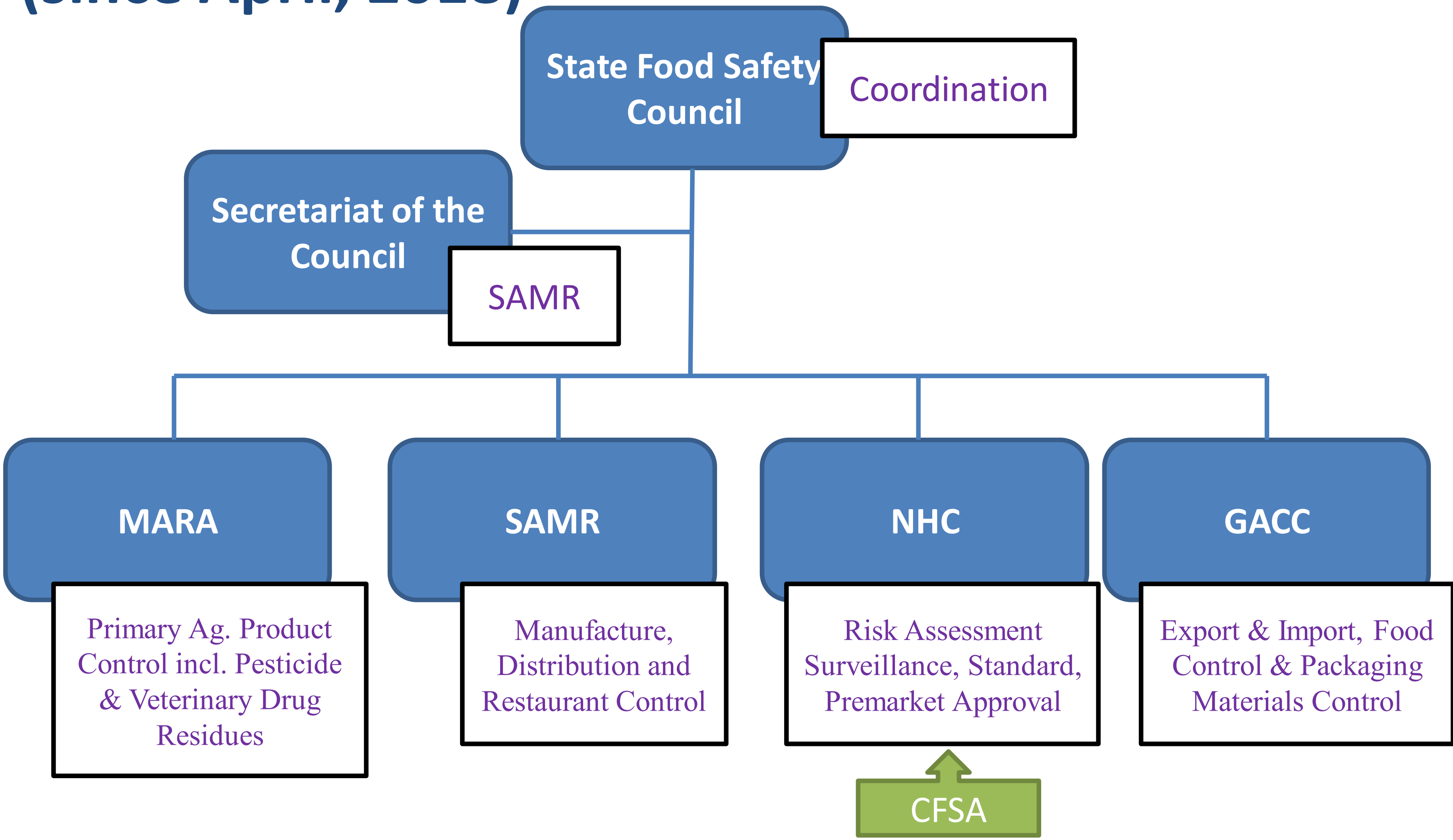
国家食品安全风险评估中心
China National Center for Food Safety Risk Assessment

China Total Diet Study and its application on Dietary exposure assessment

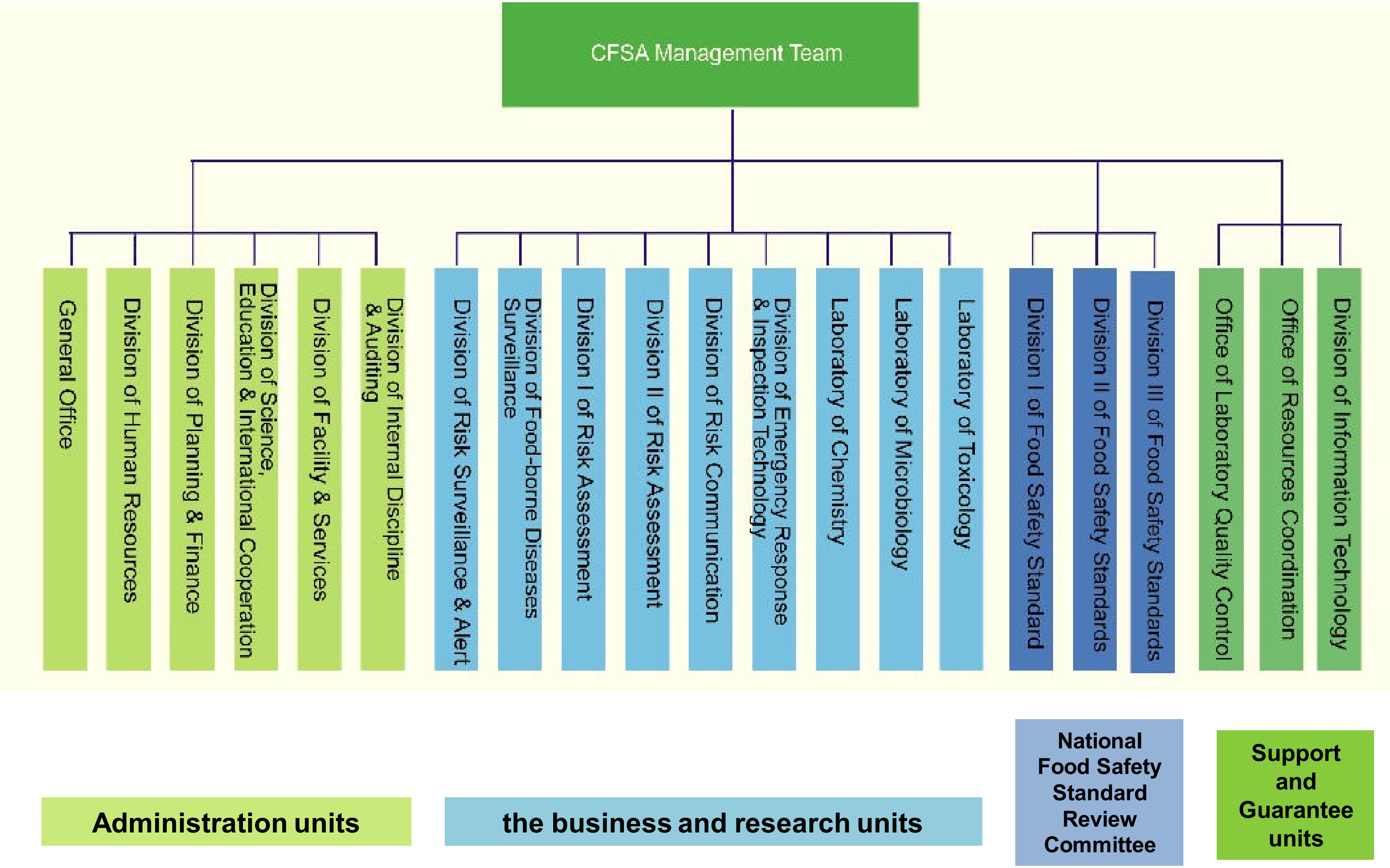
Yongning Wu
China National Center for Food Safety Risk Assessment
2022.10

■National Food Safety Control System in China (since April, 2018)



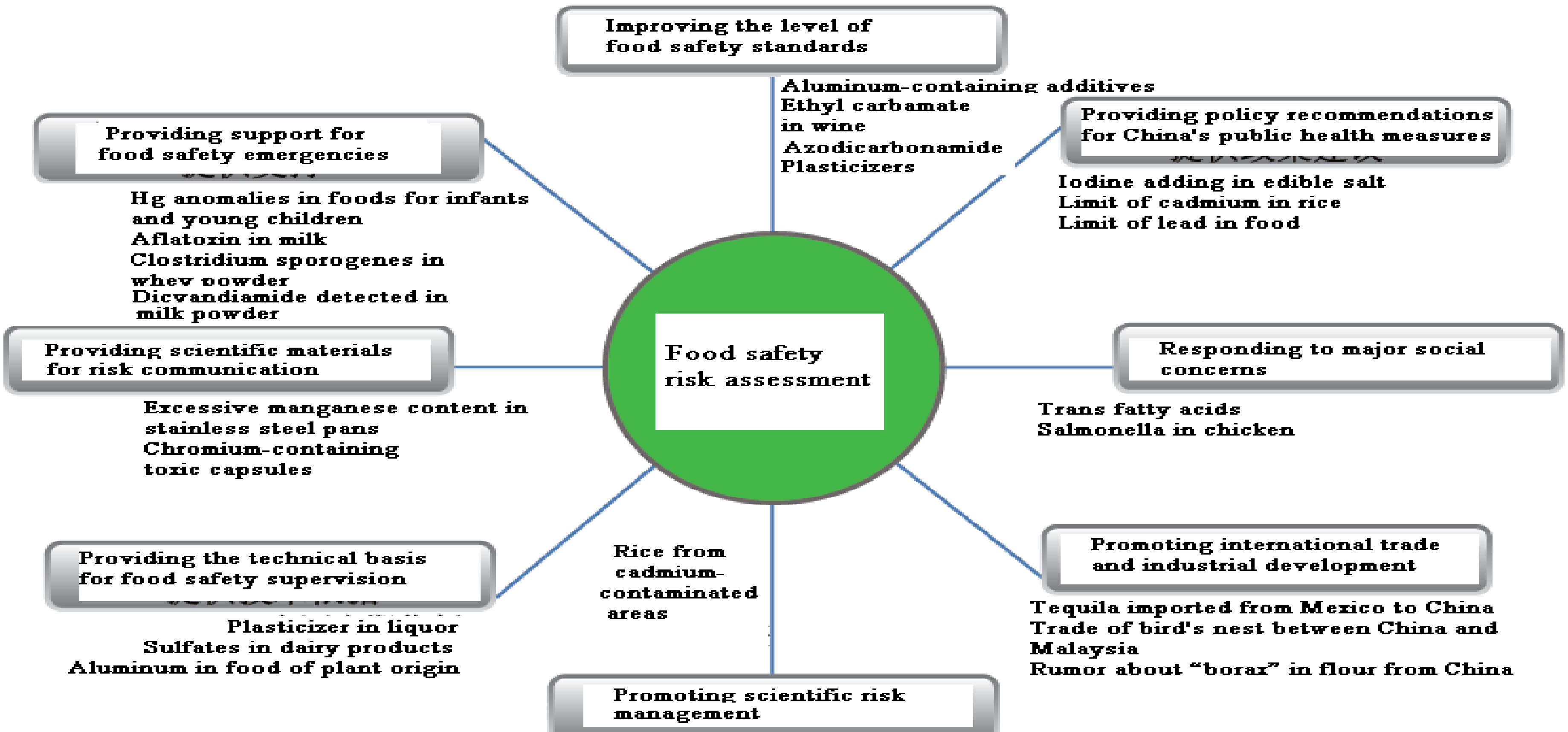
MARA – **Ministry of Agricultural and Rural Affairs**
NHC – **National Health Commission**
GACC – **General Administration of Customs**
SAMR – **State Administration for Market Regulation**

