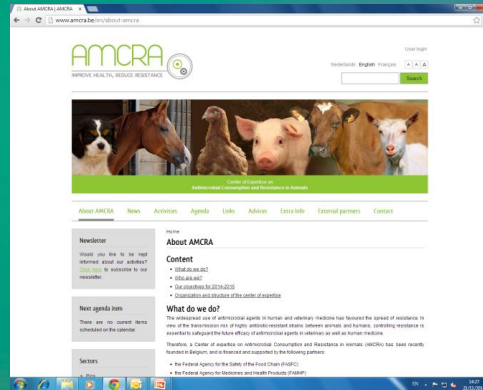
10. Surveillance

DG SANCO

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Actions elsewhere

- Germany
- France
- Belgium
- Denmark
- Netherlands
- UK
- USA



UK Five Year Antimicrobial Resistance Strategy 2013 to 2018

Activities/actions already in Ireland

- Legislative controls on supply and use
- A focus on improving animal health
- Collection of sales data (ESVAC)
- DAFM national AMR monitoring programme
- DAFM review - towards action
- VCI and VI
- National Interdepartmental Consultative Committee

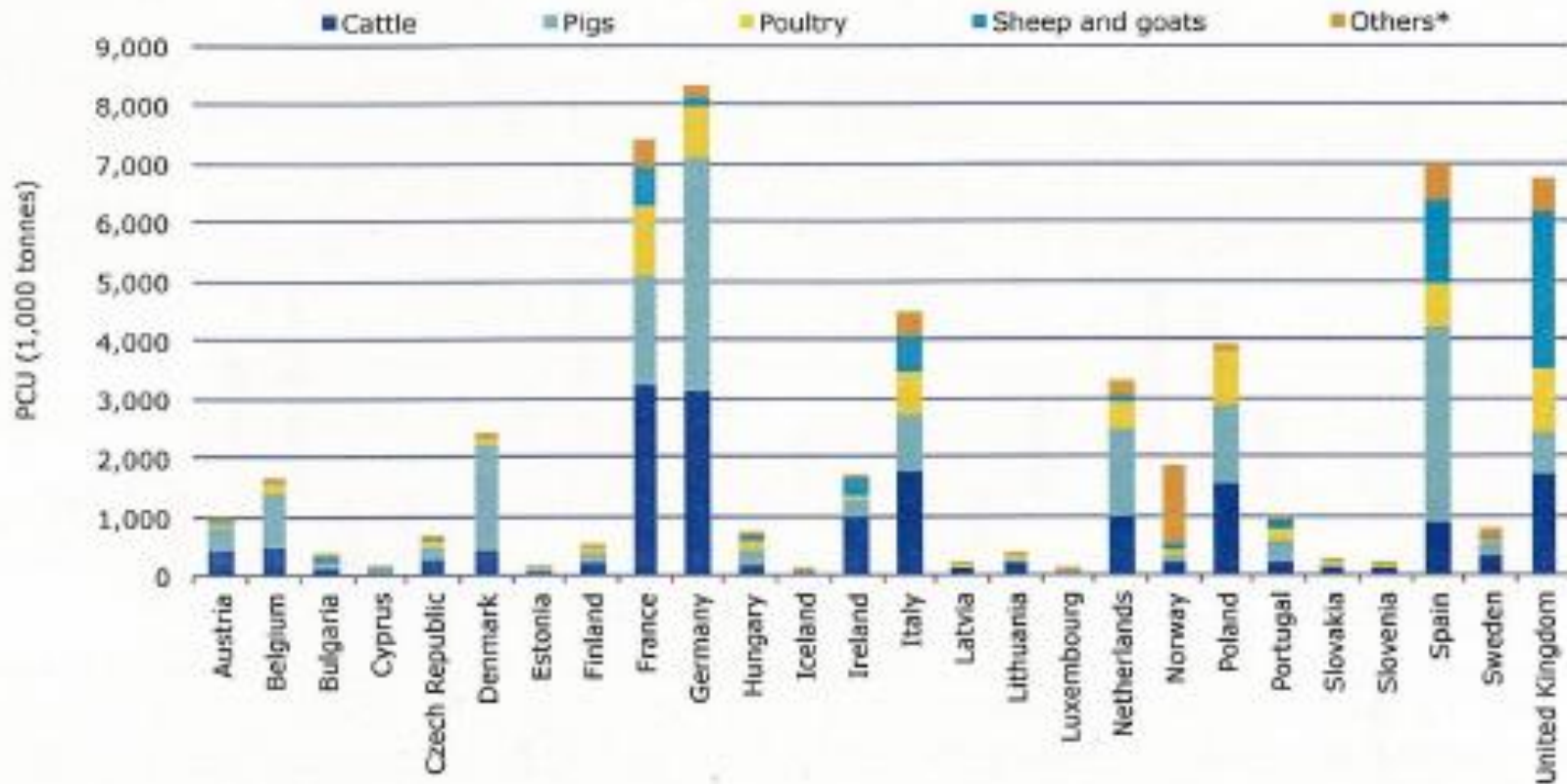
Legislative controls on antibiotics supply and use

