## Supplementary Information

**Table S1.** Ion transitions and corresponding fragmentor and collision energy voltages for quantification of OPs in household dust

| Compound Name | Precursor Ion | Product Ions | Fragmentor | Collision Energy | Polarity |
|---|---|---|---|---|---|
| Acephate | 184 | 143/95 | 50 | 4/24 | Positive |
| Acephate-D3 | 187 | 143/95 | 50 | 4/24 | Positive |
| Dimethoate | 230 | 199/171 | 80 | 5/10 | Positive |
| Dimethoate-D6 | 236 | 205/131 | 80 | 4/20 | Positive |
| Oxydementon-methyl | 247 | 169/109 | 69 | 8/28 | Positive |
| Malathion | 331 | 285/127 | 97 | 0/8 | Positive |
| Malathion-D6 | 337 | 127/99 | 97 | 8/20 | Positive |
| Dibrom | 378.8 | 127/109 | 100 | 8/40 | Positive |
| Diazinon | 305 | 169/153 | 85 | 20/20 | Positive |
| Phorate | 261 | 199/75 | 54 | 0/8 | Positive |
| Phosmet | 318 | 160/77 | 70 | 12/64 | Positive |
| Bensilide | 398 | 158/77 | 69 | 20/56 | Positive |
| Tribufos | 315 | 169/57 | 93 | 12/24 | Positive |
| Chlorpyrifos | 350 | 198/97 | 100 | 20/20 | Positive |

**Table S2a.** Model selection process of covariates considered for modeling total OPs in household dust

| Variable | Data type | Levels | Univariable model *p*-value>0.25 | Near-zero variance | Not selected by best subsets regression | Removed from consensus model |
|---|---|---|---|---|---|---|
| Visit month[b] | Categorical | January[a] | X | | | X |
| | | June | | | | |
| Home type | Categorical | House | X | | | |
| | | Other (mobile home or apartment)[a] | | | | |
| Number of rooms | Linear | | | | X | |
| Number of doors | Linear | | | | X | |
| Number of windows | Linear | | X | | | |
| Home ownership | Categorical | Own | X | | | |
| | | Other (rent or owned by employer)[a] | | | | |
| **Flooring: carpet[b]** | Indicator | Present vs. not present[a] | X | | | |
| Flooring: rugs | Indicator | Present vs. not present[a] | X | | | |
| **Window coverings: blinds** | Indicator | Present vs. not present[a] | X | | | |
| Window coverings: curtains | Indicator | Present vs. not present[a] | X | | X | |
| Window coverings: shades | Indicator | Present vs. not present[a] | | | X | |
| Warm-blooded pet(s) | Indicator | Owned vs. not owned[a] | | | X | |
| **Heating sources** | Categorical | Clean (only electric sources used)[a] | | | | |
| | | Dirty (gas and/or oil sources used) | | | | |
| | | None (no heating sources used) | | | | |
| Cooling: AC | Indicator | Used vs. not used[a] | X | | X | |
| Cooling: window units | Indicator | Used vs. not used[a] | X | | X | |
| Cooling: open windows | Indicator | Used vs. not used[a] | X | | X | |
| **Cooling: fans/house fans** | Indicator | Used vs. not used[a] | | | | |
| Household chemicals to control ants/bugs | Indicator | Used vs. not used[a] | | | X | |
| Household chemicals to control mice/rodents | Indicator | Used vs. not used[a] | X | | | |
| Household chemicals to control weeds | Indicator | Used vs. not used[a] | | | X | |
| Household chemicals to control pests | Indicator | Used vs. not used[a] | X | | | |
| Flea/tick treatments for warm-blooded pets | Indicator | Used vs. not used[a] | X | | | |
| Number of adults living in the household | Linear | | X | | | |
| Number of children living in the household | Linear | | X | | | |
| Household occupancy | Linear | | | | X | |
| **Secondary occupational exposure to agriculture/pesticides[b]** | Indicator | Exposed vs. not exposed[a] | | | | |
| Secondary occupational exposure to dust | Indicator | Exposed vs. not exposed[a] | X | | | |
| Household SHS exposure | Indicator | Exposed vs. not exposed[a] | X | | | |
| **Community[b]** | Categorical | Community #1[a] | | | | |
| | | Community #2 | | | | |
| | | Community #3 | | | | |
| | | Community #4 | | | | |

[a]Indicates referent level for indicator or categorical variables.