■Organization Structure(cfsa)



Core Works

Surveillance | Assessment | Standards | Nutrition

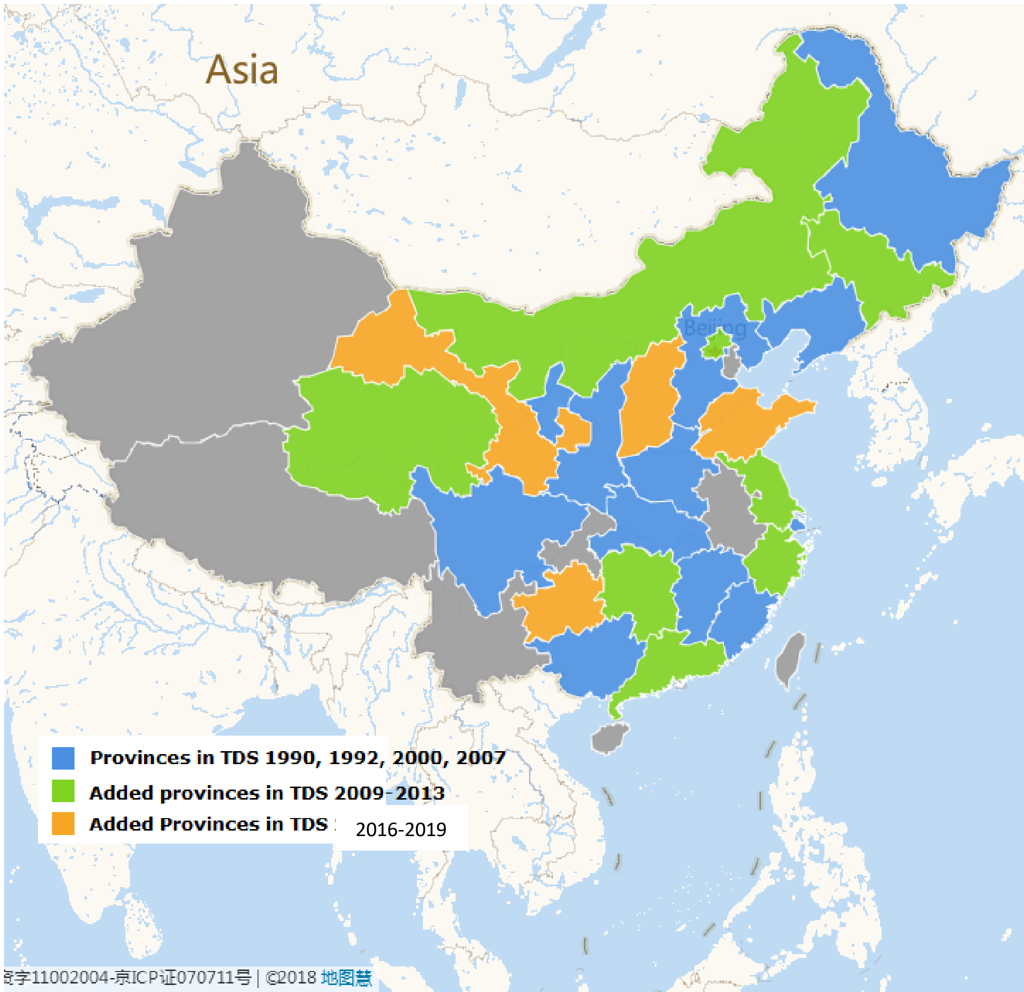


spot hospital， 8,690,000 cases

Codex Committee on Food Additives (CCFA)

China and other countries.

■ TDS in China



Leaders of China TDS

Prof. Dr. CHEN Jun-Shi, CAE academician

Prof. Dr. WU Yong-Ning

Prof. Dr. ZHAO Yun-Feng

Prof. Dr. Li Jing-Guang

- 1st round TDS in 1990, 12 provinces involved, and 2nd, 3rd, and 4th round was conducted in 1992, 2000, and 2007 separately.
- 5th round covered 20 provinces
- 6th round involved 24 provinces, covered 86.5% population (1.1 Billion)
- 7th round involved 24 provinces, conducted at 2022

Objectives

- Estimate the dietary intakes of chemical contaminants and some nutrients by the residents in China;
- Provide scientific data for specific food safety risk assessment projects and the development of food safety regulations and standards;
- Indentify priority pollutants for national food surveillance by using non-target screening methods.
- Monitor the trends of chemical contamination in local diets;

TDS Schedule(6th CTDS)

Indicative time 5 years

Indicative time 6 months

PLANNING

- Define objectives of TDS
- Collect data and information
- Develop food list, sampling and analytical plan , select components
- Organize staffing needs

Indicative time 30-36 months

SAMPLING AND ANALYSIS

- Sampling from 24 Province
- Kitchen preparation and pooling of samples
- Transportation and Storage
- Analysis

Indicative time 6 months

DIETARY EXPOSURE ASSESSMENT

- Validate data
- Carry our exposure assessment and analysis
- Compare with health-based guidance value

Indicative time 6 months

PUBLICATION

- Publish book
- Website
- Conferences
- Scientific articles
- Share data with WHO,FAO,EFSA

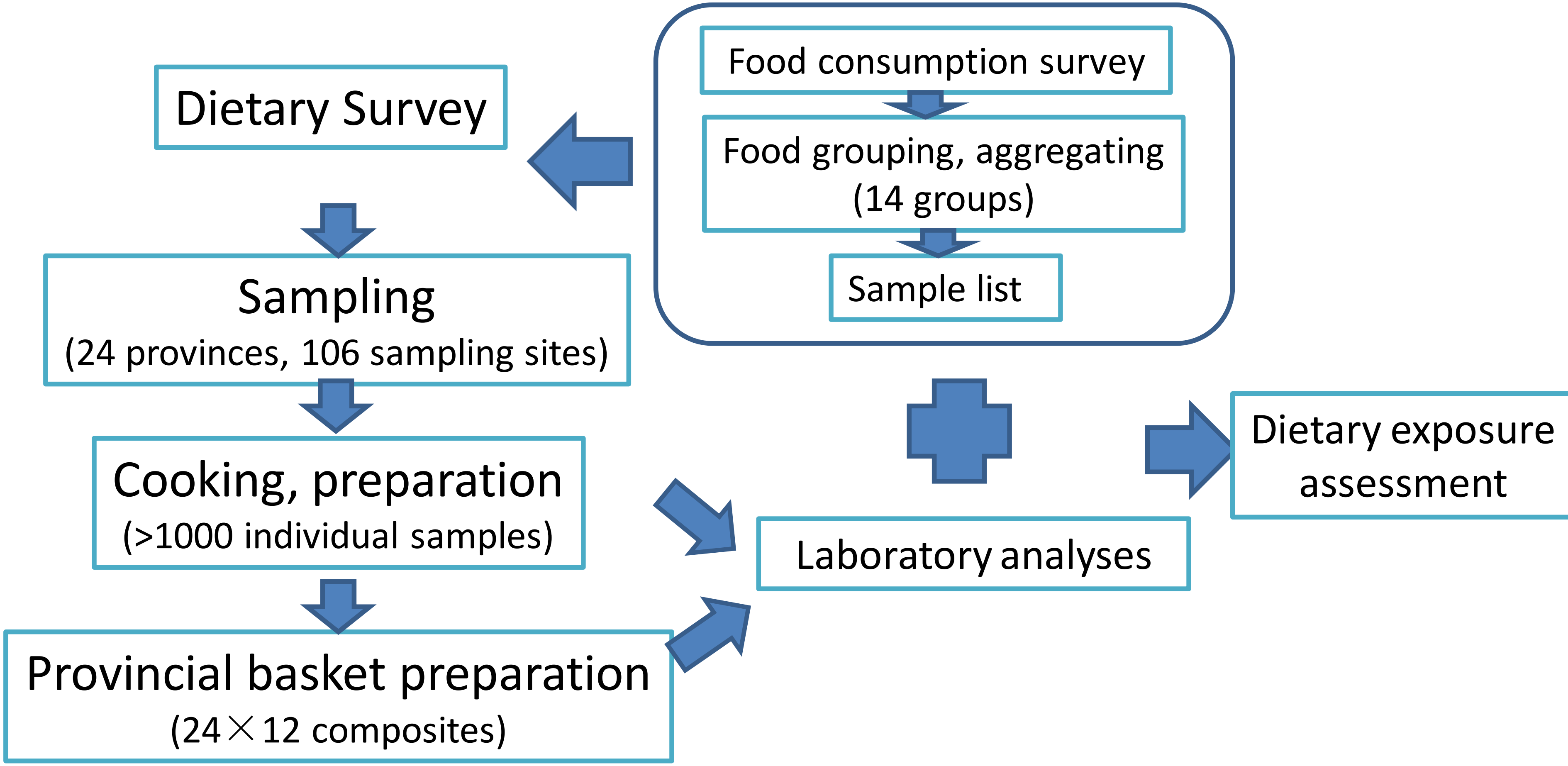
Food groups

All food samples are grouped into 13 food categories

1	Cereals and products
2	Legumes, nuts, and products
3	Potatoes and products
4	Meats and products
5	Eggs and products
6	Aquatic foods and products
7	Milk and products
8	Vegetables and products
9	Fruits and products
10	Sugar
11	Beverages (non-alcohol)
12	Alcoholic beverages
13	Condiments(include Cooking oils)

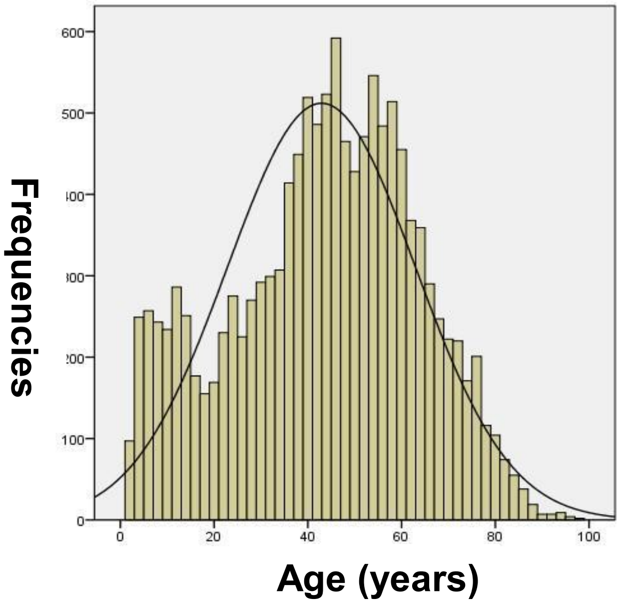
Methodology

- Working scheme of 6th TDS (2016-2020) in China



Food consumption survey

- Survey methods:
  - 3 nonconsecutive 24-h recall surveys;
    (face-to-face, two working days, one in weekend)
  - 3-day household survey
    (including weighing and recording, mainly for condiments)
  - FFQ
  - cooking methods
    (A great challenge due to the complexity of Chinese deal)



