

High Production Volume Chemicals and TURA

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What is OTA

- ★ Part of the Executive Office of Environmental Affairs
- ★ Established as part of the Massachusetts Toxic Use Reduction program
- ★ Non-regulatory technical assistance program providing Toxic Use Reduction and compliance assistance services.



What is TURA

☀ Management Based Approach

- Descriptive
- Goals
- Measures

☀ Motivation:

- Publicly Reporting Chemical Use
 - EPCRA, CERCLA
 - 300 Chemicals Reported
 - 15 years
- Fees
- Planning



Use of TURA Data

- ✦ Measurement towards the goal
(>60% byproduct, 38% use reduction)
- ✦ Impacts of Technical Assistance on Chemical Use
- ✦ Targeting/focus resources
 - OTA
 - Business



Value of HPV Data

- ✦ Compliment TURA information
- ✦ Additional Risk Dimension To
 - Understand TA impacts
 - Prioritize services
 - Facility evaluation of chemical hazards

Concept for TURA/HPV Data

- ☀ Top Ten
- ☀ Dashboard
- ☀ Kleindorfer Approach
- ☀ Econometric Analysis
- ☀ Effectiveness
- ☀ EMFACT

Top Ten Use - Statewide

Top 10 Total 2004 Use Weighted by Hazard Count

CAS Number	Chemical Name	Usage2004	Hazard Count
100425	Styrene	304,605,884	6
67561	Methanol	43,028,412	5
108883	Toluene	31,424,330	6
78933	Methyl Ethyl Ketone (MEK)	14,798,407	6
80626	Methyl Methacrylate	14,438,204	6
67641	Acetone	11,790,311	6
141786	Ethyl Acetate	11,805,335	5
26471625	Toluene Diisocyanate C	7,753,683	6
107211	Ethylene Glycol	7,284,740	6
872504	n-Methyl-2-Pyrrolidone	7,249,800	6

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Dashboard Comparison of Top 10 Chemicals for SIC 28

Dashboard Comparison of Top 10 Chemicals for SIC 28								
Visited			Not Yet			Never		
Chemical Name	Hazard Count	Usage	Chemical Name	Hazard Count	Usage	Chemical Name	Hazard Count	Usage
by Usage:								
Styrene	6	74,508,917	Di(2-Ethylhexyl) Phthalate	6	224,800	Styrene	6	260,230,680
Phthalic Anhydride	5	9,720,098	1,1,1-Trichloroethane	6	124,293	Methanol	5	25,769,490
Toluene	6	8,645,301	Trichloroethylene (TCE)	6	120,120	Methyl Methacrylate	6	8,095,135
Adipic Acid	5	5,688,852	Chloroform	6	32,907	n-Methyl-2-Pyrrolidone	6	2,997,873
Epichlorohydrin	6	3,785,019	Ethylene Glycol	6	30,235	Toluene	6	2,556,262
n-Hexane	6	3,728,637	Freon 113	6	24,870	Ethylene Glycol	6	1,540,215
Formaldehyde	6	3,540,550	Acetic Anhydride	5	24,758	Methyl Ethyl Ketone (MEK)	6	1,250,446
Acetone	6	3,228,128	Phenol	6	18,301	Xylene (mixed isomers)	6	830,369
Methanol	5	3,133,427	Phthalic Anhydride	5	17,625	Formaldehyde	6	826,687
Methyl Ethyl Ketone (MEK)	6	2,453,802	Methyl Isobutyl Ketone (MIBK)	6	17,544	Methylene Chloride	6	689,421
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<i>243 Reported Chemicals</i>								

Dashboard Comparison of Top 10 Chemicals for SIC 34

Visited			Not Yet			Never		
Chemical Name	Hazard Count	Usage	Chemical Name	Hazard Count	Usage	Chemical Name	Hazard Count	Usage
by Usage:								
Di(2-Ethylhexyl) Phthalate	6	722,317	Methanol	5	22,034	2-Methoxyethanol	5	482,288
Ethyl Acetate	5	433,114	Toluene	6	21,553	Ethoxyethanol	5	141,692
Methyl Ethyl Ketone (MEK)	6	242,013	Xylene (mixed isomers)	6	15,340	Dimethylformamide	6	113,155
Acetone	6	226,949	Trichloroethylene (TCE)	6	14,613	Trichloroethylene (TCE)	6	30,986
N-Butyl Alcohol	5	191,656	1,1,1-Trichloroethane	6	12,168	Methylene Chloride	6	19,700
Methanol	5	157,864	Methylene Chloride	6	11,972	Isopropyl Alcohol	6	10,890
Butyl Acetate	5	156,370	Butyl Acetate	5	10,433	Perchloroethylene	6	10,372
Decabromodiphenyl Oxide	6	153,866				Toluene	6	9,094
Toluene	6	126,947						
Trichloroethylene (TCE)	6	110,972						
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Di(2-Ethylhexyl) Phthalate	6	722,317	Toluene	6	21,553	2-Methoxyethanol	5	482,288
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Kleindorfer/TIER2/HPV Risk Analysis