- S.I. 786 of 2007
- Prescription Only Medicines (POM)
- Issued by a veterinary practitioner relating to animals under his/her care
- Dosage and duration of treatment key
- EU medicines legislation currently under review

Improve animal health

- AHI
 - BVD
 - CellCheck
 - MAP
- Teagasc
- ICBF
- Rural Development Funding
- R&D

ESVAC Data



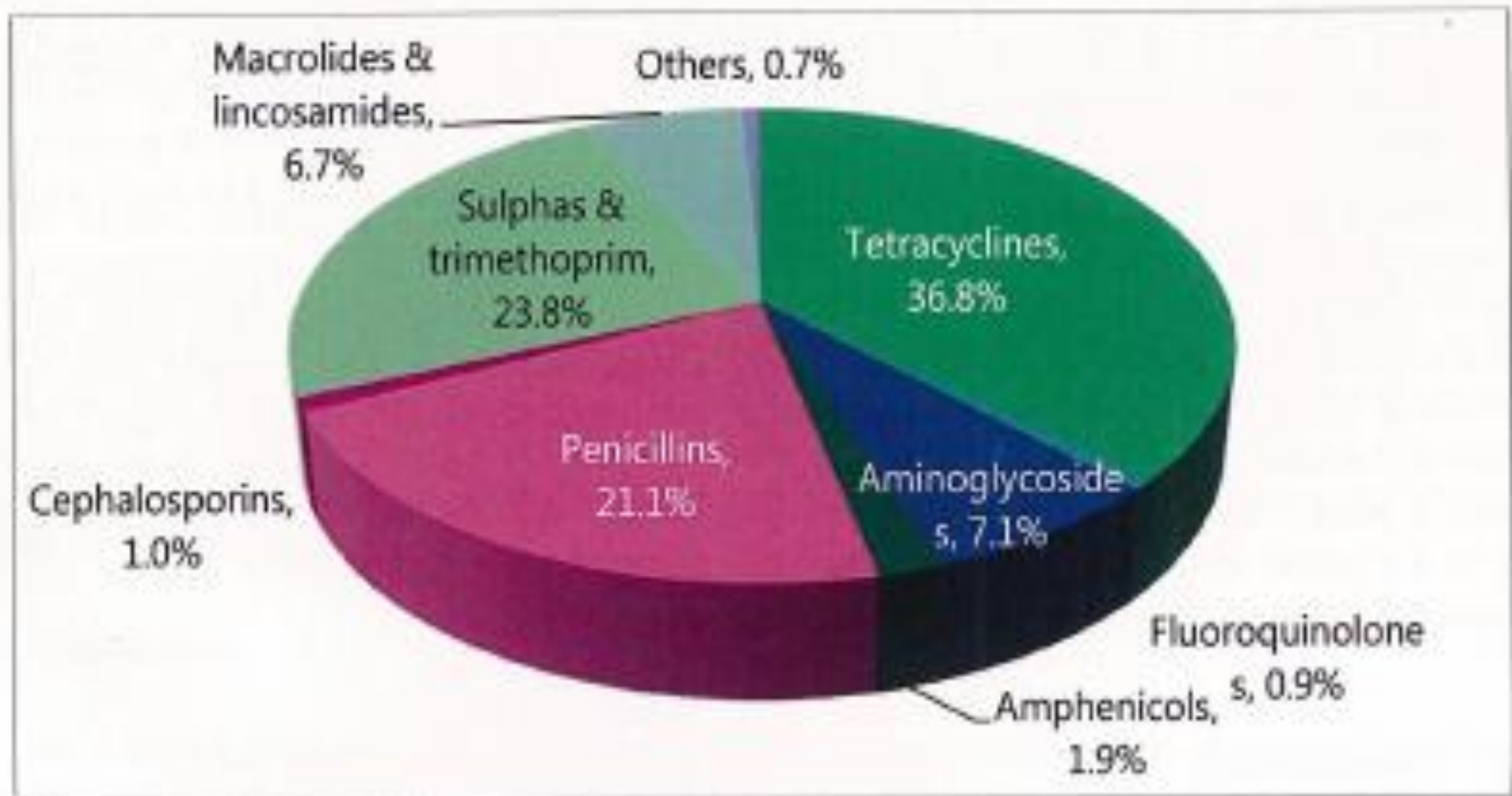
[†] Farmed fish not included for Sweden. * Horses and, for some countries, fish and or rabbits.