Food Aggregation

- To categorize some similar foods into one representative food in each pro
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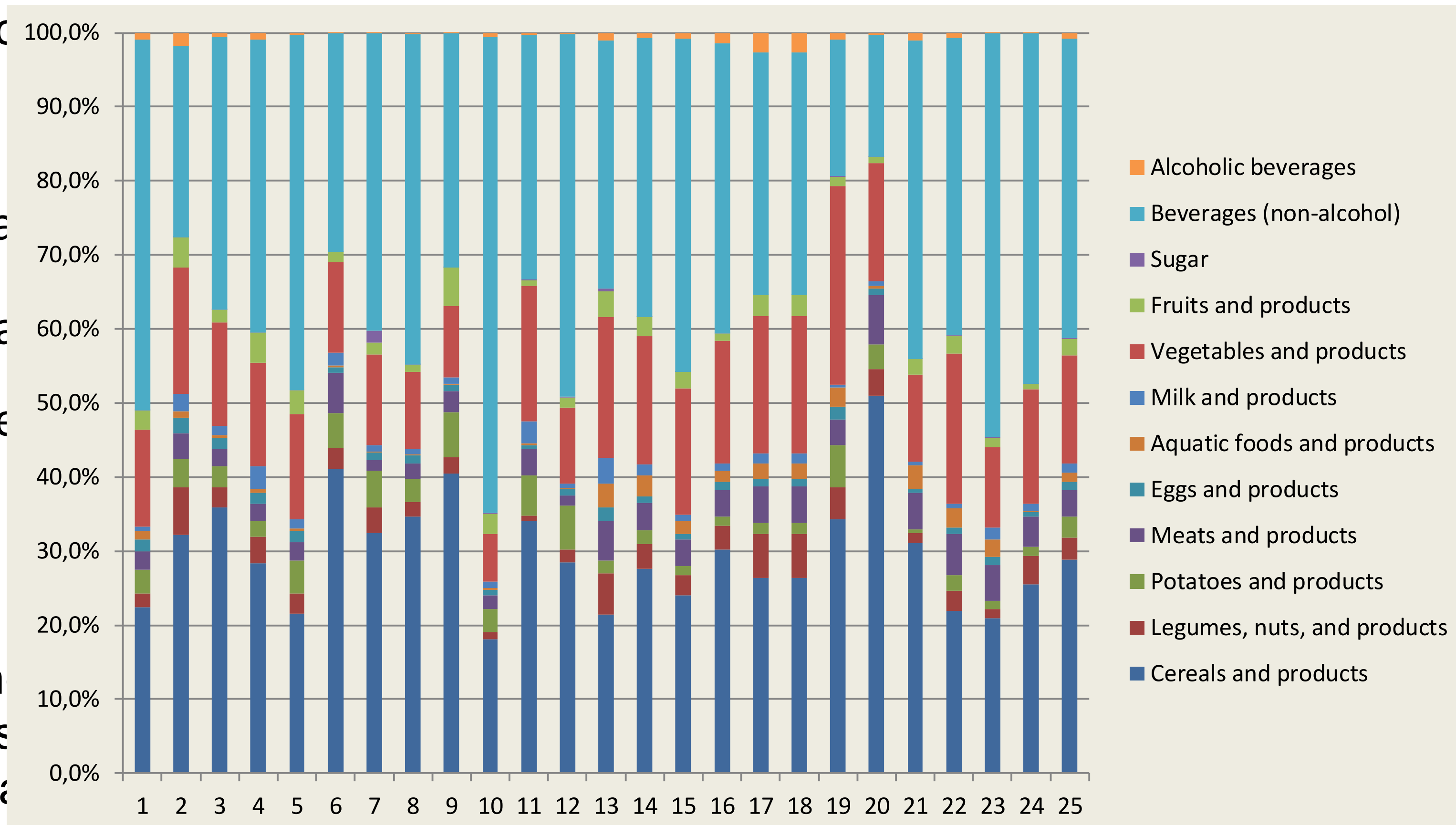


		on
	Lamb	3.93
	Pig liver	1.95
	Subtotal	115.28
蛋类 Eggs	Egg	59.29
	Preserved egg	2.98
	Subtotal	62.26

Food Sampling

- Survey sites:
  - 6 sites (4 rural, 2 urban) in the provinces with the population >50 million,
  - 3 sites (2 rural, 1 urban) in the provinces with the population <50 million,
- In each survey sites, food samples were purchased at local food markets like supermarket, fairgrounds, bazaars, grocery stores, farmer's markets, and local farm. After sampling, food samples were required to be taken to the cooking and processing sites as soon as possible.

■ Food Preparation

- mixed the same samples from different sampling sites
- cooking samples according to the recipes with local habits and condiments .
- In each province, composite sample of each food category were prepared according to consumption data .
- All individual samples and composites were shipped to our laboratory in CFSA under Cold chain transportation (<-20^{O}C)




Laboratory Analysis

- Individual samples or composite samples?

  depending on the cost, or the request of the authorities.

- The analysis conducted by our laboratory or network labs of food safety risk assessment.

- Substances determined:
  - elements: heavy metals, nutrient elements, rare earth elements, element species
  - Pesticides: quantitative determination: 240 chemicals

    qualitative determination (screening methods): 672 chemicals
  - Veterinary drugs: about 200 chemicals
  - POPs : PCDD/Fs, PCBs, PBDEs, HBCDs, TB-BPA, PFASs, SCCPs, persistent organochlorine pesticides
  - Phytotoxin: mycotoxins, Glycoalkaloids
  - Other chemical pollutants: PAHs, perchlorate, nitrate and nitrite, acrylamide, Chloropropanol and its ester , phthalates and their metabolites, trans-fatty acids
  - Nutrients: protein, fat, vitamins.

Dietary exposure assessment

- Model 1: **Deterministic assessments**

  adult males' exposure assessment in each province

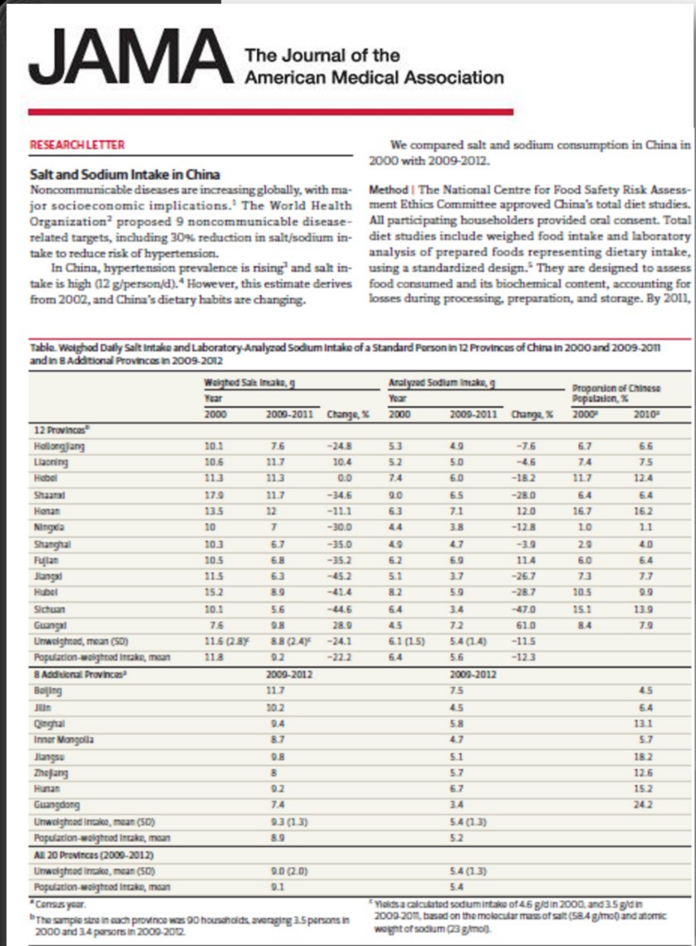
  - Concentrations of substances in composites;
  - Food consumption data for the adult male (standard men);
  - The average bodyweight of adult male in China , from the latest china health and nutrition survey (CHNS)
  - Assess average dietary exposure for adults in China

- Model 2: **probabilistic assessments**

  individual exposure assessment

  - Concentrations of substances in composites;
  - Food consumption data for individuals（>40000 individuals）;
  - individual body weight
  - Monte Carlo simulation / Bootstrap

Publishment of Data



JAMA The Journal of the American Medical Association

RESEARCH LETTER

Salt and Sodium Intake in China

Noncommunicable diseases are increasing globally, with major socioeconomic implications.[1] The World Health Organization[2] proposed 9 noncommunicable disease-related targets, including 30% reduction in salt/sodium intake to reduce risk of hypertension.

In China, hypertension prevalence is rising[3] and salt intake is high (12 g/person/d).[4] However, this estimate derives from 2002, and China's dietary habits are changing.

We compared salt and sodium consumption in China in 2000 with 2009-2012.

Method | The National Centre for Food Safety Risk Assessment Ethics Committee approved China's total diet studies. All participating householders provided oral consent. Total diet studies include weighed food intake and laboratory analysis of prepared foods representing dietary intake, using a standardized design.[5] They are designed to assess food consumed and its biochemical content, accounting for losses during processing, preparation, and storage. By 2011,

Table. Weighed Daily Salt Intake and Laboratory-Analyzed Sodium Intake of a Standard Person in 12 Provinces of China in 2000 and 2009-2011 and in 8 Additional Provinces in 2009-2012

	Weighed Salt Intake, g			Analyzed Sodium Intake, g			Proportion of Chinese Population, %	
	Year			Year				
	2000	2009-2011	Change, %	2000	2009-2011	Change, %	2000[a]	2010[a]
12 Provinces[b]								
Heilongjiang	10.1	7.6	−24.8	5.3	4.9	−7.6	6.7	6.6
Liaoning	10.6	11.7	10.4	5.2	5.0	−4.6	7.4	7.5
Hebei	11.3	11.3	0.0	7.4	6.0	−18.2	11.7	12.4
Shaanxi	17.9	11.7	−34.6	9.0	6.5	−28.0	6.4	6.4
Henan	13.5	12	−11.1	6.3	7.1	12.0	16.7	16.2
Ningxia	10	7	−30.0	4.4	3.8	−12.8	1.0	1.1
Shanghai	10.3	6.7	−35.0	4.9	4.7	−3.9	2.9	4.0
Fujian	10.5	6.8	−35.2	6.2	6.9	11.4	6.0	6.4
Jiangxi	11.5	6.3	−45.2	5.1	3.7	−26.7	7.3	7.7
Hubei	15.2	8.9	−41.4	8.2	5.9	−28.7	10.5	9.9
Sichuan	10.1	5.6	−44.6	6.4	3.4	−47.0	15.1	13.9
Guangxi	7.6	9.8	28.9	4.5	7.2	61.0	8.4	7.9
Unweighted, mean (SD)	11.6 (2.8)[c]	8.8 (2.4)[c]	−24.1	6.1 (1.5)	5.4 (1.4)	−11.5		
Population-weighted intake, mean	11.8	9.2	−22.2	6.4	5.6	−12.3		
8 Additional Provinces[a]		2009-2012			2009-2012			
Beijing		11.7			7.5			4.5
Jilin		10.2			4.5			6.4
Qinghai		9.4			5.8			13.1
Inner Mongolia		8.7			4.7			5.7
Jiangsu		9.8			5.1			18.2
Zhejiang		8			5.7			12.6
Hunan		9.2			6.7			15.2
Guangdong		7.4			3.4			24.2
Unweighted intake, mean (SD)		9.3 (1.3)			5.4 (1.3)			
Population-weighted intake, mean		8.9			5.2			
All 20 Provinces (2009-2012)								
Unweighted intake, mean (SD)		9.0 (2.0)			5.4 (1.3)			
Population-weighted intake, mean		9.1			5.4			

[a] Census year.