Kleindorfer Risk Score

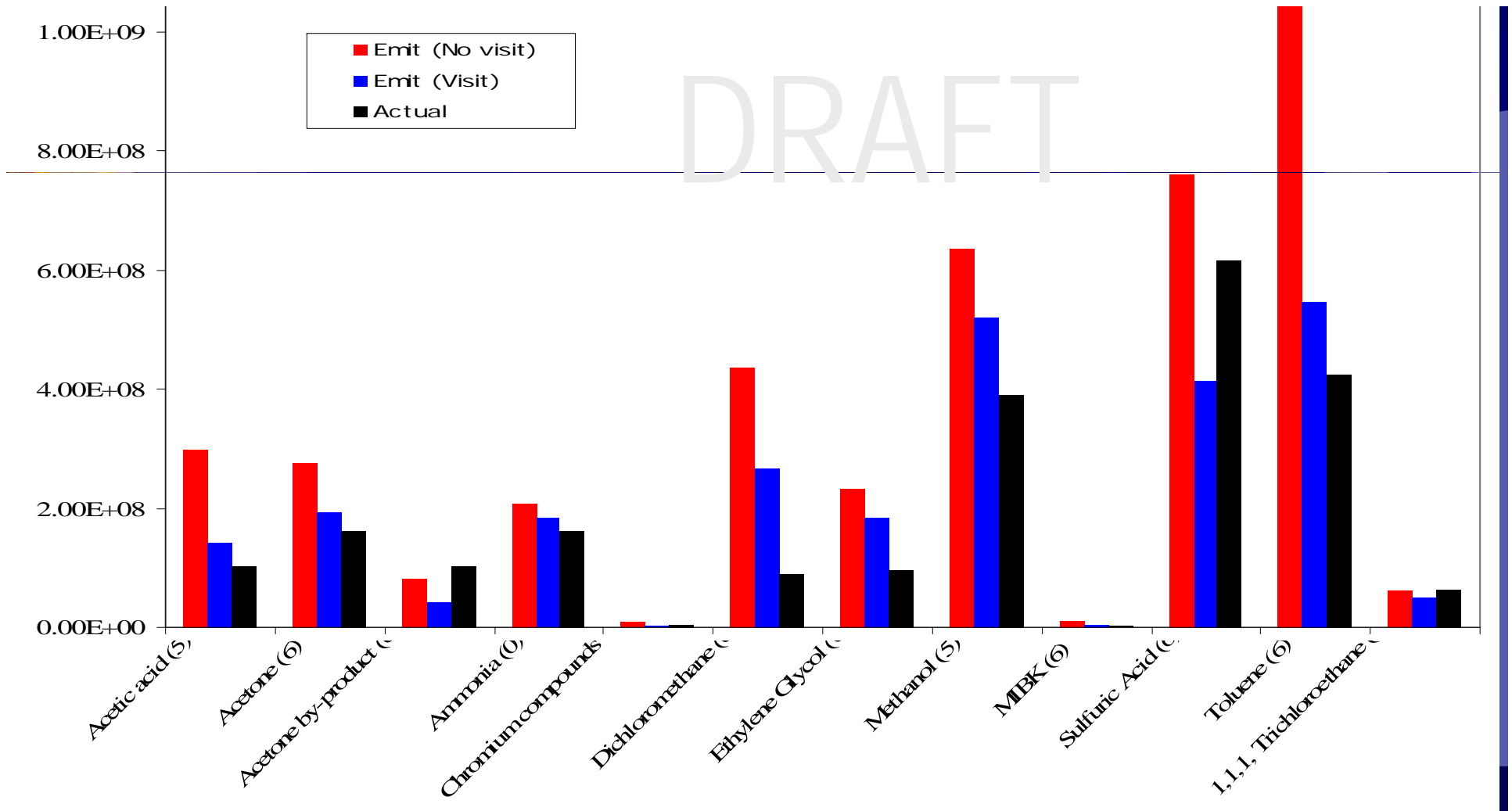
Rank	SIC Code	# Chemicals	Score
1	3087 - Custom compound purchased resins	22	6975
2	5169 - Chemicals and allied products	33	3101
3	5169 - Chemicals and allied products	42	3082
4	3861 - Photographic equipment and supplies	45	3007
5	3714 - Motor vehicle parts and accessories	36	2825