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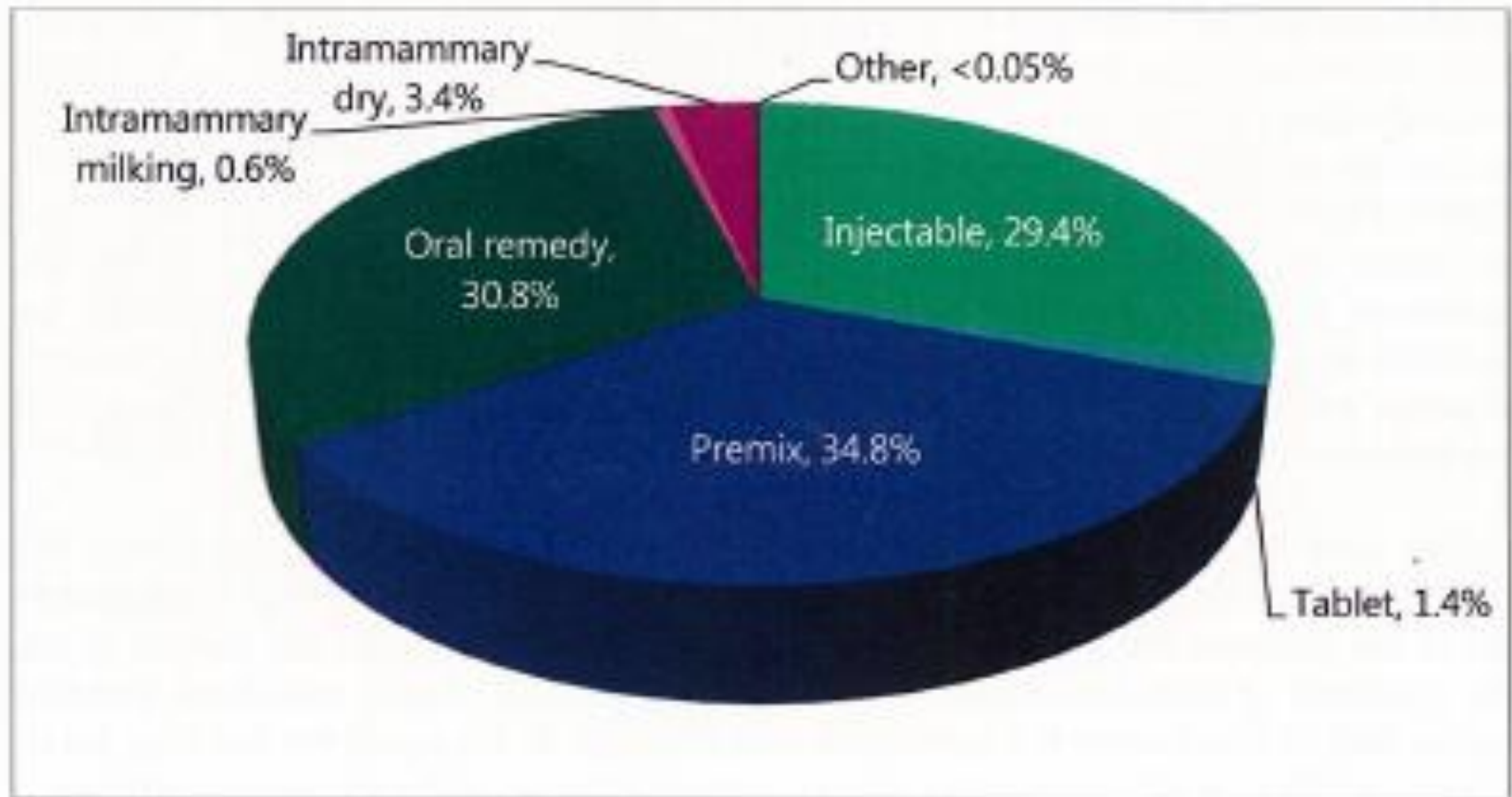
Breakdown of veterinary antibiotics sold in Ireland in 2013 (HPRA 2014)