[b] The sample size in each province was 90 households, averaging 3.5 persons in 2000 and 3.4 persons in 2009-2012.

[c] Yields a calculated sodium intake of 4.6 g/d in 2000, and 3.5 g/d in 2009-2011, based on the molecular mass of salt (58.4 g/mol) and atomic weight of sodium (23 g/mol).

- China Total Diet Study started in 1990
- Methodologies and results are published
- The 6th China TDS is now underway

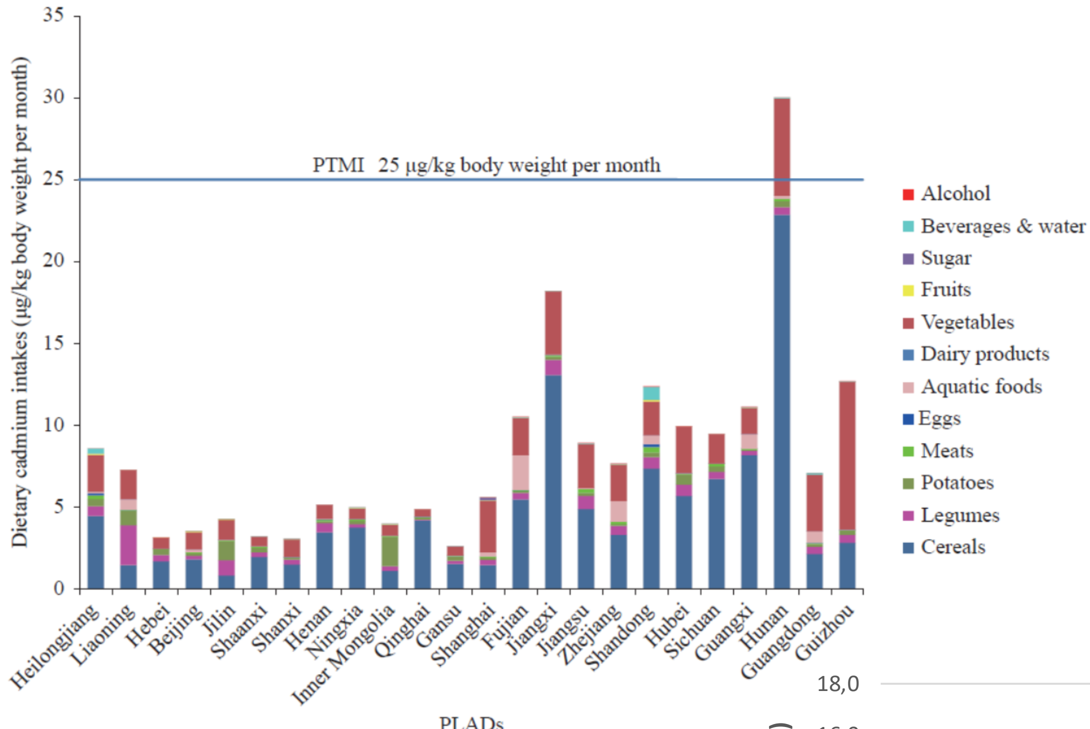
"The Fourth China Total Diet Study", 2015

"The Fifth China Total Diet Study", 2018

DB Hipgrave, SY Chang, XW Li, YN Wu*. *JAMA*, 2016, 315: 703-705.

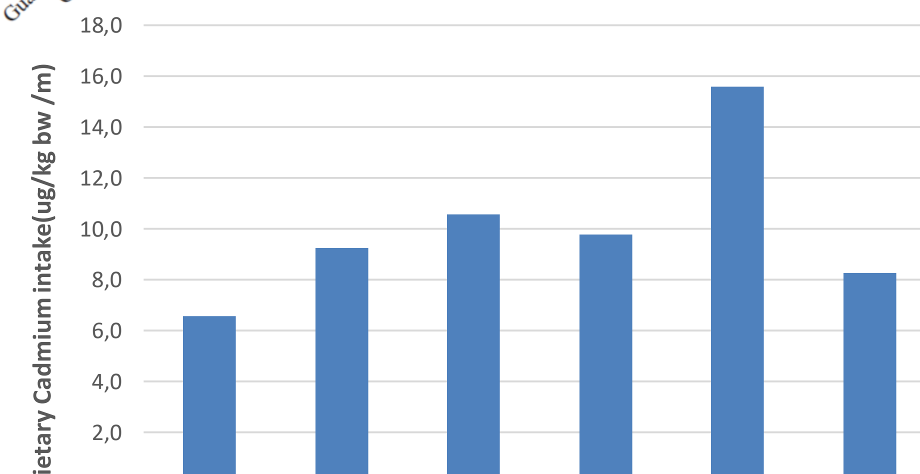
Example I: Cadmium

Deterministic assessments



The average dietary intake of Cd for Chinese residents was 8.25 ug/kg bw /m. Except Hunan, the average dietary intake of the other PLADs the average dietary intake of Cd was below the PTMI value of 25 μg/kg·bw/m established by JECFA. 。

The dietary Cd intake presented a slight increasing trend from the First TDS to the Fifth TDS, while a significant decrease of 47% (compared with the Fifth TDS) was observed in Sixth TDS.



	1st TDS	2nd TDS	3rd TDS	4th TDS	5th TDS	6th TDS
■	6,6	9,2	10,6	9,8	15,6	8,3

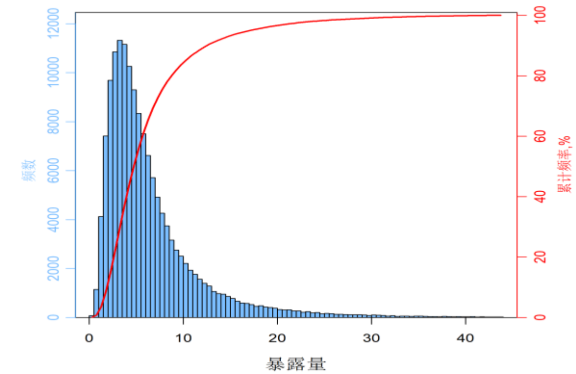
Example Ⅰ： Cadmium

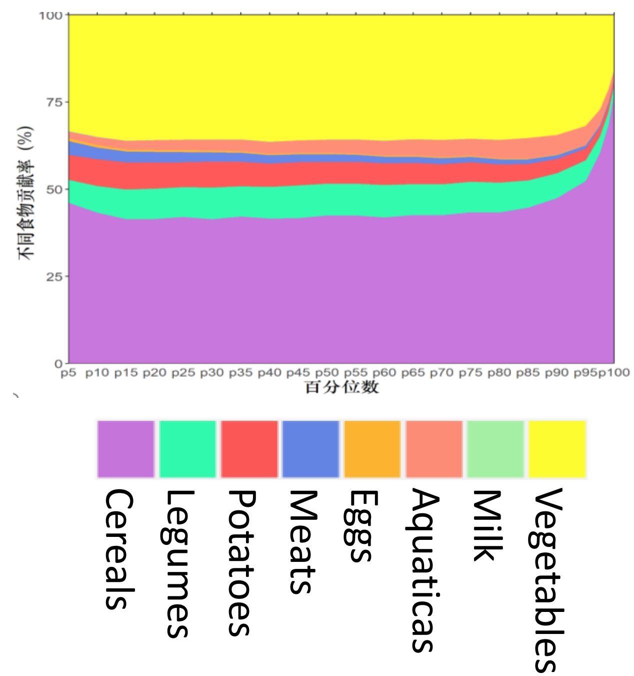
probabilistic assessments

Age	Gender	P50	P75	P95	P99
2-60+		5.0	8.0	18.0	33.4
2-6	Male	8.1	13.4	31.1	65.6
7-12		7.5	12.0	26.3	51.9
13-17		5.9	9.2	21.1	36.4
18-59		4.8	7.5	16.7	30.3
60+		4.8	7.6	16.7	31.0
2-6	Female	7.9	13.0	29.0	46.7
7-12		7.2	11.5	27.0	47.6
13-17		5.3	8.1	17.8	30.6
18-59		4.8	7.5	16.5	30.2
60+		4.8	7.6	17.2	31.0

*ug/kg b.w./m

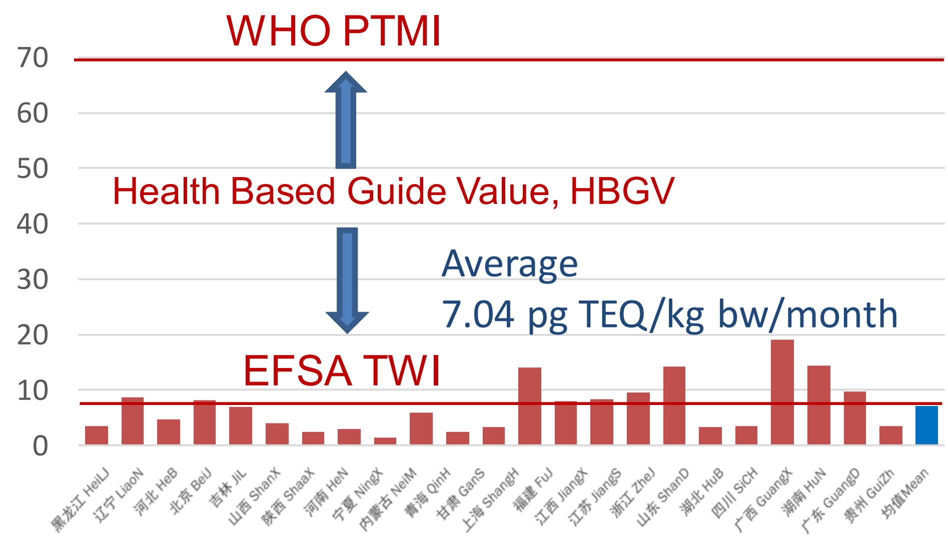
2.2% indivituals of the total population were exceeded to PTMI

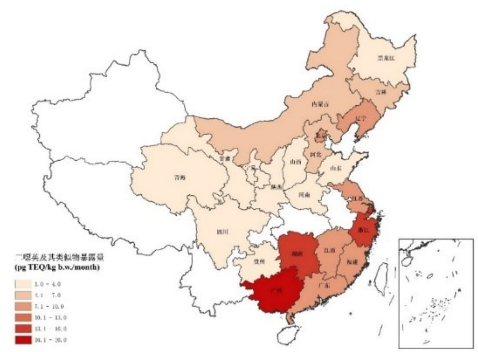




Example II: Dioxins

Deterministic assessments






DIOXIN 2021 TIANJIN

41st International Symposium on Halogenated Persistent Organic Pollutants

16:05-16:30	Coffee Break
16:30-18:00 EST 03:30-05:00 CET 09:30-11:00	Session: Exposure and Risk Assessment Session Chairs: Da Chen, Xiangang Hu
16:30-16:50	The Organic Flame Retardant Story: Knowns and Unknowns *Stuart Harrad, University of Birmingham*
16:50-17:10	Prenatal Exposure to Contaminants of Emerging Concern and Potential Health Risks *Da Chen, School of Environment, Jinan University*
17:10-17:30	Dietary Intake of Dioxins Like Compounds and Per/Polyfluoroalkyl Substances in China: Occurrence and Temporal Trend *Jingguang Li, China National Center for Food Safety Risk Assessment*
17:30-17:40	Human Risk Assessment For 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) Based Toxicity Testing in the 21 Century Approach Involving Aryl Hydrocarbon Receptor (AhR) Signaling Pathways *Man Hu, Fudan University*
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Meeting Room 15 (Second Floor)