Kleindorfer Risk Score By Total Hazard Count

Rank	SIC Code	# Chemicals	Score
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Econometric Analysis

DRAFT

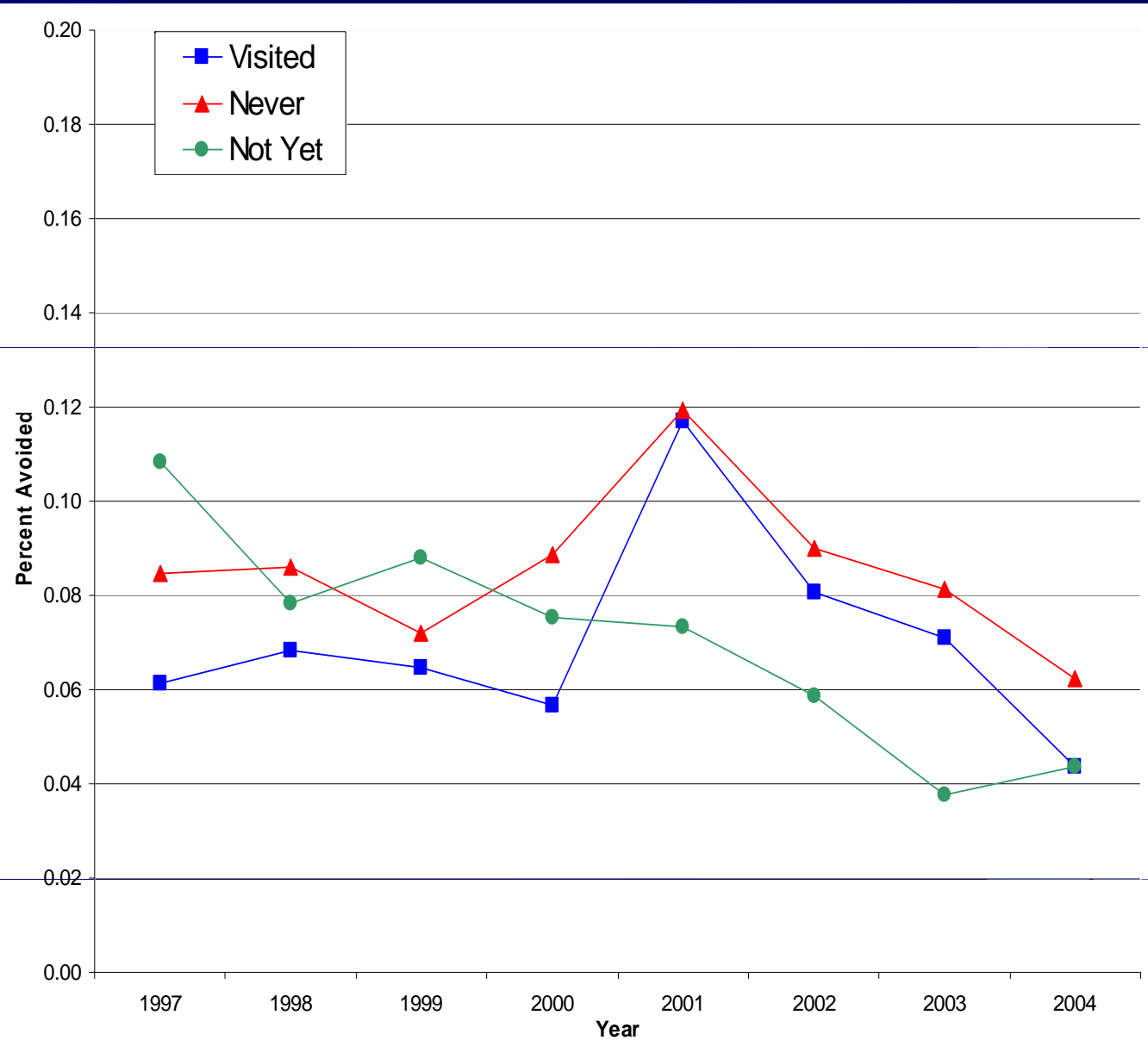


Effectiveness Study - All Chemicals

• % Avoided

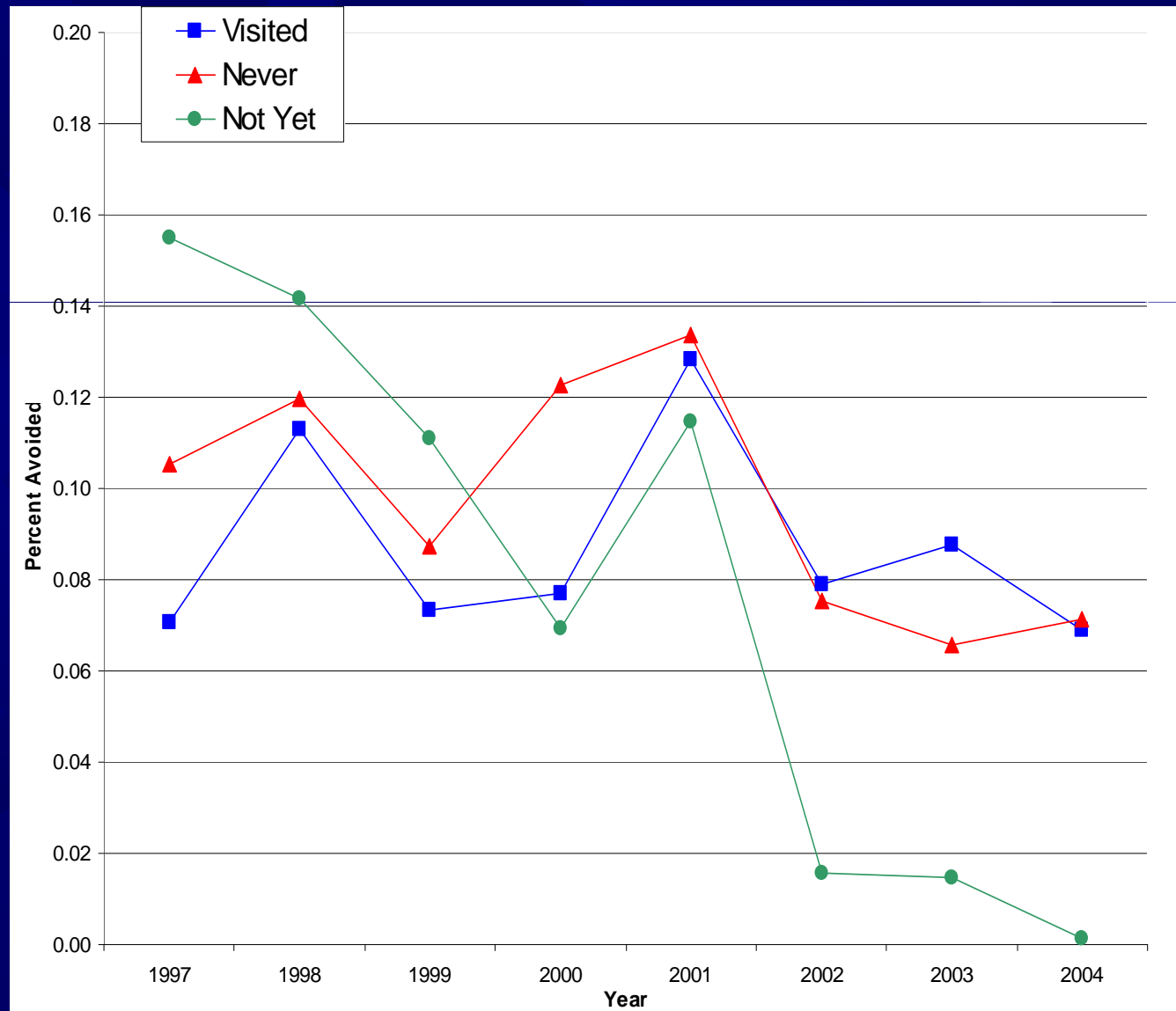
Higher % = Better Performance

• 2002-2004



Effectiveness Study - HPV Chemicals Only (Hazard Count of 6)

- Similar Pattern
- 2002-2004
- Value of Targeting Resources



EMFACT

Easy User Interface => Material/Energy/Waste => Reports
Flow Interview Use Data

Chemical/Energy/
Water

Quantity

Cost

Related Data





Annual Use

Annual Output

Byproduct/product

Output/department/
product

Danvers, Massachusetts





Questions?

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