[b]Four variables (carpet flooring, visit month, secondary occupational exposure to agriculture/pesticides, and community) were considered *a priori* to be potentially important factors associated with household dust OP levels. These were included in the consensus model, regardless of whether they were previously eliminated by the model selection approach.

**Bold** typeface indicates variables that were ultimately selected for the final model

**Table S2b.** Model selection process of covariates considered for modeling chlorpyrifos in household dust

| Variable | Data type | Levels | Univariable model *p*-value>0.25 | Near-zero variance | Not selected by best subsets regression | Removed from consensus model |
|---|---|---|---|---|---|---|
| Visit month[b] | Categorical | January[a] | X | | | X |
| | | June | | | | |
| Home type | Categorical | House | X | | | |
| | | Other (mobile home or apartment)[a] | | | | |
| **Number of rooms** | Linear | | | | | |
| Number of doors | Linear | | | | X | |
| Number of windows | Linear | | X | | | |
| Home ownership | Categorical | Own | X | | | |
| | | Other (rent or owned by employer)[a] | | | | |
| **Flooring: carpet[b]** | Indicator | Present vs. not present[a] | X | | | |
| Flooring: rugs | Indicator | Present vs. not present[a] | | | X | |
| **Window coverings: blinds** | Indicator | Present vs. not present[a] | X | | | |
| Window coverings: curtains | Indicator | Present vs. not present[a] | X | | X | |
| **Window coverings: shades** | Indicator | Present vs. not present[a] | | | | |
| Warm-blooded pet(s) | Indicator | Owned vs. not owned[a] | X | | | |
| Heating sources | Categorical | Clean (only electric sources used)[a] | X | | | |
| | | Dirty (gas and/or oil sources used) | | | | |
| | | None (no heating sources used) | | | | |
| Cooling: AC | Indicator | Used vs. not used[a] | X | | | |
| Cooling: window units | Indicator | Used vs. not used[a] | X | | | |
| Cooling: open windows | Indicator | Used vs. not used[a] | X | | | |
| Cooling: fans/house fans | Indicator | Used vs. not used[a] | X | | | |
| **Household chemicals to control ants/bugs** | Indicator | Used vs. not used[a] | | | | |
| Household chemicals to control mice/rodents | Indicator | Used vs. not used[a] | X | | | |
| Household chemicals to control weeds | Indicator | Used vs. not used[a] | | | X | |
| Household chemicals to control pests | Indicator | Used vs. not used[a] | X | | | |
| Flea/tick treatments for warm-blooded pets | Indicator | Used vs. not used[a] | X | | | |
| Number of adults living in the household | Linear | | X | | | |
| Number of children living in the household | Linear | | X | | | |
| Household occupancy | Linear | | X | | | |
| **Secondary occupational exposure to agriculture/pesticides[b]** | Indicator | Exposed vs. not exposed[a] | | | | |
| Secondary occupational exposure to dust | Indicator | Exposed vs. not exposed[a] | | | X | |
| Household SHS exposure | Indicator | Exposed vs. not exposed[a] | X | | | |
| **Community[b]** | Categorical | Community #1[a] | | | | |
| | | Community #2 | | | | |
| | | Community #3 | | | | |
| | | Community #4 | | | | |

[a]Indicates referent level for indicator or categorical variables.

[b]Four variables (carpet flooring, visit month, secondary occupational exposure to agriculture/pesticides, and community) were considered *a priori* to be potentially important factors associated with household dust OP levels. These were included in the consensus model, regardless of whether they were previously eliminated by the model selection approach.