10:50-12:10 EST 21:50-23:10 CET 03:50-05:10	Session: Environmentally Persistent Free Radicals Session Chairs: Guorui Liu, Jing Chen

TUESDAY

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ORAL SESSIONS

WEDNESDAY, November 6, 2019

November 6, 2019

SESSION 8: WORKSHOP on Food Safety in China: Past, Present and Future I

FOOD SAFETY CONTROL SYSTEM IN CHINA: PAST, PRESENT AND FUTURE

H2020 EU-CHINA-SAFE PROJECT PROGRESS: DELIVERING AN EFFECTIVE, RESILIENT AND SUSTAINABLE EU-CHINA FOOD SAFETY PARTNERSHIP

DESIGN AND IMPLEMENTATION OF FOOD COLD CHAIN TRACEABILITY SYSTEM BASED ON BLOCKCHAIN AND RFID

LC-MS TOOLS IN THE CAMPAIGN AGAINST FOOD FRAUD IN INFANT FORMULA

CREATING A MULTI-PARTNER EU-CHINA VIRTUAL LABORATORY FOR FOOD CONTROL AND INCIDENT RESPONSE

APPLICATION OF NEXT GENERATION SEQUENCING TECHNOLOGY IN FOOD AUTHENTICITY

Coffee Break / EXHIBITION

SESSION 9: WORKSHOP on Food Safety in China: Past, Present and Future II

INTAKE OF DIOXIN AND DIOXIN LIKE COMPOUNDS IN CHINA: OCCURRENCE AND TEMPORAL TREND

EMERGENCE OF MONOPHASIC SALMONELLA ENTERICA SEROTYPE TYPHIMURIUM IN CHINA

INTERNAL AND DIETARY EXPOSURE ASSESSMENT TO ZEARALENONE IN A TYPICAL AREA OF CHINA

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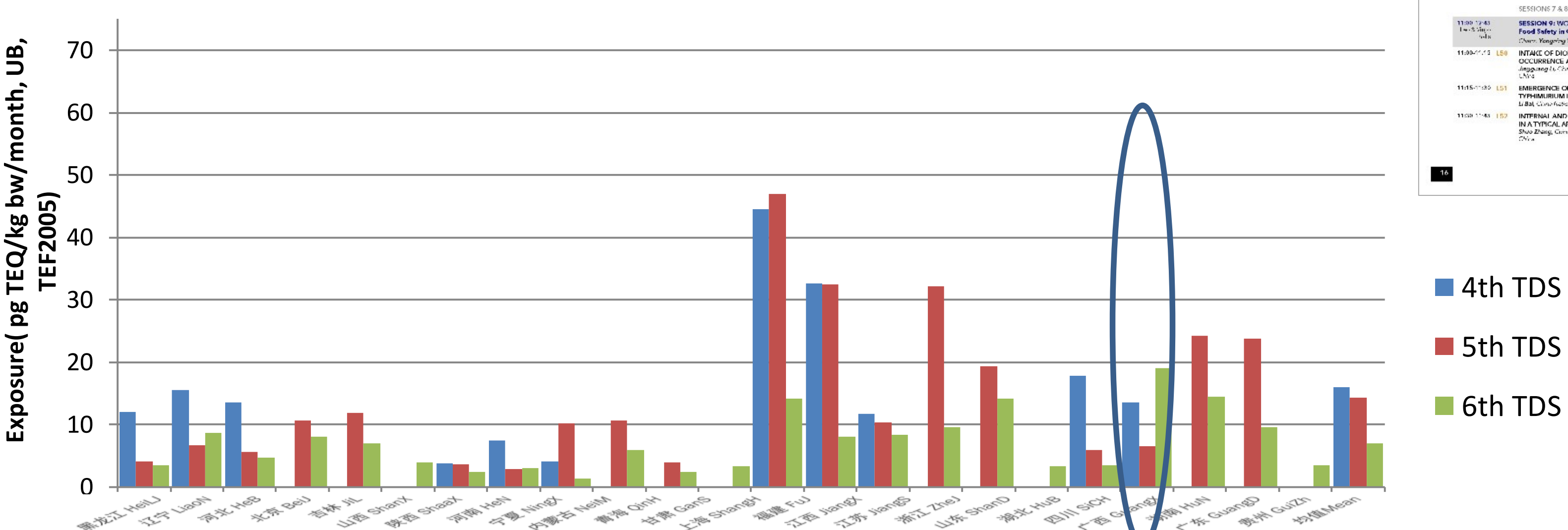
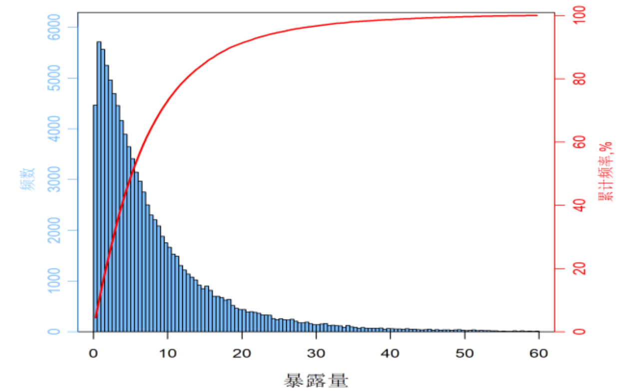


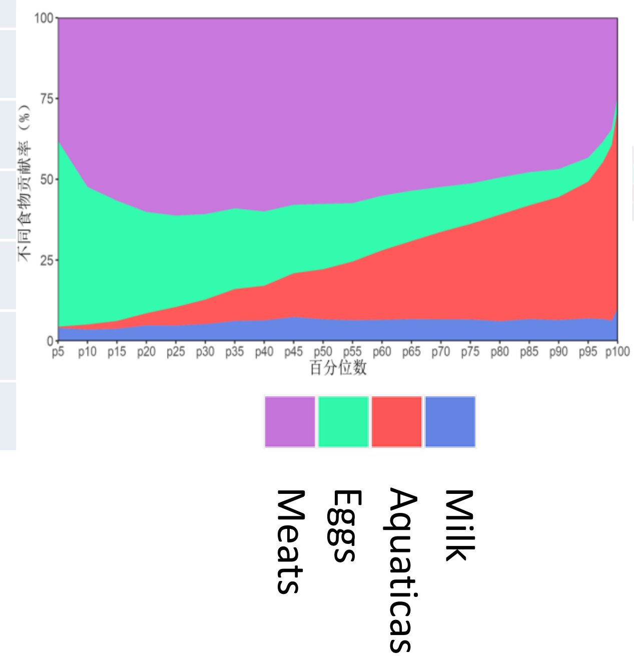
Example II: Dioxins
probabilistic assessments

Age	Gender	P50	P75	P95	P99
2-60+		5.5 [5.42, 5.52]	11 [10.89, 11.08]	26.9 [26.68, 27.24]	49.4 [48.66, 50.39]
2-6	男 Male	14.6 [13.9, 15.4]	26.9 [25.5, 28.2]	58.6 [53.8, 62.3]	**89.8 [82.8, 103.9]**
7-12		10.5 [10.1, 10.9]	20.2 [19.2, 20.9]	41.0 [39.6, 43.2]	65.3 [60.2, **76.6**]
13-17		7.1 [6.6, 7.4]	13.3 [12.6, 14.]	28.5 [26.1, 31.4]	51.5 [45.1, 64.2]
18-59		5.2 [5.2, 5.3]	10.2 [10.1, 10.4]	24.0 [23.6, 24.5]	41.5 [40.0, 42.7]
60+		5.2 [5.1, 5.3]	9.9 [9.7, 10.2]	22.9 [22.3, 23.8]	43.2 [40.9, 45.4]
2-6	女 Female	14.5 [13.7, 15.1]	26.5 [25.2, 27.6]	66.7 [57.9, **72.0]**	**119.5 [107.1, 144.4]**
7-12		8.9 [8.6, 9.4]	17.2 [16.3, 18.1]	38.6 [36.4, 41.0]	65.6 [59.7, **71.2]**
13-17		6.4 [5.9, 7.0]	12.7 [11.7, 13.4]	25.7 [24.7, 28.2]	43.8 [38.6, 47.6]
18-59		5.0 [4.9, 5.1]	10.0 [9.8, 10.1]	23.8 [23.4, 24.2]	42.2 [40.8, 43.6]
60+		4.9 [4.8, 5.0]	9.9 [9.68, 10.11]	24.38 [23.44, 25.04]	45.8 [43.45, 48.66]

(pg TEQ/kg bw/month)