Figure 1. Distribution of sales (based on tonnes sold) of veterinary antibiotics supplied in 2013 in Ireland.



Breakdown of pharmaceutical form of veterinary antibiotics supplied old in Ireland in 2013 (HPRA 2014)

Figure 2. Pharmaceutical form breakdown of veterinary antibiotics sold in 2013 in Ireland.



Usage in animals

- Numbers of potential patients
 - 6.6m cattle
 - 4.6m sheep
 - 1.6m pigs
 - 11m poultry
 - 0.25m horses
 - Dogs/Cats - > 1m??
- Body Mass

Controls on medicated feed

- Capability to treat in intensive production systems is important
- Veterinary Written Directive
- Feed mills and home mixers must have a specific licence from DAFM



Monitoring of AMR development

(Data courtesy of Rosemarie Slowey, CVRL Backweston)

- 2013 Salmonella
 - highest MD resistance in pigs and horses
- 2014 Preliminary (zoonoses and commensals)
 - Salmonella (broilers and hens- farm, plants & meat n~ 75)
 - No resistance to Carbapenems/Colistin (CIAs)
 - 1 isolate from imported meat resistant to Fluroquinolones
 - 1 farm isolate presumptive Amp-C (3rd/4th generation Cephalosporin) resistance but genes have yet to be confirmed)
 - E.coli (broiler caeca n~140)
 - No resistance to Carbapenem or Colistin (CIAs)
 - 40% resistance to Fluroquinolones
 - 2 isolates have confirmed CTX-M ESBL genes



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DAFM Review

- Whilst continuing to promote improved animal health, to review and engage with stakeholders with a specific focus on five broad areas
 - Surveillance and monitoring on antimicrobial usage
 - Surveillance and monitoring of antimicrobial resistance
 - Prudent use of antimicrobials
 - Reduce use of CIAs
 - Education and Research

National Inter-departmental Consultative Committee

- Within the context of 'One Health' to raise awareness in both the Health and Agricultural sectors of the public and animal health threat of AMR, and the potential repercussions for both human health and the agricultural industry.
- Provide guidance as to how best ensure that the matter of AMR is addressed holistically and in a coordinated way across both sectors at a national level, in a setting where the challenges faced both sectors are understood by all.
- Provide guidance as how best to encourage, coordinate and support existing and planned work on the issue of AMR by various stakeholders across both sectors
- Provide commentary/advice which will serve to inform future policy decisions and actions by both Departments in relation to AMR.