**Bold** typeface indicates variables that were ultimately selected for the final model

**Table S2c.** Model selection process of covariates considered for modeling malathion in household dust

| Variable | Data type | Levels | Univariable model *p*-value>0.25 | Near-zero variance | Not selected by best subsets regression | Removed from consensus model |
|---|---|---|---|---|---|---|
| Visit month[b] | Categorical | January[a] | X | | | X |
| | | June | | | | |
| **Home type** | Categorical | House | | | | |
| | | Other (mobile home or apartment)[a] | | | | |
| Number of rooms | Linear | | X | | | |
| Number of doors | Linear | | | | X | |
| Number of windows | Linear | | | | X | |
| Home ownership | Categorical | Own | X | | | |
| | | Other (rent or owned by employer)[a] | | | | |
| Flooring: carpet[b] | Indicator | Present vs. not present[a] | X | | X | X |
| Flooring: rugs | Indicator | Present vs. not present[a] | | | X | |
| Window coverings: blinds | Indicator | Present vs. not present[a] | X | | | |
| Window coverings: curtains | Indicator | Present vs. not present[a] | X | | | |
| Window coverings: shades | Indicator | Present vs. not present[a] | X | | | |
| Warm-blooded pet(s) | Indicator | Owned vs. not owned[a] | | | X | |
| Heating sources | Categorical | Clean (only electric sources used)[a] | X | | | |
| | | Dirty (gas and/or oil sources used) | | | | |
| | | None (no heating sources used) | | | | |
| Cooling: AC | Indicator | Used vs. not used[a] | X | | X | |
| **Cooling: window units** | Indicator | Used vs. not used[a] | | | | |
| Cooling: open windows | Indicator | Used vs. not used[a] | X | | X | |
| **Cooling: fans/house fans** | Indicator | Used vs. not used[a] | | | | |
| Household chemicals to control ants/bugs | Indicator | Used vs. not used[a] | | | X | |
| Household chemicals to control mice/rodents | Indicator | Used vs. not used[a] | X | | | |
| Household chemicals to control weeds | Indicator | Used vs. not used[a] | | | X | |
| Household chemicals to control pests | Indicator | Used vs. not used[a] | | | X | |
| Flea/tick treatments for warm-blooded pets | Indicator | Used vs. not used[a] | | | X | |
| Number of adults living in the household | Linear | | | | X | |
| Number of children living in the household | Linear | | X | | | |
| Household occupancy | Linear | | | | X | |
| Secondary occupational exposure to agriculture/pesticides[b] | Indicator | Exposed vs. not exposed[a] | X | | | X |
| Secondary occupational exposure to dust | Indicator | Exposed vs. not exposed[a] | | | X | |
| Household SHS exposure | Indicator | Exposed vs. not exposed[a] | X | | | |
| **Community[b]** | Categorical | Community #1[a] | | | | |
| | | Community #2 | | | | |
| | | Community #3 | | | | |
| | | Community #4 | | | | |

[a]Indicates referent level for indicator or categorical variables.

[b]Four variables (carpet flooring, visit month, secondary occupational exposure to agriculture/pesticides, and community) were considered *a priori* to be potentially important factors associated with household dust OP levels. These were included in the consensus model, regardless of whether they were previously eliminated by the model selection approach.