0.34% indivituals of the total population were exceeded to PTMI

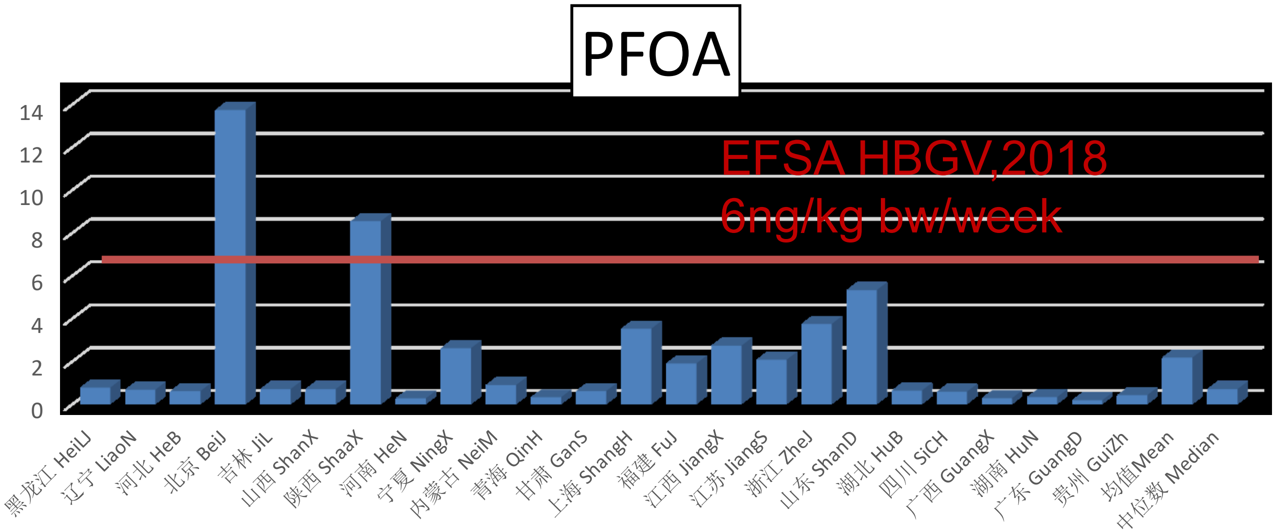


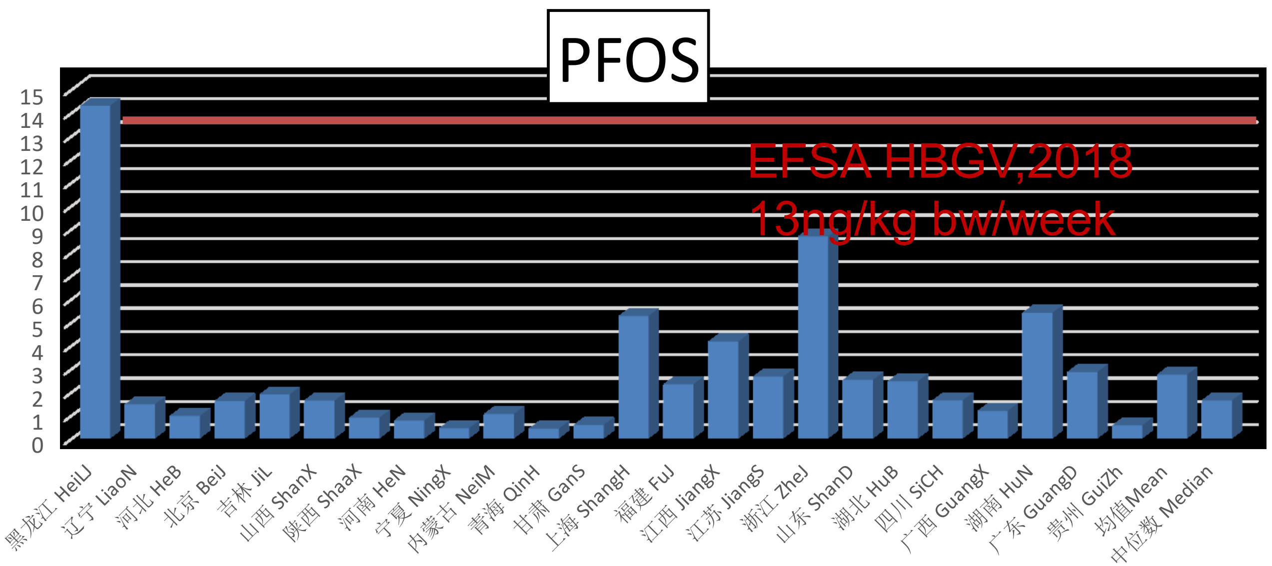


WHO HBGV: PTMI 70pg TEQ/kg bw/month

Example II: PFASs

Deterministic assessments





专题演讲 K Session K

Risk Assessment of Combined Exposure to Multiple Chemicals

Session Chair: Li Jingguang, Professor and Director of Chinese Academy of Medical Sciences Research Unit for Food Safety (2019RU014), China National Center for Food Safety Risk Assessment

14:00	Jean Lou Dorne	Risk Assessment of Combined Exposure to Multiple Chemicals at EFSA: A Horizontal Perspective Jean Lou Dorne, Senior Scientific Officer, Scientific Committee and Emerging Risks Unit, European Food Safety Authority
14:30	Glenn Lurman	A Tiered Approach for Risk Assessment of Combined Exposures to Multiple Pesticides Glenn Lurman, Senior Scientist, German Federal Institute of Risk Assessment (BfR)
15:00	Christine Nellemann	The Science Behind the Risk Assessments of Effects of Mixtures of Chemicals Present in Consumer Products & Food Christine Nellemann, Director, National Food Institute, Technical University of Denmark
15:00		BREAK
15:50		Real-World Mixtures of Nitrosamine Exceed Their Additive Individual Genotoxic Effects, Even at Low Concentrations Qu Weidong, Professor, Key Laboratory of the Public Health Safety, Ministry of Education, School of Public Health, Fudan University
16:20		Combined Toxicity Evaluation for Contaminant Mixtures in Raw and Fresh Food Qian Yongzhong, Professor and Director of Institute of Quality Standard and Test Technology for Agro-Products, Chinese Academy of Agricultural Science
16:50		Study on Cumulative Risk Assessment of Chemical Mixtures in Food Song Yan, Professor, China National Center for Food Safety Risk Assessment
17:20		Exposure Characterization of Contaminants in Food and Total Diet Study: Risk Assessment for Group PFASs Li Jingguang, Professor and Director of Chinese Academy of Medical Sciences Research Unit for Food Safety (2019RU014), China National Center for Food Safety Risk Assessment
		End of Conference

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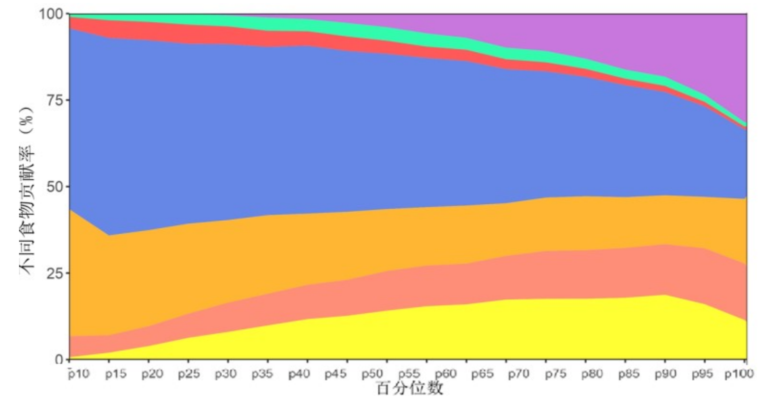
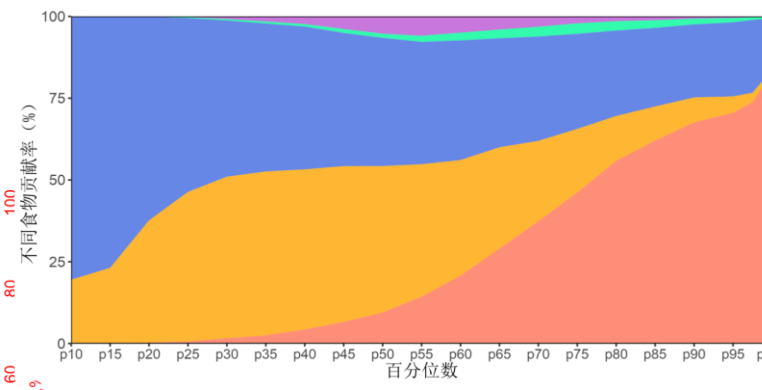
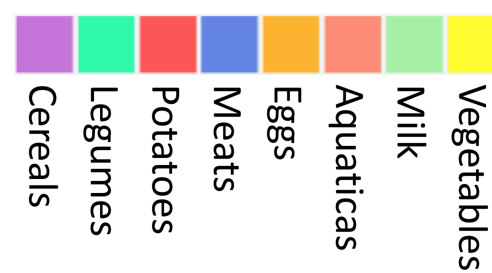
Example II: PFASs

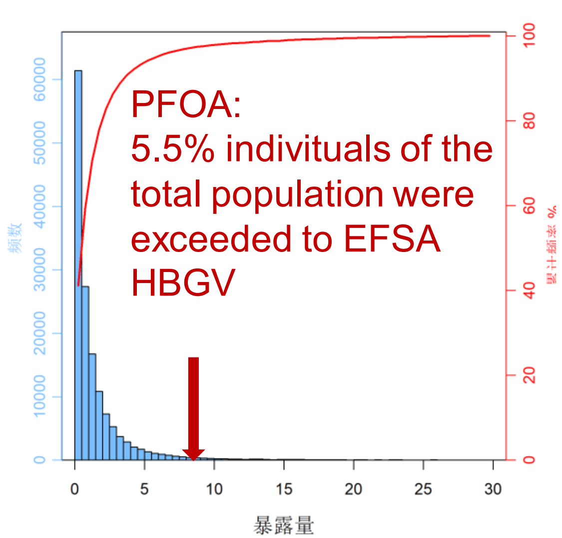
probabilistic assessments

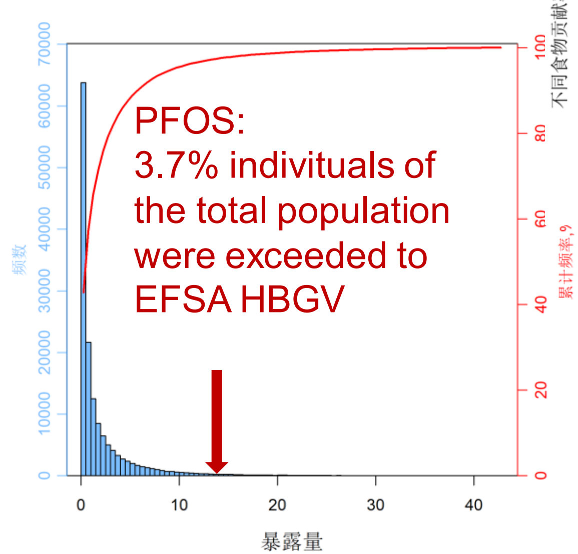
P50	P75	P95	P99
PFOA (ng/kg bw/week)			
0.71 [0.71,0.72]	1.79 [1.78,1.81]	6.34 [6.25,6.44]	19.19 [18.57,19.69]
PFOS (ng/kg bw/week)			
0.72 [0.71,0.73]	**2.46 [2.44,2.5]**	**10.48 [10.33,10.6]**	32.55 [31.43,33.62]











Example II: PFASs
probabilistic assessments


SCIENTIFIC OPINION

EFSA Journal

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Risk to human health related to the presence of perfluoroalkyl substances in food

EFSA Panel on Contaminants in the Food Chain (EFSA CONTAM Panel),
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Bettina Grasl-Kraupp, Christer Hogstrand, Laurentius (Ron) Hoogenboom,
Jean-Charles Leblanc, Carlo Stefano Nebbia, Elsa Nielsen, Evangelia Ntzani, Annette Petersen,
Salomon Sand, Christiane Vleminckx, Heather Wallace, Lars Barregård, Sandra Ceccatelli*,
Jean-Pierre Cravedi, Thorhallur Ingi Halldorsson, Line Smästuen Haug, Niklas Johansson,
Helle Katrine Knutsen, Martin Rose, Alain-Claude Roudot, Henk Van Loveren, Günter Vollmer,
Karen Mackay, Francesca Riolo and Tanja Schwerdtle