Working together

- Policy makers
- Regulators
- Animal Health industry
- Prescribers
- End users
- Food industry
- Marketers
- Researchers
- Educators



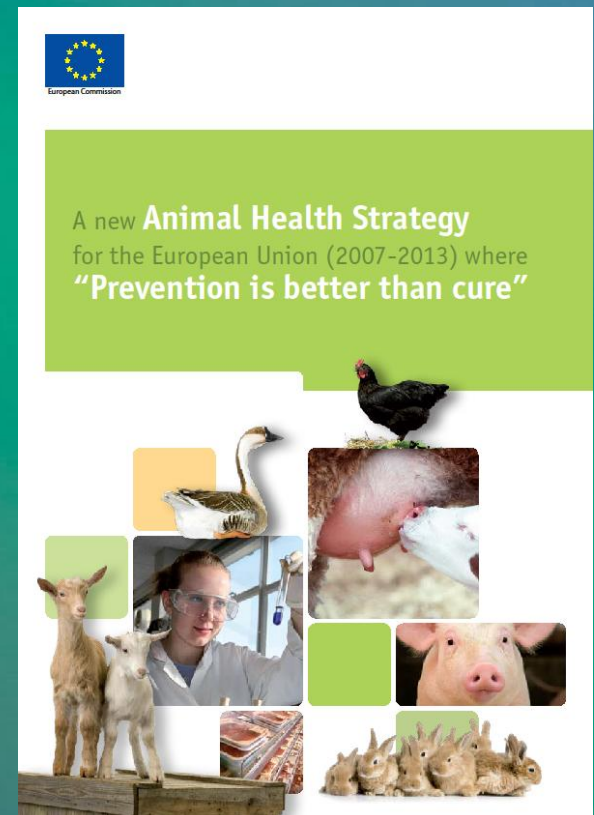
Prudent use

- Diagnosis – bacterial identification
- Appropriate antibiotic - sensitivity testing
- Correct dose (SPC)
- Correct duration (SPC)
- Correct animal(s)



Reduced need?

- Farm level
 - Husbandry and management practices
 - Biosecurity
 - Vaccination
 - Probiotics
 - Breeding
- Processor level
 - Contamination reduction



Role of the veterinarian

- Central critical role
 - Source of animal health expertise and advice
 - The ‘prescriber’
- Privileged but responsible position
- Challenge is complex – balance the needs of the animal, society and the owner.



Need to look at ways of collecting and disseminating data on antibiotic use

- Will be required by EU legislation
- Efficient
- Effective



Particular concerns

- Inexact knowledge as to actual use
- Avoidable animal health challenges
 - ‘Routinisation’ of use
 - Prophylactic vs metaphylactic use
- Effective delivery systems in intensive production systems
- Awareness as to the appropriateness of prescribed antibiotic

Summary

- Societal level
 - Antibiotics are a precious resource, not a commodity
 - Irish citizens have a right to expect that this resource is used prudently in animal and human health – in line with the good of society as a whole
 - All stakeholders need to work collectively and in a coordinated way to ensure this.

Summary

- Sectoral level
 - Improved animal health
 - reduces need for antibiotic use
 - improves industry (farm and processor) productivity
 - As an export focussed industry, doing nothing is not an option – cannot ‘lag’ competitors!
 - Need for stakeholders to develop strategies and initiatives
 - Collective and coordinated actions will deliver optimal outcomes

Areas to focus on

- Improved animal health - disease prevention and alternatives
- Prudent and appropriate prescribing and usage
- Better understanding and measuring of usage
- Increased monitoring and understanding of resistance development
- Education and awareness
- Cross-sectoral coordination



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Peter Drucker

*Results are obtained by
exploiting opportunities, not by
solving problems*

*All one can get from problem
solving is damage containment*



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