**Bold** typeface indicates variables that were ultimately selected for the final model

**Table S3.** Household dust OP concentrations (ppb) by community and Kruskal-Wallis test results

| Exposure variable | **Community #1** (n=21)[a] | **Community #2** (n=9) | **Community #3** (n=16) | **Community #4** (n=4) | **Kruskal-Wallis test** | |
|---|---|---|---|---|---|---|
| | mean (SD) | mean (SD) | mean (SD) | mean (SD) | χ2 | p-value |
| **Acephate** | **84.5 (158.8)[2]** | **5.6 (8.7)** | **8.3 (12.8)** | **0 (0)** | **9.33** | **0.03** |
| Bensulide | 0 (0) | 0 (0) | 0 (0) | 0 (0) | - | - |
| **Chlorpyrifos** | **46.9 (45.7)**[2] | **8.2 (10.6)** | **51.6 (96.5)** | **35.0 (40.5)** | **8.31** | **0.03** |
| Diazinon | 1.2 (1.7) | 0.8 (1.6) | 0.7 (1.4) | 2.3 (2.8) | 2.62 | 0.45 |
| Dibrom | 0 (0) | 0 (0) | 0 (0) | 0 (0) | - | - |
| **Dimethoate** | **2.8 (2.3)** | **0 (0)** | **2.0 (2.4)** | **0.9 (1.8)** | **11.63** | **0.009** |
| **Malathion** | **3.7 (3.5)** | **1.4 (2.2)** | **7.4 (7.1)** | **7.8 (8.5)** | **11.45** | **0.01** |
| Oxydemeton-methyl | 19.7 (70.7) | 0 (0) | 0 (0) | 0 (0) | 2.82 | 0.42 |
| Phorate | 0 (0) | 0 (0) | 0 (0) | 0 (0) | - | - |
| **Phosmet** | **0.3 (1.1)** | **1.2 (1.8)** | **2.1 (3.2)** | **0 (0)** | **7.55** | **0.06** |
| **Tribufos** | **5.1 (10.7)**[1] | **0.4 (1.2)** | **0 (0)** | **0 (0)** | **19.40** | **0.0002** |
| **Total OPs** | **171.4 (199.5)[3]** | **17.6 (23.9)** | **72.1 (94.2)** | **46.0 (33.3)** | **12.79** | **0.005** |

[a]For certain individual OPs, concentrations could not be calculated for some Community #1 samples. Values in this common that do not have a numerical footnote are the mean concentration of OP levels from all 21 samples that were collected from Community #1.
[1]The mean concentration is the average of OP levels from 20 samples.
[2]The mean concentration is the average of OP levels from 19 samples.
[3]The mean concentration is the average of OP levels from 18 samples.
**Bold** typeface indicates variables that were significant as determined by a 95% CI that did not include the null.

**Table S4.** Sensitivity analysis models, Community #1 samples only

| Variable | Estimate | 95% CI | |
|---|---|---|---|
| | | Lower | Upper |
| *Total OPs (n=18)* | | | |
| **Window coverings: blinds[b]** | **-1.32** | **-2.45** | **-0.19** |
| Heating | | | |
| Clean (only electric sources used)[a] | - | - | - |
| Dirty (gas and/or oil sources used) | -1.16 | -2.54 | 0.22 |
| None (no heating sources used) | -0.88 | -2.02 | 0.25 |
| **Cooling: fans/house fans[b]** | **2.40** | **0.42** | **4.39** |
| Secondary occupational exposure to agriculture/pesticides[b] | 0.25 | -1.40 | 1.89 |
| Flooring: carpet[b] | 0.25 | -1.02 | 1.52 |
| *Chlorpyrifos (n=19)* | | | |
| Window coverings: blinds[b] | -1.46 | -3.21 | 0.29 |
| Window coverings: shades[b] | 1.94 | -1.84 | 5.72 |
| Number of rooms[b] | -0.63 | -1.95 | 0.69 |
| Secondary occupational exposure to agriculture/pesticides[b] | -1.30 | -4.28 | 1.69 |
| Flooring: carpet[b] | -0.73 | -2.87 | 1.41 |
| *Malathion (n=21)* | | | |
| Home type | | | |
| House | 0.35 | -0.32 | 1.02 |
| Other (mobile home or apartment)[a] | - | - | - |
| Cooling: window units[b] | 0.48 | -0.14 | 1.10 |
| Cooling: fans/house fans[b] | 0.61 | -0.42 | 1.64 |

[a]Indicates referent level for indicator or categorical variables.

[b]For indicator variables, the referent is the absence of the covariate/exposure in the home (e.g., the referent for `window coverings: blinds` is not having blinds in the home).

**Bold** typeface indicates variables that were significant as determined by a 95% CI that did not include the null.