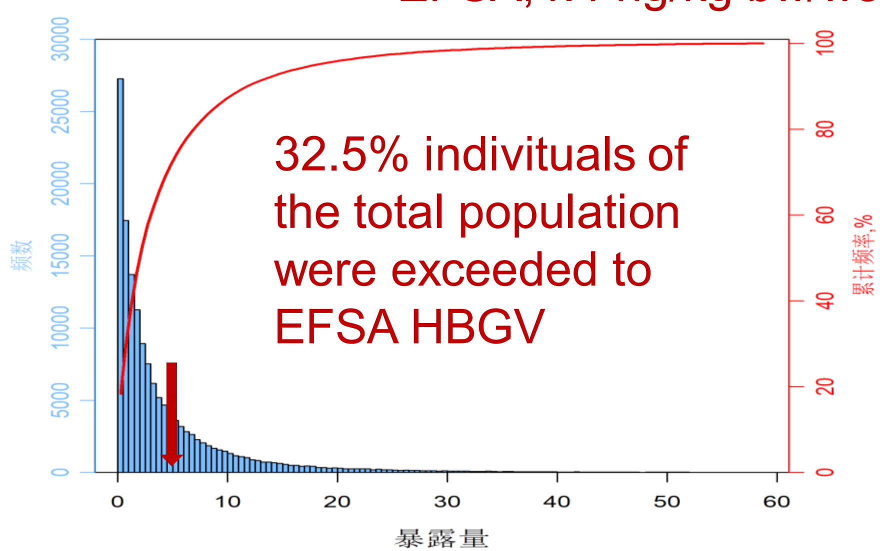
Abstract

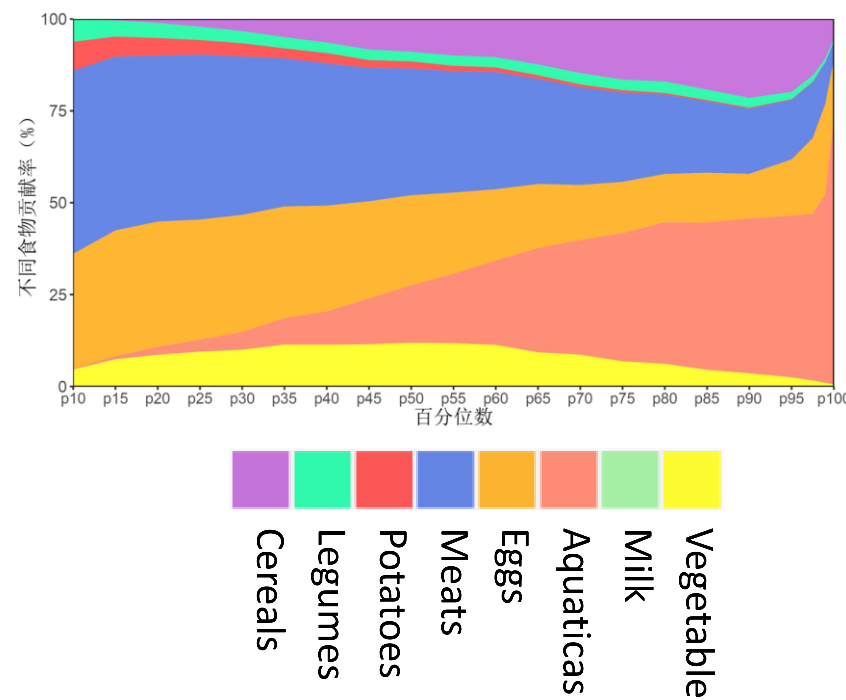
The European Commission asked EFSA for a scientific evaluation on the risks to human health related to the presence of perfluoroalkyl substances (PFASs) in food. Based on several similar effects in animals, toxicokinetics and observed concentrations in human blood, the CONTAM Panel decided to perform the assessment for the sum of four PFASs: PFOA, PFNA, PFHxS and PFOS. These made up half of the lower bound (LB) exposure to those PFASs with available occurrence data, the remaining contribution being primarily from PFASs with short half-lives. Equal potencies were assumed for the four PFASs included in the assessment. The mean LB exposure in adolescents and adult age groups ranged from 3 to 22, the 95th percentile from 9 to 70 ng/kg body weight (bw) per week. Toddlers and 'other children' showed a twofold higher exposure. Upper bound exposure was 4- to 49-fold higher than LB levels, but the latter were considered more reliable. 'Fish meat', 'Fruit and fruit products' and 'Eggs and egg products' contributed most to the exposure. Based on available studies in animals and humans, effects on the immune system were considered the most critical for the risk assessment. From a human study, a lowest $BMDL_{10}$ of 17.5 ng/mL for the sum of the four PFASs in serum was identified for 1-year-old children. Using PBPK modelling, this serum level of 17.5 ng/mL in children was estimated to correspond to long-term maternal exposure of 0.63 ng/kg bw per day. Since accumulation over time is important, a tolerable weekly intake (TWI) of 4.4 ng/kg bw per week was established. This TWI also protects against other potential adverse effects observed in humans. Based on the estimated LB exposure, but also reported serum levels, the CONTAM Panel concluded that parts of the European population exceed this TWI, which is of concern.

Group PFASs (ng/kg bw/week)

PFOA+PFNA+PFOS+PFHxS			
P50	P75	P95	P99
2.28 [2.26,2.31]	5.91 [5.86,5.97]	19.67 [19.43,19.92]	48.36 [46.94,49.46]

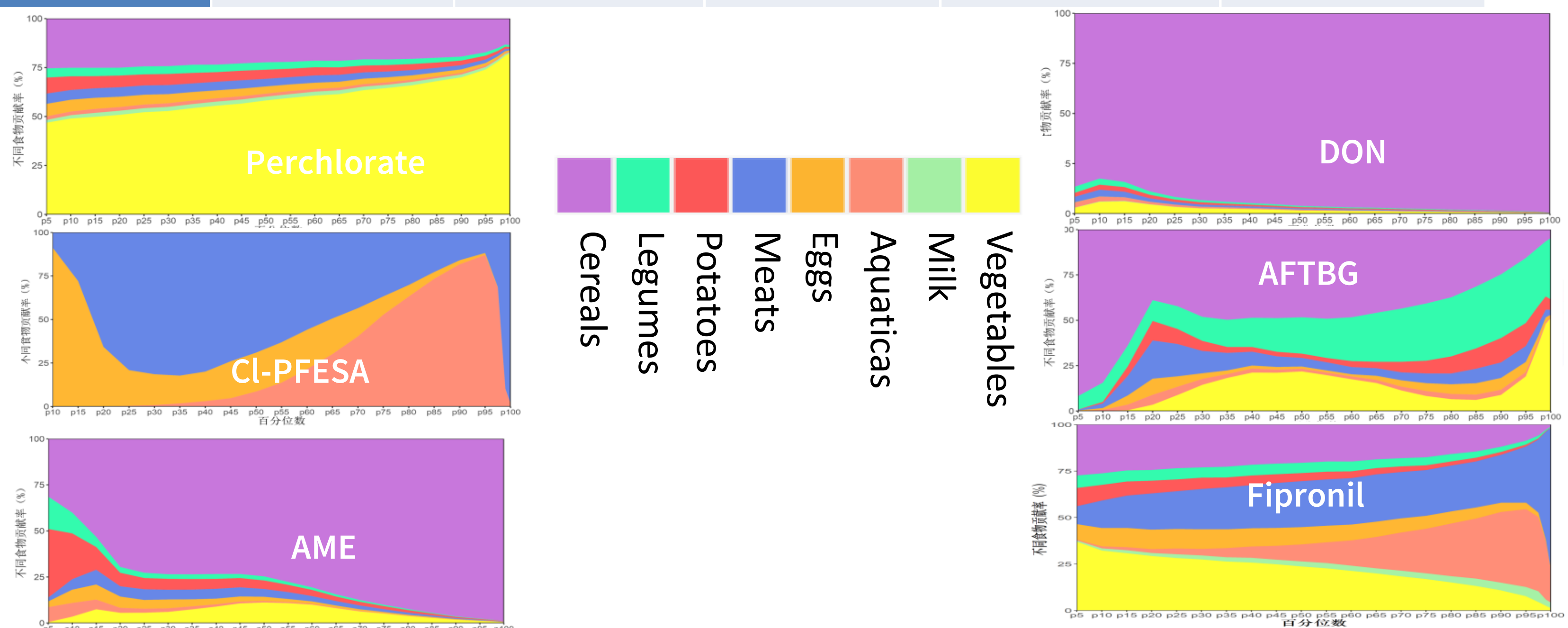
EFSA,4.4 ng/kg bw/week





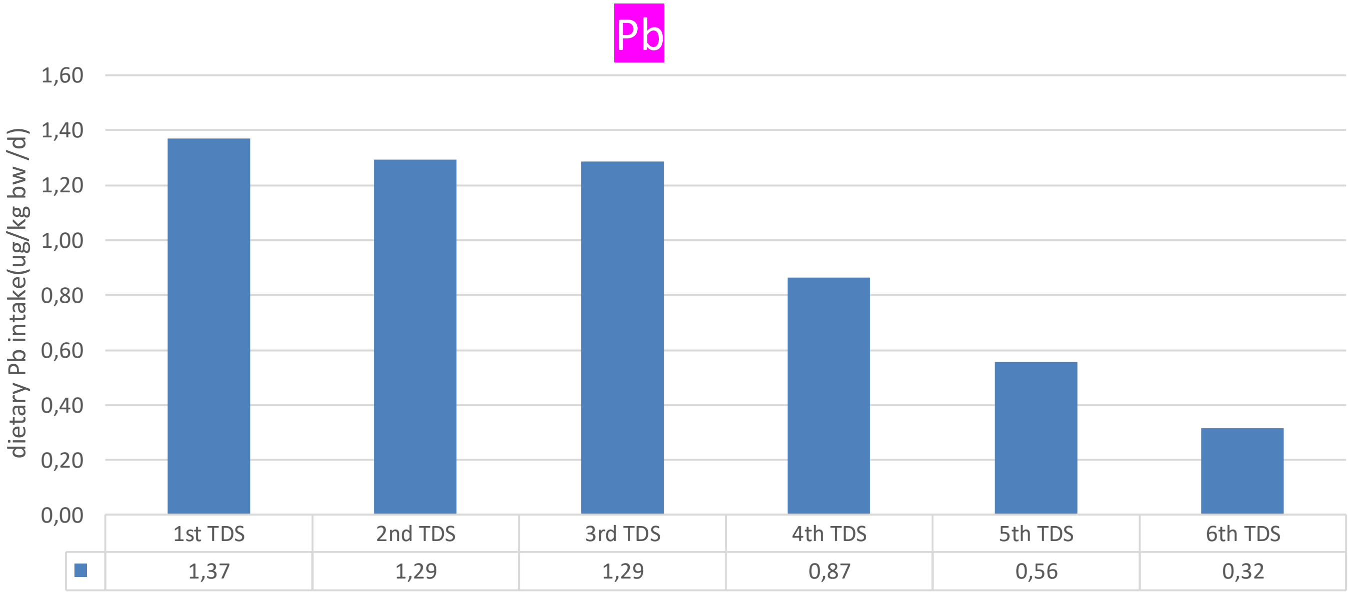
Potential Emerging Pollutants（ probabilistic assessments ）

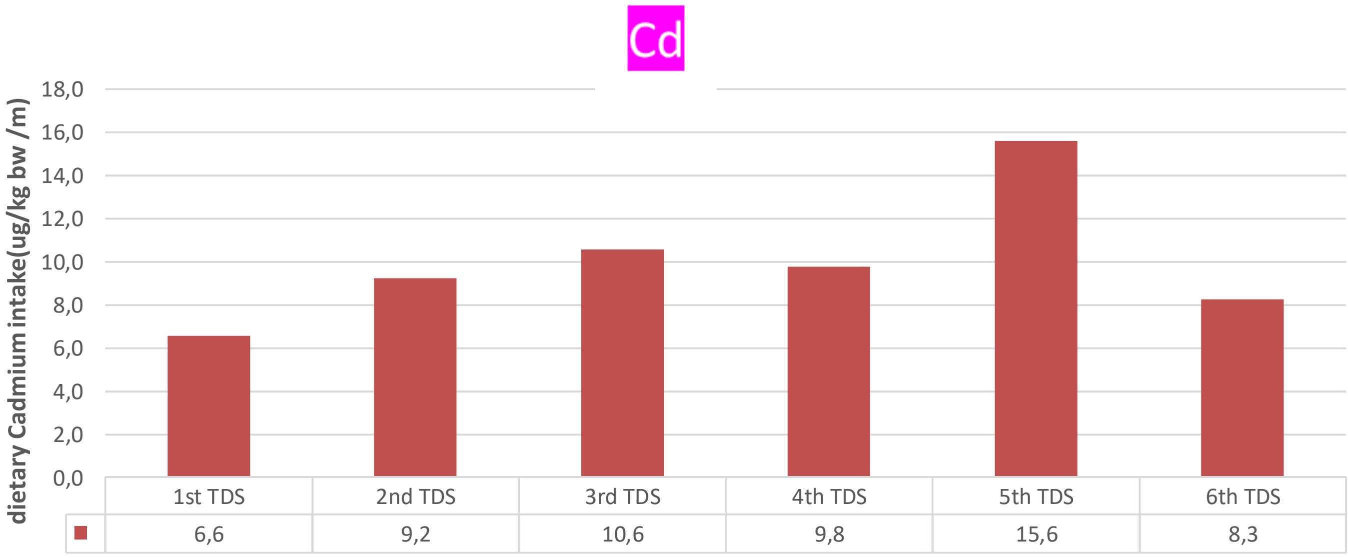
	Unit	P50	P75	P95	P99
Perchlorate	ug/kg b.w./d	0.22	0.37	0.83	1.48
Cl-PFESA	ng/kg b.w/w	0.13	0.67	6.3	54.05
AME	ng/kg b.w./d	7.9	24.2	89.8	187.5
DON	ng/kg b.w./d	0.33	0.61	1.38	2.64
AFTBG	ng/kg b.w./d	0.53	2.06	9.52	20.66
Fipronil	ng/kg b.w./d	2.8	8.3	69.1	315.4



Application

Time trend





Application

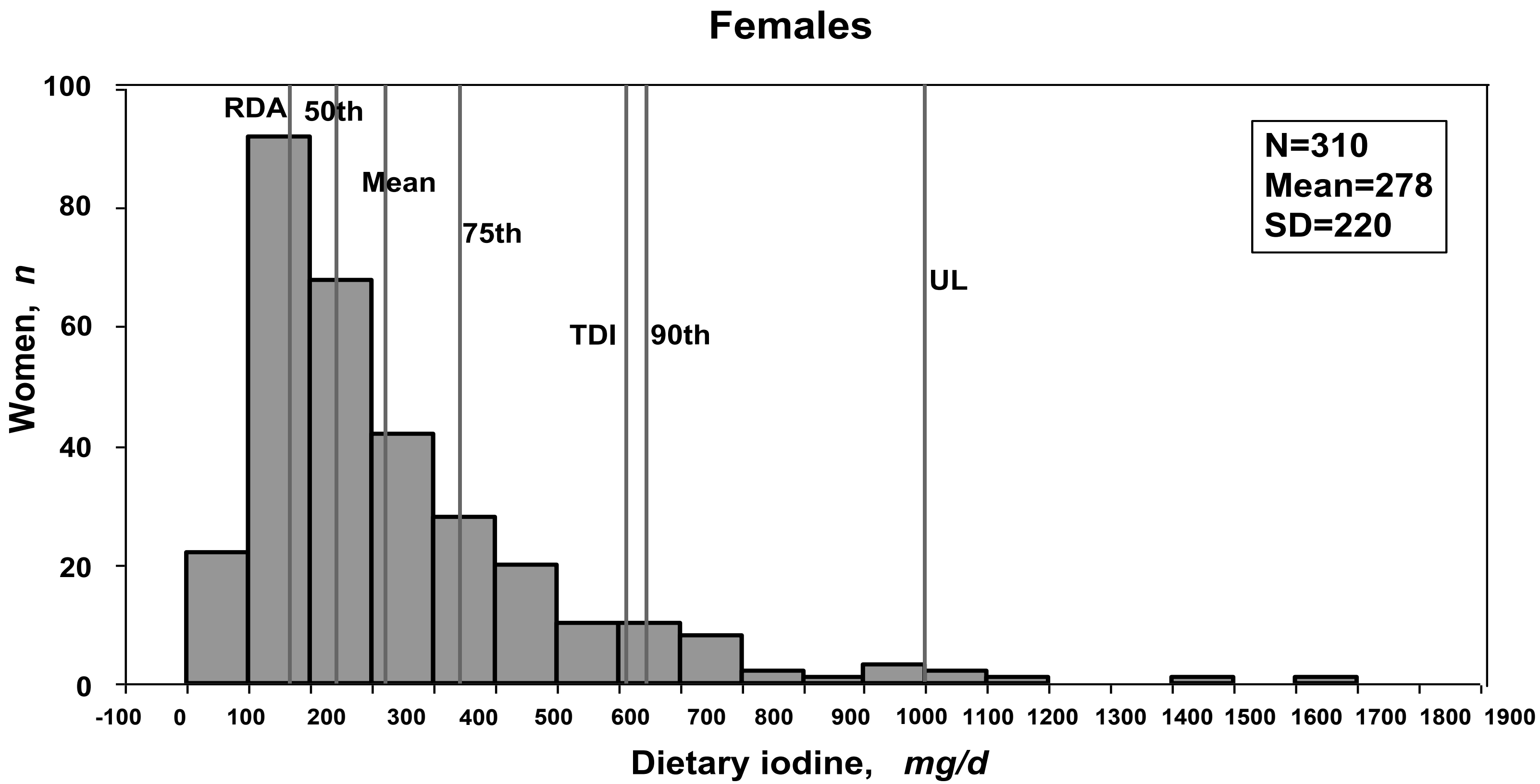
Time Traceability of melamine in milk samples

Year		N 1			N 2			S1			S2		
		HL	LN	HeB	ShX	HeN	NX	ShH	FJ	JX	HuB	SC	GX
2000	Melamine	ND	ND	ND	ND	14.7	ND	ND	ND	ND	ND	5.4	ND
	CYA	7.3	ND	ND	ND	34.3	ND	ND	ND	ND	7.6	16.3	18.9
	AMD	14.7	ND	ND	12.7	ND	ND	ND	ND	ND	ND	ND	ND
	AMN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2007	Melamine	220.5	703.2	176350.0	521.3	213.4	575.3	300.0	1171.8	1450.0	525.0	272.6	6.5
	CYA	166.2	77.8	235.0	174.2	242.0	214.1	181.4	503.2	150.0	ND	26.4	116.4
	AMD	ND	50.0	509.9	22.6	15.1	21.1	0.6	28.8	825.0	200.0	ND	116.4
	AMN	ND	ND	1609.5	28.4	ND	45.9	ND	14.4	25.0	25.0	2.9	ND
2009	Melamine	2.1	ND	22.4	ND	ND	ND	ND	ND	ND	ND	20.5	ND
	CYA	40.6	400.7	36.8	33.2	69.5	ND	257.6	33.4	30.7	57.0	35.5	29.7
	AMD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	AMN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Unit：µg/kg； ND≤LOD (0.002 mg/kg)

Application

Salt and Iodine Intake and Cooking Loss



Dietary iodine intake for iodized salt cooking: **226 mg/day**
Dietary iodine intake for non-iodized salt cooking is: **83 mg/day**
Contribution rate of iodine in iodized salt: **63.5%**
Iodine cooking loss rate of iodized salt: **24.6%**

Application

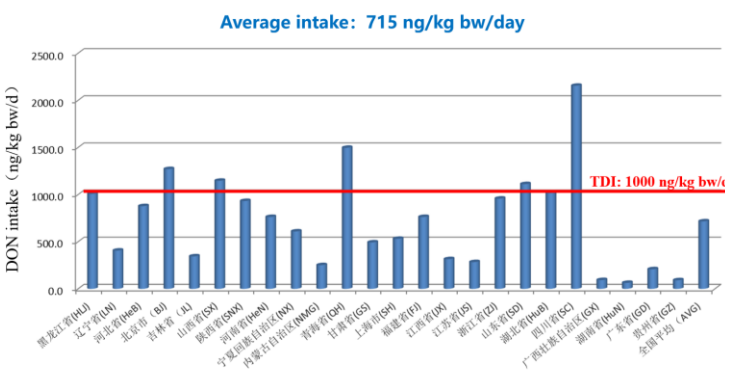
Food Standard in China

Revision of GB 2761-2017

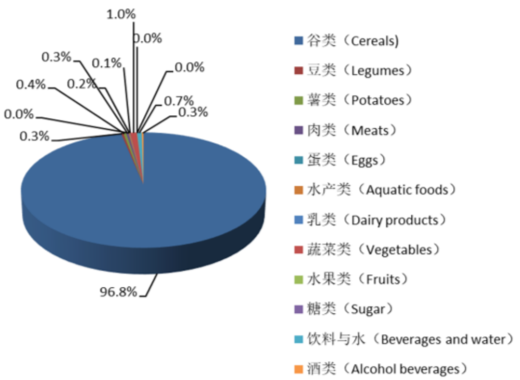
(General Standard for Mycotoxins in Foods)

China TDS —— Deoxynivalenol (DON)

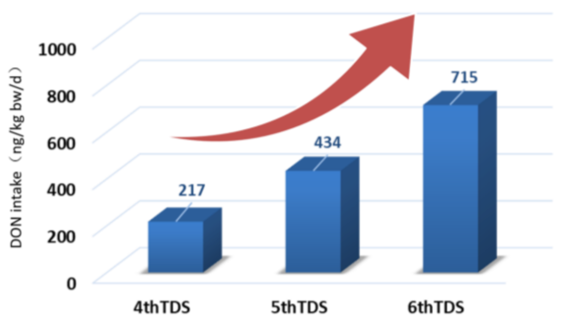
Dietary Exposure to DON group (6th China TDS)



Food Contribution to DON Exposure



Trends of DON Exposure (4th～6th TDS)



Application

Providing data to WHO

- **Food contamination data & dietary exposure data**

<table>
<tr><th>提交数据内容
Data</th><th>提交数据类型
Data type</th><th>数据报告
Data Report</th></tr>
<tr><td>铅 Lead</td><td rowspan="5">污染物监测网的单个数据和总膳食研究的摄入量数据
Contamination levels of individual food items & Dietary exposure estimates from China TDS</td><td rowspan="2">JECFA_73_summary</td></tr>
<tr><td>镉 Cadmium</td></tr>
<tr><td>丙烯酰胺
Acrylamide</td><td rowspan="2">FAO JECFA MONOGRAPHS 8

JECFA_72_summary</td></tr>
<tr><td>脱氧雪腐镰刀菌烯醇
Deoxynivalenol（DON ）</td></tr>
<tr><td>伏马菌素
Fomonisins (FB)</td><td>JECFA_74_summary</td></tr>
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Dietary exposure estimates from China TDS</td><td rowspan="2">FAO JECFA MONOGRAPHS 8
JECFA_72_summary</td></tr>
<tr><td>砷 Arsenic</td></tr>
<tr><td>多氯联苯 PCBs</td><td></td><td></td></tr>
<tr><td>氯丙醇酯
Chloropropanol esters</td><td></td><td></td></tr>
</table>

Acknowledgement

- We would like to express our gratitude to all subjects and all provincial CDCs.

Thanks to:

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The Team of Chemical Lab. in CFSA

国家食品安全风险评估中心
China National Center for Food Safety Risk Assessment